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The Estimation Of Intercensal Migration From Birth-Residence Statistics: A Study Of Data For The United States, 1950 And 1960

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Abstract

One of the principal objections to the use of census survival ratios for estimating net migration is the error that must arise from geographic variations in enumeration error and in mortality rates around the national averages. The possibility of reducing this type of error emerged with the tabulation, in two successive censuses, of birth-residence statistics for the native population of the United States by age, sex and color. By treating each group of persons having a common area of birth as a closed population, one can derive census survival ratios for the decade 1950-1960 that are specific for area of birth as well as for age, sex and color.

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FROM BIRTH-RESIDENCE STATISTICS:
A STUDY OF DATA FOR THE UNITED STATES, 1950 AND 1960

by

Hope T. Eldridge

and

Yun Kim

GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES

WASH.
ORE.
CALIF.
PACIFIC

MONT.
IDAHO
WYO.
NEV.
UTAH
COLO.
M O U N T A I N
ARIZ.
N. MEX.

N. DAK.
MINN.
S. DAK.
WEST NORTH CENTRAL
NEBR.
IOWA
KANS.
MO.

WIS.
MICH.
ILL. IND. OHIO
EAST NORTH CENTRAL

NEW ENGLAND
MAINE
VT.
N.H.
MASS.
R.I.
CONN.
N.Y.
MIDDLE ATLANTIC
PA.
N.J.

MD. DEL.
D.C.
W. VA. VA.
SOUTH ATLANTIC
N.C.
S.C.
GA.
FLA.

KY.
TENN.
EAST SOUTH CENTRAL
MISS. ALA.

OKLA.
ARK.
WEST SOUTH CENTRAL
TEXAS
LA.

Adapted from U.S. Bureau of the Census, <u>U.S. Census of Population</u>: 1960, Volume <u>I</u>, Part <u>I</u>, Figure 2.

THE ESTIMATION OF INTERCENSAL MIGRATION
FROM BIRTH-RESIDENCE STATISTICS:
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by

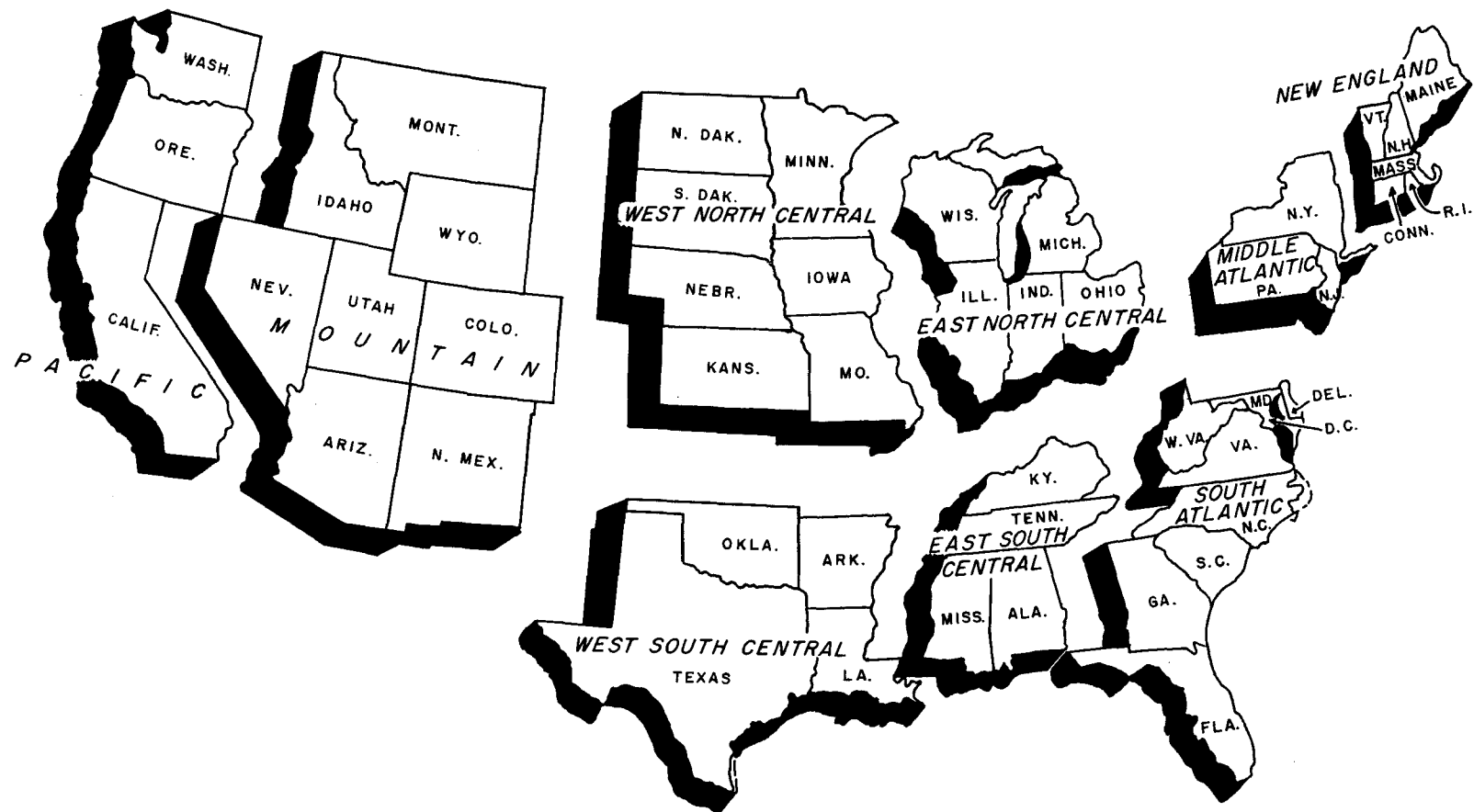Hope T. Eldridge
University of Pennsylvania

and

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PREFACE

This is the seventh in a series* of technical and analytical reports issued by the Population Studies Center of the University of Pennsylvania. All except Report No. 6 are focussed upon some aspect of recent migration and urbanization in the United States.

Reports Nos. 1, 2 and 3 were strictly technical, their purpose being to reorganize and summarize data needed for subsequent analyses, by adjusting data from unpublished tabulations of the 1960 Population Census for area comparability with published tables available in the 1950 Population Census.

Report No. 4 was the first to apply these adjustments. In it were presented estimates of net intercensal migration for cities, metropolitan areas, and rings for the 1950-1960 intercensal period and also, as far as possible, for the two preceding decades. Its distinctive contribution was an analytical summary of some of our preliminary findings on the role of migration in urban population change.

Report No. 5 again took the 1950-1960 decade as a focus. It presented two major types of estimates of net intercensal migration, with states and geographic divisions as spatial units. The first of these followed, in general, procedures developed in our earlier studies** of net intercensal migration for the eight decades, 1870-1950, by states, and it thus preserves historical continuity. The second broke new ground, for the

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*See list on back cover.

**Everett S. Lee, Ann Ratner Miller, Carol S. Brainerd, and Richard A. Easterlin, I. Methodological Considerations and Reference Tables; Simon Kuznets, Ann Ratner Miller, and Richard A. Easterlin, II. Analyses of Economic Change; Hope T. Eldridge and Dorothy Swaine Thomas, III. Demographic Analyses and Interrelations. American Philosophical Society, Philadelphia, 1957, 1960, 1964.

1950-1960 period, with a series of estimates based on birth-residence data. It is important methodologically and it added another dimension to the substantive analysis of internal migration.

The present report is a continuation and elaboration of the methodological presentation given in connection with the birth-residence approach of Report No. 5. In order to assemble the relevant material in a single monograph, some of the discussion, tables and charts presented in Chapter VI and in the Appendix of Report No. 5 have been incorporated in parts of Chapters II, III and IV and in some of the appendix tables of the present report. As a result, Report No. 6 serves as a fairly complete demonstration and testing of techniques for gaining maximum information on intercensal migration from successive census statistics of the population classified by area of birth with cross-classification by age and sex.

The whole study, of which these reports are segments, was made possible by a short-term grant from the Ford Foundation and continuing generous support from the National Science Foundation. To both of these agencies and to the Wharton School of the University of Pennsylvania we wish to express our gratitude.

Of the staff at the Population Studies Center at the University of Pennsylvania, we acknowledge with gratitude the supervision of many of the initial statistical operations by Mr. Bension Varon, and statistical assistance at later stages by Mrs. Bette Neeld Schragel; the proofreading and checking of text and tables by Miss Doris Kling and Miss Susan Klepp; the planning, preparation, and execution of the charts and maps by Mrs. Lydia F. Christaldi; the typing of the manuscript and tables by Mrs. Anna Mae Barbera and some of the appendix tables by Mrs. Patricia Legasey.

<div align="right">Dorothy Swaine Thomas
Research Director</div>

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EXPLANATION OF SYMBOLS

n   data not available

...   value below the level of rounding

-       magnitude zero

.   category not applicable

ROUNDING

Many of the numerical data presented in this report are shown in thousands. Unless otherwise specified, all calculations (sums, percentages, etc.) are based on unrounded numbers.

I. INTRODUCTION

One of the principal objections to the use of census survival ratios for estimating net migration is the error that must arise from geographic variations in enumeration error and in mortality rates around the national averages.[1] The possibility of reducing this type of error emerged with the tabulation, in two successive censuses, of birth-residence statistics for the native population of the United States by age, sex and color. By treating each group of persons having a common area of birth as a closed population, one can derive census survival ratios for the decade 1950-1960 that are specific for area of birth as well as for age, sex and color.[2]

In this procedure, we substitute for the assumption that national census survival ratios are applicable to the native population resident in all component areas, the presumably more stringent assumption that area-of-birth census survival ratios are applicable to the area's in-born, whatever their

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[1]See for example: Jacob S. Siegel and C. Horace Hamilton, "Some Considerations in the Use of the Residual Method of Estimating Net Migration", _Journal of the American Statistical Association_, 47, September 1952; Daniel O. Price, "Examination of Two Sources of Error in the Estimation of Net Internal Migration", _ibid._, 50, September 1955; K. C. Zachariah, "A Note on the Census Survival Ratio Method of Estimating Net Migration", _ibid._, 57, March 1962; Hope T. Eldridge, "Vital Statistics Versus Census Survival Ratios for Estimating Net Intercensal Migration" in _Net Intercensal Migration for States and Geographic Divisions of the United States, 1950-1960_, (Analytical and Technical Report No. 5), Population Studies Center, University of Pennsylvania, 1965; C. Horace Hamilton, "The Effect of Census Errors on the Measurement of Net Migration", _Demography_ 3(2), 1966.

[2]A considerable literature is accumulating on the use of birth-residence data for measuring period migration where the data are not tabulated by age. See for example: K. C. Zachariah, _A Historical Study of Internal Migration in the Indian Sub-Continent 1901-1931_, Asia Publishing House, 1964 (Chapter 3); D. Friedlander and R. J. Roshier, "A Study of Internal Migration in England and Wales: Part I", _Population Studies_, March 1966.

area of residence. It may be debatable whether variation in area rates of census
error and mortality around the national average is actually greater than the
variation in area-of-residence rates around the area-of-birth average. But since
the latter type of ratio assumes homogeneity within smaller segments of the
population (namely those having a common area of birth) the chances are that such
departures from homogeneity as exist will do less violence to the truth than is
the case with national ratios.

The birth-residence approach introduces its own error into estimates of
net migration. To the degree that there is misreporting of the area of birth,
the quality of the estimates will be affected. Other factors, to be discussed
later, make their contribution also. Whether the birth-residence approach
succeeds, in the end, in improving the accuracy of estimates is a question that
probably cannot be answered definitely with the information presently at our
disposal.

Whatever the relative merit of the estimates of net migration may be, the
birth-residence approach is capable of furnishing details on the internal mi-
gration of the native population that are not obtainable by the standard census-
survival-ratio method. With these data, each group of persons having both a
common area of birth and a common area of residence in 1950 can be treated
separately. The resulting estimates, although "nets" for each such group,
give an approximation to gross migration. That portion of gross movement that
is missed is equal to twice the number of moves that were offset by counter-
moves of persons born in the same area. Thus, we can estimate separately for
each area (a) net gains or losses due to the migration of persons who were
born in the area itself and (b) net gains or losses due to the migration of
persons born elsewhere in the United States. Furthermore, we can learn

something about individual intercensal streams by studying the geographic pattern of net changes due to the migration of each area's in-born population with respect to each of the other areas in the country.

In the analysis that follows, considerable attention will be given to a comparison of these three classes of migration estimate with estimates obtained by other methods, the purpose being to assess the quality and useability of period estimates based on birth-residence data. Although our findings may not be strictly applicable to other times and places, they should have a general applicability, and they should serve to make clear the character and the limitations of estimates derived in this way.

II. THE METHOD

The present analysis deals with the nine geographic divisions of the con-

terminous United States. The available statistics do not readily permit esti-

mates for states. The basic data are those published in State of Birth, Special

Reports of the Censuses of 1950 and 1960.[1] They consist of a complete cross-

classification of division of residence at the census date with division of birth

for the native population, by sex, age and color.[2] With these data, we have

reasonably "closed" divisional populations and can calculate age-specific census

survival ratios for the population native to each division, including both those

living in the division (lifetime nonmigrants) and those living elsewhere in

the United States (lifetime out-migrants) at the two census dates. Such ratios

applied to the division's natives resident in 1950 in each of the nine divisions

yield expected numbers for 1960. The differences between these numbers and

the numbers enumerated in 1960 are estimates of net change due to the intercen-

sal migration of the division's natives with reference to each of the nine di-

visions. Repeating this operation for the population born in each of the other

divisions yields nine sets of estimates in which net changes due to the migra-

tion of each division's natives are given for that division and for each of

the other eight. From these may be accumulated, for each division, the net

change due to migration of its own natives and that due to the migration of

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[1]U.S. Bureau of the Census, U.S. Census of Population: 1950 (Special
Report P-E No. 4A); U.S. Census of Population: 1960 (Final Report PC(2)-2A).

[2]Actually, the data are presented for each state of residence crossed
with division of birth and for each state of birth crossed with division of
residence. These data cannot be used for the derivation of state migration
estimates of the type developed for geographic divisions without the com-
plete cross-classification of state of birth with state of residence.

persons born in other divisions, or the net migration of in-born and the net migration of out-born. The sum of the two represents the net balance of migration for the division.

Procedures

These procedures can be expressed symbolically.

Let P = total population

p = population of a subgroup having a common area of birth and a common area of residence at the census date

o = the first census

t = the second census, t years later

i = area of birth (i = 1,2...n)

j = area of residence (j = 1,2...n)

x = age at first census

x+t = age at second census of the cohort aged x at the first census

S_i = intercensal survival ratio for persons born in i

Then the total population aged x at time o will be:

$$P_{ij(x,o)} = \begin{pmatrix} P_{11(x,o)} & P_{12(x,o)} \cdots P_{1n(x,o)} \\ P_{21(x,o)} & P_{22(x,o)} \cdots P_{2n(x,o)} \\ \vdots & \vdots \quad \vdots \\ P_{n1(x,o)} & P_{n2(x,o)} \cdots P_{nn(x,o)} \end{pmatrix}$$

The cohort t years later, $P_{ij(x+t,t)}$, will be a similar matrix with "x+t,t" substituted for "x,o". The entries in the diagonal cells give the numbers of lifetime nonmigrants and those outside the diagonal the numbers of lifetime migrants, with the areas of residence for each area of birth identified in the rows and the areas of birth for each area of residence identified in the columns.

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Area-specific survival ratios (S_i) are calculated as:

$$S_i = \sum_{j=1}^{n} P_{ij}(x+t,t) \Bigg/ \sum_{j=1}^{n} P_{ij}(x,o) \tag{1}$$

That is, the row sums of the second matrix are divided by the row sums of

the first matrix. The resulting ratios are then multiplied by the values

in the corresponding rows of the first matrix to obtain the matrix of

expected numbers (P_{ij}^{E})at time $\underline{t}$, in which:

$$P_{ij(x+t,t)}^{E} = S_i \cdot P_{ij(x,o)} \tag{2}$$

The sums of the expected and enumerated numbers for each area of birth

are equal:

$$\sum_{j=1}^{n} P_{ij(x+t,t)}^{E} = \sum_{j=1}^{n} P_{ij(x+t,t)} \tag{3}$$

Net change due to migration (m_{ij}) is obtained by subtracting the

matrix of expected numbers from the matrix of observed numbers at time

$\underline{t}$, to produce the matrix M_{ij}, in which:

$$m_{ij} = P_{ij(x+t,t)} - P_{ij(x+t,t)}^{E} \tag{4}$$

Each entry in the matrix indicates the net gain or loss experienced by

the given $\underline{j}$ as a result of the migration of persons born in the given $\underline{i}$.

Net migration of in-born with respect to the area of birth is found

in the diagonal of the matrix M_{ij} where $i = j$. For Area 1, it is m_{11};

for Area 2, m_{22}; ... for Area n, m_{nn}. For convenience, we drop the age

and time symbols, but it is understood that each matrix refers to migra-

tion of an age cohort over an intercensal period.

Net migration of the in-born with respect to the other areas combined

is the sum of the other entries of the rows, or $\sum_{j=1}^{n} m_{ij}$, where $j \neq i$.

Note that since the row sums of P_{ij} are equal to the row sums of P_{ij}^{E},

the row sums of M_{ij} are zero. That is $\sum\limits_{j=1}^{n} m_{ij} = 0$. Therefore, the absolute

value of any row entry is equal to the sum of the other entries in the row

and has the opposite sign. This is equivalent to saying that net out-migra-

tion of i-born from $\underline{i}$ is equal to net in-migration of i-born into all other

areas combined. Or, the overall sum of the net gains and losses due to the

migration of persons born in a given area is zero.

Net migration of the out-born is the sum of the column entries excluding

the diagonal, or $\sum\limits_{i=1}^{n} m_{ij}$, where $i \neq j$.

The divisional net balances of migration are the column sums, or

$\sum\limits_{i=1}^{n} m_{ij}$.

A characteristic of the matrix M_{ij} is that, although the sums of the

columns are not zero, the sum of the column sums $(\sum\limits_{j=1}^{n} \sum\limits_{i=1}^{n} m_{ij})$ is zero. In

other words, the grand sum of net migration balances is zero for internal

migration.

The procedures just described pertain to estimating changes due to the

migration of persons who were alive at the first census and survived to the

second census. Estimates for persons born during the intercensal interval

and surviving to the second census are obtainable directly from the birth-

residence tabulations of the population under $\underline{t}$ years of age. For this

group, intercensal migration $\underline{is}$ lifetime migration. Therefore the entries

in the matrix $P_{ij(<t,t)}$, excluding those in the diagonal, are identical

with those in the matrix M_{ij}. That is to say, $m_{ij} = P_{ij(<t,t)}$ where $i \neq j$.

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Alternative Procedures

An alternate method of deriving estimates of migration from birth-residence statistics has been used by Burch and Elizaga.[3] Both of them, however, assume that area-of-birth-specific survival ratios are applicable both (a) to the population born in and living in the given area at the census date and (b) to the population born elsewhere and living in the given area at the same date. Thus, for Area 1 (or where j=1), the equation for the net balance of migration (m'_{i1}) would be:

$$\sum_{i=1}^{n} m'_{i1} = \sum_{i=1}^{n} P_{i1(x+t,t)} - S_1 \cdot [\sum_{i=1}^{n} P_{i1(x,o)}] \tag{5}$$

in which Area 1's survival ratio is applied to both the in-born and the out-born living in Area 1. The method developed in the preceding section for estimating the net balance of migration to Area 1 may be expressed as:

$$\sum_{i=1}^{n} m_{i1} = \sum_{i=1}^{n} P_{i1(x+t,t)} - \sum_{i=1}^{n} [S_i \cdot P_{i1(x,o)}] \tag{6}$$

in which each segment of Area 1's resident population has its own survival ratio as determined by its area of birth.

Although from the practical, and even perhaps from the conceptual, point of view, it might seem acceptable to assume that area-of-birth ratios are valid for the entire resident population of an area, such a procedure violates the basic rationale of the census-survival-ratio method. The principal justification of the use of census survival ratios is that the mortality and enumeration experience of an age cohort as a whole gives a reasonable estimate of the experience of its component parts. In the alternate procedure, only the population living in its area of birth gets its "proper" survival ratio. To be sure, this is the bulk of the population, but it is also the nonmigrant population. The entire migrant population

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[3] See: Thomas K. Burch, Internal Migration in Venezuela, unpublished doctoral dissertation, Princeton University, 1962; Juan C. Elizaga, "Assessment of Migration Data in Latin America", Milbank Memorial Fund Quarterly, January, 1965.

("migrant" in the sense of their living outside their area of birth) get the "wrong" survival ratio, that is, a survival ratio to which they have not contributed, the ratio of a closed population to which they do not belong.

It is true that in estimating net migration for states of the United States by the standard census-survival-ratio method, ratios based on the native population have been used for estimating the net migration of the foreign born.[4] But this apparent misuse of survival ratios was dictated by necessity, for it was not possible to achieve closure for that segment of the population. Even so, adjustments for mortality differentials between the native and foreign-born population were made where the evidence warranted it. In the birth-residence data, we have the proper ratios. It is difficult to justify neglecting them, unless the two procedures should yield results that differ unimportantly from each other.

One problem that comes with the violation of the principle of a closed population is that the estimated net internal shifts due to migration will not add to zero for the country as a whole. This problem can be overcome by prorating the discrepancy found at the national level among the area estimates. In order to avoid the difficulties involved in adjusting distributions that contain some positive and some negative values, the adjustment can be made on the expected populations before subtracting to obtain the estimates of net migration. This can be done in either of two ways: (a) by forcing the area distribution of the expected populations to add to the enumerated national totals at the second census for each age group, or (b) by forcing the distribution of expected numbers born out and living in to add to control totals

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[4] See Everett S. Lee, Ann Ratner Miller, Carol P. Brainerd and Richard A. Easterlin, Population Redistribution and Economic Growth, United States, 1870-1950 Vol. I Methodological Considerations and Reference Tables. American Philosophical Society, Philadelphia, 1957, pp. 55-56.

determined by subtracting the sums of the expected numbers born in and living in

from the totals enumerated at the second census. Of the two alternatives, the

latter is preferable, since it accepts the estimates of net migration of the

in-born as computed and makes the entire adjustment upon the estimates of

net migration of the out-born, the group from which the error of closure arises.

Using the latter alternative involves estimating net migration of the in-born

and the out-born separately although the same survival ratio is applied to

both groups. For this purpose, equation (5) for Area 1 may be written as two

equations:

For the in-born (or where i=1 and j=1):

$$m_{11} = P_{11(x+t,t)} - S_1 \cdot P_{11(x,o)} \tag{7}$$

For the out-born (or where $i \neq 1$ and j=1):

$$\sum_{i=2}^{n} m'_{i1} = \sum_{i=2}^{n} P_{i1(x+t,t)} - S_1 \cdot \sum_{i=2}^{n} P_{i1(x,o)} \tag{8}$$

Equation (7) is the portion that is common to the preferred and alternate

methods, the common element of equations (5) and (6). But equation (8)

yields a different result as can be seen from the equation for the out-born

according to the preferred method:

$$\sum_{i=2}^{n} m_{i1} = \sum_{i=2}^{n} P_{i1(x+t,t)} - \sum_{i=2}^{n} [S_i \cdot P_{i1(x,o)}] \tag{9}$$

Consequently, it is the results of equation (8) that require adjustment so

as to achieve a zero balance at the national level.

Evaluation of Procedures

In order to test whether estimates derived by the alternate method

differ seriously from those derived by the preferred method, estimates of

the net balances of migration for native white males were prepared according to both methods (see Table 1).

We designate the preferred estimates as Series A, the alternate estimates as Series B. (The latter were adjusted to yield a zero balance by means of the second procedure described above.) A very good general agreement is indicated by the figures for the population 10 years old and over combined. They are as follows:

	Net Migration		Percent Deviation
	Series A	Series B	of B from A
	(in thousands)		
New England	-77	-75	2.7
Middle Atlantic	-484	-477	1.6
East North Central	-136	-137	-0.6
West North Central	-382	-383	-0.3
South Atlantic	428	437	2.2
East South Central	-348	-344	1.3
West South Central	-136	-139	-2.2
Mountain	184	180	-2.4
Pacific	952	938	-1.5

The relative deviations (computed before rounding to thousands) are small, ranging from a low of 0.3 to a high of 2.7 percent and averaging 1.6 percent. The coefficient of rank correlation (Kendall's _Tau_) between the two series is 0.94, two divisions with nearly equal amounts of net migration having exchanged ranks from Series A to Series B.

Examining the detail by age, we find that relative differences are somewhat larger, especially at the older ages. For ages under 70, percentage deviations of B from A range from a low of 0.0 to a high of 19.8 and average 3.3. Most are less than 5 percent. For the terminal age group (70+), the differences range from 6.0 percent to 142.2 percent and average 48.0. The division with the largest relative differences is the East North Central, which accounts for all three of the differences above 10 percent at ages under 60. The value of _Tau_ (n=9) is 1.00 for all except two age groups: 50-59, for which the coefficient is 0.94; and 70+, for which the coefficient is 0.78.

TABLE 1. NET BALANCES OF MIGRATION AS ESTIMATED FROM DIVISION-OF-BIRTH SURVIVAL RATIOS BY PREFERRED AND ALTERNATE METHODS, NATIVE WHITE MALES 10 YEARS OLD AND OVER, BY AGE, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

(In thousands)

Age in 1960	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC
Series A (Preferred)									
10-14	-11	-50	-8	-46	35	-45	-22	24	123
15-19	-5	-80	-35	-38	63	-27	-9	14	116
20-29	-11	-144	-14	-103	108	-135	-32	39	292
30-39	-27	-57	22	-86	14	-82	-34	41	209
40-49	-13	-66	-21	-49	52	-38	-18	33	120
50-59	-5	-35	-23	-23	44	-18	-10	19	50
60-69	-5	-33	-39	-14	63	-5	-2	10	24
70+	-2	-19	-19	-23	48	2	-9	4	17
Total,10+	-77	-484	-136	-382	428	-348	-136	184	952
Series B (Alternate)									
10-14	-11	-50	-7	-46	36	-45	-23	24	123
15-19	-5	-80	-35	-38	63	-27	-9	14	116
20-29	-10	-145	-17	-101	110	-134	-32	39	289
30-39	-26	-57	19	-85	13	-81	-35	40	211
40-49	-13	-66	-24	-50	54	-38	-17	33	121
50-59	-5	-33	-24	-23	46	-17	-10	21	46
60-69	-5	-31	-40	-15	65	-5	-1	11	21
70+	-1	-14	-10	-27	51	3	-12	-2	11
Total,10+	-75	-477	-137	-383	437	-344	-139	180	938

Source: Series A, Appendix Table A-3; Series B, derived from data underlying Appendix A-3 (see text for explanation).

These findings suggest that for divisional estimates of the net balance of migration, the alternate method can be depended upon to give reliable results for the population 10 years old and over as a group and for most five-year age groups of most divisions up to age 60. This statement is of course predicated on the assumption that the "preferred" method yields the more accurate estimates.

The alternate method is capable of yielding the same kind of detail as the preferred method (net migration of the in-born and net migration of the out-born with detail by divisions of birth) but differences become larger as the detail becomes finer. It is only if one is forced to use the alternate method for reasons such as the absence in the census data of complete cross-classifications of area of birth and area of residence (as is true of the data for states in the United States Censuses of 1950 and 1960) that the use of the alternate method is indicated.

Estimating Net Migration for States

A blend of the preferred and alternate methods could be used in estimating net migration of the in-born and out-born separately for states. As mentioned earlier, the published birth-residence data give a cross-classification of state of birth by division of residence and a cross-classification of state of residence by division of birth. With these data, state-of-birth-specific survival ratios can be computed and applied to the born-in-living-in of 1950 for estimating the net migration of the in-born for each state. In estimating the net migration of the out-born, several alternatives are available. Principal among them are: (1) applying division-of-birth-specific survival ratios to the state out-born of 1950 according to their divisions of birth and adjusting the results for closure with the estimates of net migration of the in-born, preferably working with the expected population rather than with the estimates of net migration; (2) applying the state-specific ratios to the out-born and adjusting the expected population to add to control totals derived from the national observed population in the same manner as that described above as an alternate method of estimating for divisions.

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No doubt there are other possibilities, but these should suffice to indicate the major kinds of approach that might be used in estimating for states. The analysis to follow deals exclusively with estimates for divisions; parallel considerations would operate at the state level.

Problems of Comparability and Coverage

There are several problems connected with the preparation and interpretation of estimates of net migration based upon division-of-birth survival ratios. The first concerns persons for whom the state of birth was not reported. There were considerable numbers of these in both censuses: 1,370,000 in 1950, representing 1.0 percent of the native population; 4,541,000 in 1960, representing 2.7 percent of the native population.[5] Because the number in 1960 was so much larger than that in 1950 and would therefore introduce substantial error of bias into the estimates, it was decided to distribute the unknowns before computing survival ratios. Although it seems probable that persons for whom the state of birth was not reported were more likely to be out-born than in-born, there was no quantitative evidence upon which to base the allocation, and it was finally decided to allocate them in accordance with the distribution of those whose place of birth was reported. In the censuses, the number of "unknowns" is given by age, sex, and color, for the resident population of each division. These numbers were distributed proportionally among the divisions of birth for each division of residence, separately for each age-sex-color group.

A second problem is created by the absence of 1950 information on the place of birth of the population of Alaska and Hawaii. Fortunately, the 1960 data were compiled in such a way as to permit the exclusion of both (a) persons born in these states and living in conterminous United States and (b) persons

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[5] U.S. Census of Population: 1960, State of Birth, Table 1.

born in conterminous United States and living in the two states. It was therefore
decided to confine the analysis to internal migration within the conterminous
area. This means of course that, since some of the "conterminous-born" were in
these states at one census and in the conterminous area at the other, the net
movement of each division's in-born between the conterminous area and the two
new states is assumed to reflect the 1950 division-of-residence distribution
of that division's natives within each age-sex-color category. To the extent
that this assumption is not met, the estimates of net migration will be in
error. The census-survival-ratio estimates for 1950-1960, which reflect the
external movements of the native population, indicate a net in-migration of
92,000 natives to Hawaii and Alaska from the remainder of the system (that is,
from conterminous United States, Puerto Rico, and abroad combined).[6] No
doubt, most of this movement came from the conterminous area. The amounts are
small for most age groups and some of them represent net losses from Alaska
and Hawaii to the rest of the system. Where the amounts are small, it pro-
bably does not matter much if the assumption is a poor fit to the facts.
The largest number (26,000) is that for native white males 20-24 years old in
1960. It certainly contains a large proportion of military migration. For
that, our pro rata assumption is probably not a bad one, for induction rates
are fairly uniform from one area to another within conterminous United States.

The problem of the overseas segment, Puerto Rico, and other outlying
areas of sovereignty or jurisdiction is similar to the one just discussed.
Here again, unless the assumption about the division-of-residence distribu-
tion of net intercensal migration of "conterminous" natives between these
areas and conterminous United States holds, the estimates of net internal
migration will be affected.

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[6] See Eldridge, Net Intercensal ..., op. cit.

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Further sources of error are sampling variability and misreporting of state
of birth. The 1950 data are based on a 20-percent sample, those for 1960 on a
25-percent sample. The Post-Enumeration Survey of the Census of 1950 indicated
that for an estimated 4 million persons the state of birth reported in the
Census differed from that reported in the Survey (see page 4 of the 1950 report,
State of Birth). An estimate for the Census of 1960 is not yet available. No
doubt some of both types of error is eliminated at the divisional level. Still,
both of them contribute to an unknown degree to limiting the accuracy of esti-
mates of net migration. And in this connection, it should be remembered that
although we are dealing with only nine geographic areas, each "area-of-birth"
population is distributed over nine areas of residence, giving us 9x9 = 81
opportunities for variation and, it must be confessed, a similar number of
opportunities for error.

Other types of error - misreporting of age, race, or nativity, sampling
variability of statistics on nativity, etc. - affect both the census-survival-
ratio and the division-of-birth estimates, so presumably do not introduce addi-
tional error into estimates derived by the latter method. One source of dif-
ference between the two types of estimate, however, stems from the fact that
for the census-survival-ratio estimates, the state age distributions of native
whites, foreign-born whites, and Negroes, which were based on sample counts,
were adjusted to add (a) to the complete count control totals for the white
and nonwhite population, by age, and (b) to the complete count all-ages totals
for Negroes and other races. No such adjustment of the birth-residence data
was attempted.

The survival-ratio populations for each division of birth, the survival
ratios, and the resulting estimates in all their detail by age, sex, color,
division of birth and division of net change are presented in the tables of
Appendix A.

III.   THE NET BALANCE OF MIGRATION

It is convenient to begin the appraisal of the birth-residence estimates by comparing the estimates of the net balance of migration as obtained from these data with those obtained by the standard census-survival-ratio method. The term "net balance" is used instead of "net migration" because later we shall be dealing with two other "nets" in the birth-residence data; namely, net migration of in-born and net migration of out-born, the sum of which is the net balance of migration.

Comparison With CSR Estimates

For the sake of brevity, we shall designate the division-of-birth estimates as the "DOB" estimates and the census-survival-ratio estimates as the "CSR" estimates. In order to minimize deviations that arise from differences in population coverage, we base our comparisons upon rates rather than amounts. Both sets of rates for native whites, by age and sex, are charted in Figure 1 for each geographic division. The two sets of data are distinctly similar in the sense that differences between divisions are more marked than are differences between methods. It is clear that both series are measuring the same basic phenomenon, though perhaps with differing degrees of accuracy.

In Figure 2, CSR rates for the Negro population are charted with DOB rates for the native nonwhite population. Despite the inclusion of "other nonwhites" in the DOB figures, these data also are in general agreement. Only for the Mountain states is there a striking disparity between the two sets of rates. The principal reason is of course that, in this division, the Negro population forms a much smaller proportion of the total nonwhite population than in any of the others. In 1960, only 36 percent of the nonwhite population of this

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RATES OF NET MIGRATION AS ESTIMATED BY THE CSR AND DOB METHODS FOR NATIVE WHITES
10 YEARS OLD AND OVER, BY AGE AND SEX, GEOGRAPHIC DIVISIONS
OF CONTERMINOUS UNITED STATES, 1950-1960
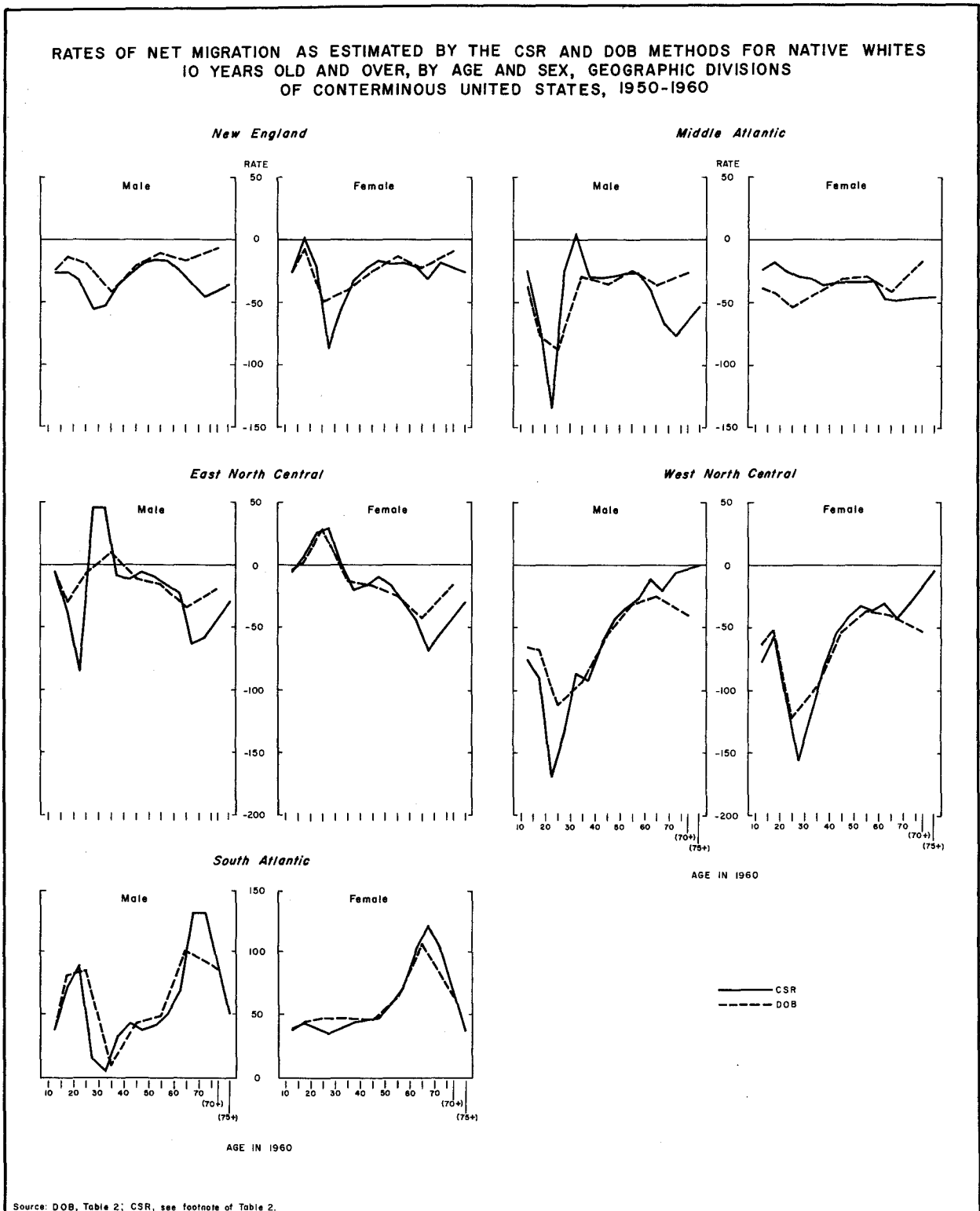
Figure 1

RATES OF NET MIGRATION AS ESTIMATED BY THE CSR AND DOB METHODS FOR NATIVE WHITES 10 YEARS OLD AND OVER, BY AGE AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960

Figure 1 (Cont.)

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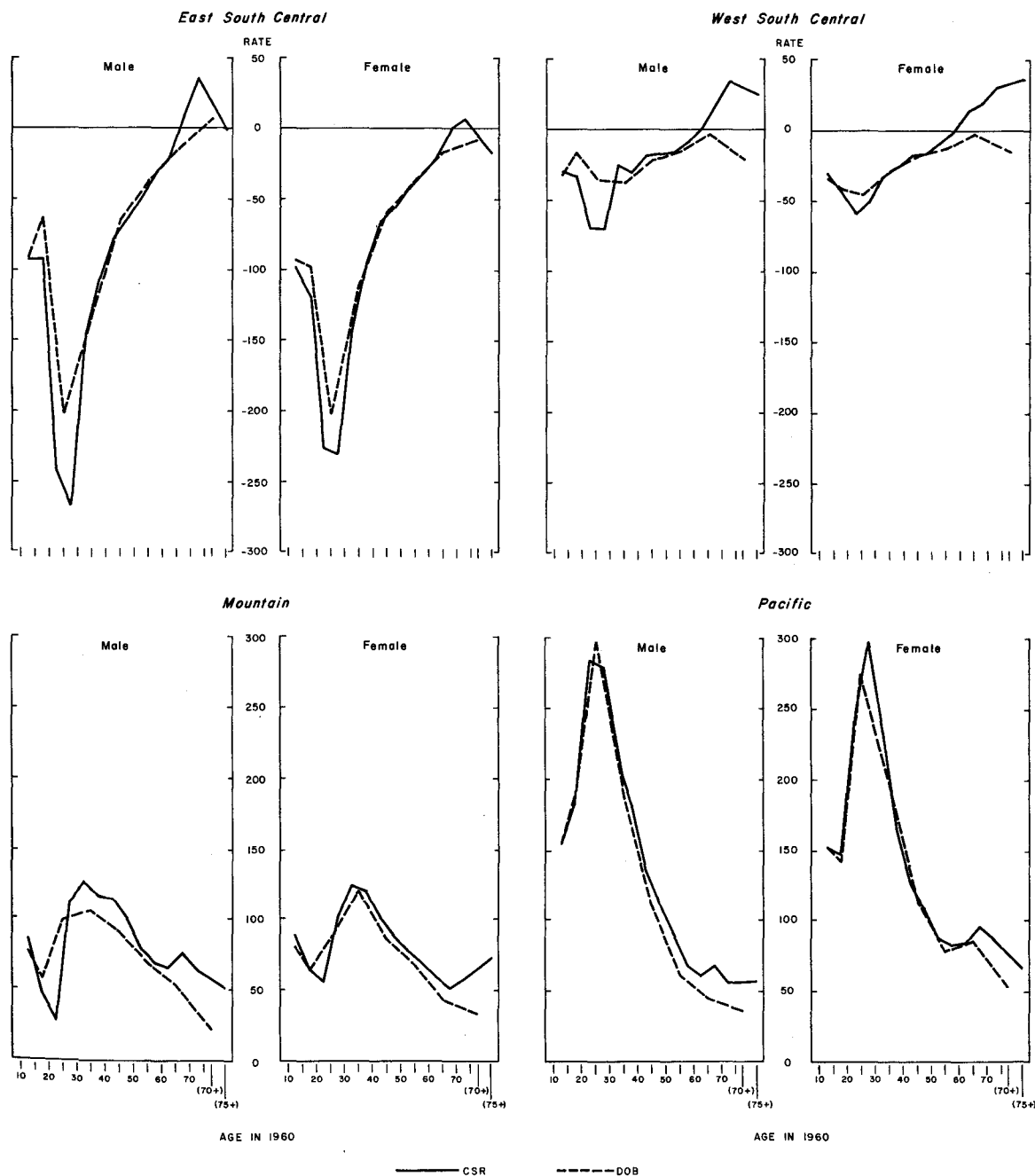
RATES OF NET MIGRATION FOR NEGROES AS ESTIMATED BY THE CSR METHOD AND FOR NATIVE NONWHITES
AS ESTIMATED BY THE DOB METHOD, BY AGE AND SEX, GEOGRAPHIC DIVISIONS
OF CONTERMINOUS UNITED STATES, 1950-1960
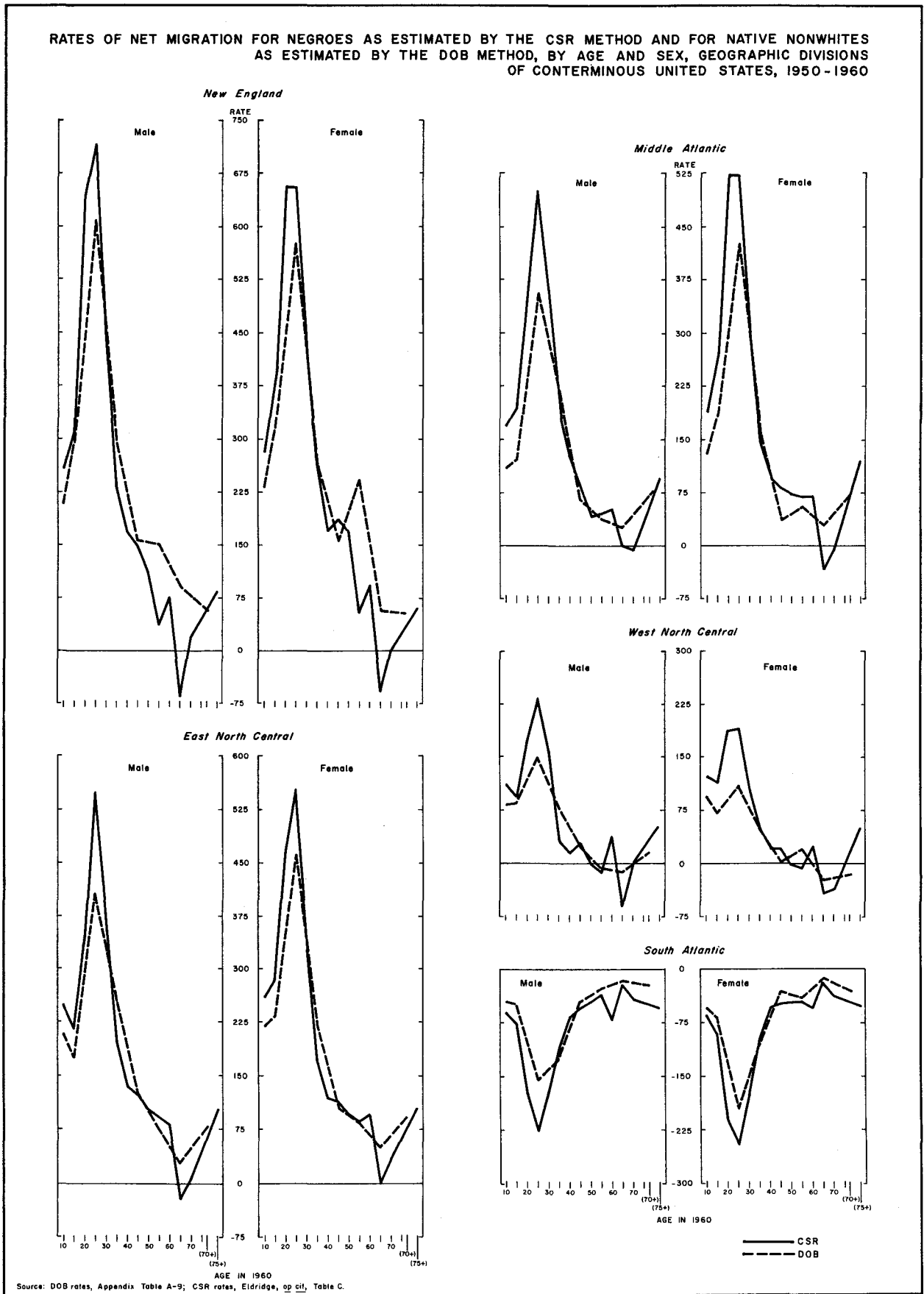
Source: DOB rates, Appendix Table A-9; CSR rates, Eldridge, op cit, Table C.

Figure 2

RATES OF NET MIGRATION FOR NEGROES AS ESTIMATED BY THE CSR METHOD AND FOR NATIVE NONWHITES AS ESTIMATED BY THE DOB METHOD, BY AGE AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960
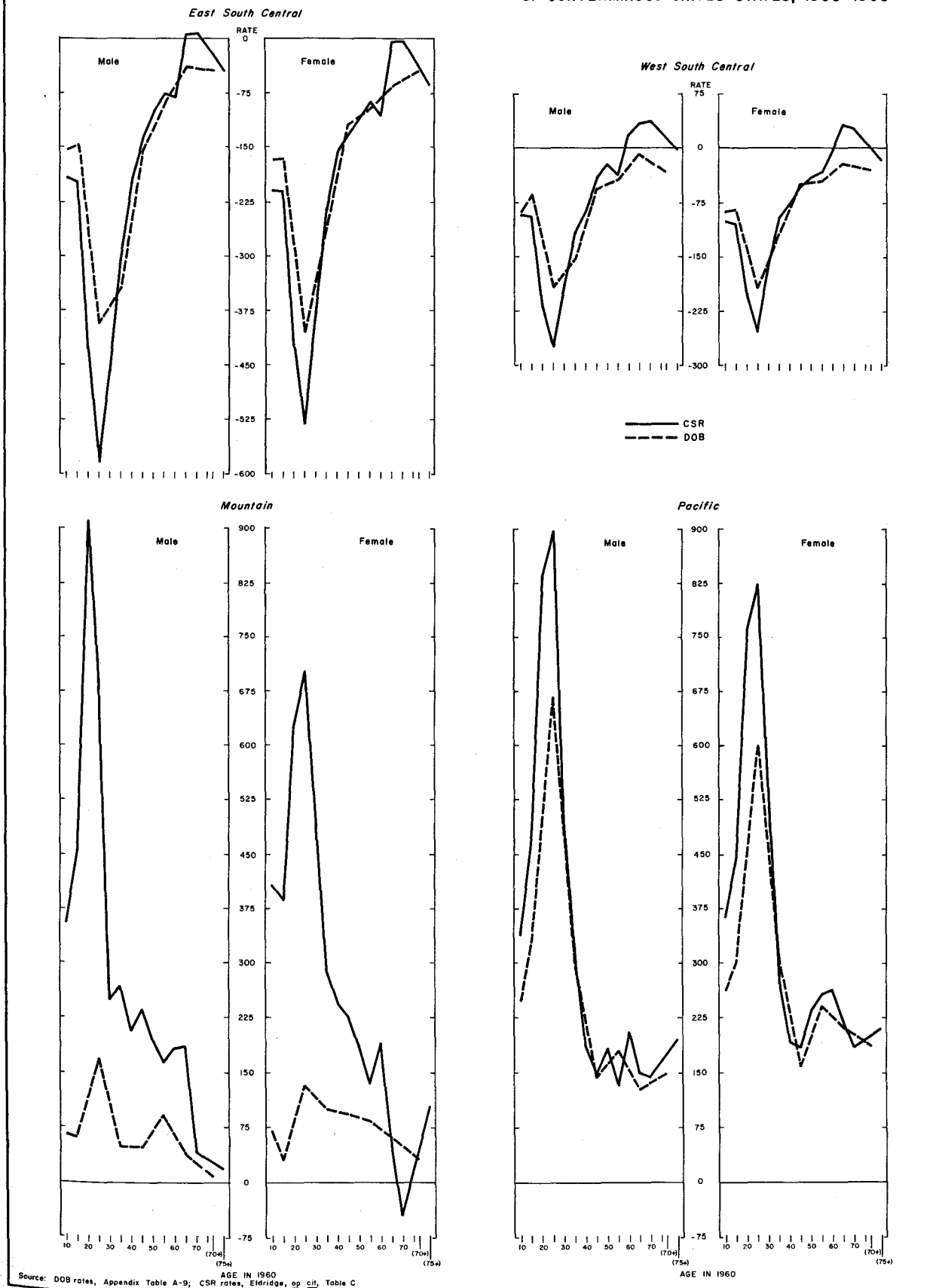
Figure 2 (Cont.)

division were Negro. In no other division was the proportion as low as 50 per-
cent; in most, it was above 80 percent.[1]

In addition to the one just mentioned for Negroes and nonwhites, there are
two kinds of difference between CSR and DOB rates that cannot be attributed to
methodological sources. One is the finer age detail of the CSR rates. The DOB
estimates had to be compiled for broader age groups because the birth-residence
statistics of the Census of 1950 were tabulated for 10-year age groups from age
10 upward, necessitating migration estimates for 10-year age groups from age
20 upward (age as of 1960), with a terminal group, 70 years and over. With our
knowledge of age differentials, especially those at the young adult ages, we
can see that the broader grouping creates a definite disadvantage in the DOB
data as compared with the CSR data.[2] However, for purposes of direct compari-
son, the CSR data can be consolidated into the same age grouping as that of the
DOB data.

The Effect of External Migration and Differential Mortality

A second and more troublesome impediment to comparison is the difference
in geographic coverage. The CSR estimates reflect external as well as in-
ternal migration of the respective population groups; the DOB estimates pur-
port to measure the net effect of movements within the conterminous United
States only.[3] Many of the differences in Figures 1 and 2, especially at the

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[1] U.S. Bureau of the Census, U.S. Census of Population: 1960, Volume I,
Part I, Table 56.

[2] The birth-residence statistics of the Census of 1960 were tabulated
for the finer age groups. Presumably, the age handicap will not be a factor
when it comes to estimates for the period 1960-1970.

[3] In order to approximate a closed population as nearly as possible, the
survival ratios for the CSR estimates were calculated for an "expanded area"
which includes the United States (the conterminous area plus Alaska and
Hawaii), Puerto Rico and the U.S. population living abroad. This procedure,
which adds to the accuracy of estimates for the component areas, could not
be followed in deriving DOB estimates because the birth-residence data were
not available in sufficient detail for areas outside the conterminous
United States.

young adult ages, are attributable to this factor.[4] In order to control for it, and so to isolate differences due to the use of national rather than divisional survival ratios, we may combine the "birth-residence populations" of 1950 and 1960 and compute composite survival ratios for the entire conterminous area. Application of these ratios to the divisional populations of 1950 yields expected survivors for 1960 and, by differencing with the 1960 observed population, estimates of net internal migration for the intercensal interval. We label these the "DOB-N" estimates. The only differences between them and the DOB estimates will be those attributable to the use of aggregate rather than divisional survival ratios.

Divisional rates of net migration for native white males, as estimated by the CSR, DOB, and DOB-N methods, are shown for comparable age groups in Table 2 and Figure 3. We can see at once that regrouping the age data of the CSR estimates has brought them into closer conformity with the DOB estimates, though some rather striking variations remain at the young adult and at the terminal ages. By studying the differences among the three sets of rates, we can arrive at an appraisal of how much of the difference is due to external migration, and is therefore real, and how much is due to the neglect of geographic variations in the computation of national survival ratios. The former is indicated by the difference between CSR and DOB-N rates, the latter by the difference between DOB and DOB-N rates.

At the young adult ages, notably the age group 20-29 and to some degree 15-19 and 30-39, most of the difference between the CSR and DOB rates can be accounted for by external migration. Almost without exception, the DOB-N rate

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[4]Between 1950 and 1960, there was a substantial net out-movement of young native white males of military age (principally the cohort 20-24 years old in 1960) from conterminous United States to overseas locations, and a considerable net in-movement of native white males aged 30-39 in 1960. See Eldridge, Net Intercensal Migration ..., op. cit., Table A, p. 106.

TABLE 2. RATES OF NET MIGRATION OF NATIVE WHITES 10 YEARS OLD AND OVER, BY AGE AND SEX, AS DERIVED BY CSR, DOB, AND DOB-N METHODS, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

(Rates per 1,000 average population)

Age in 1960	CSR	DOB	DOB-N	CSR	DOB	DOB-N	CSR	DOB	DOB-N
	New England			Middle Atlantic			East North Central		
Male									
10-14	-26	-24	-30	-24	-37	-36	-5	-5	-8
15-19	-26	-13	-14	-70	-77	-77	-38	-29	-28
20-29	-44	-19	-20	-77	-88	-80	-20	-7	5
30-39	-44	-42	-52	-12	-29	-30	18	10	14
40-49	-22	-21	-14	-30	-35	-37	-8	-11	-7
50-59	-16	-11	-11	-26	-24	-30	-12	-15	-11
60-69	-29	-16	-19	-51	-35	-49	-40	-34	-29
70+	-39	-7	-38	-61	-25	-63	-40	-19	-36
Total,10+	-32	-21	-25	-40	-44	-48	-14	-11	-9
	West North Central			South Atlantic			East South Central		
10-14	-75	-65	-74	39	38	39	-92	-91	-87
15-19	-90	-67	-72	71	81	82	-92	-64	-74
20-29	-151	-113	-123	53	84	77	-254	-201	-226
30-39	-89	-92	-96	19	10	11	-125	-129	-133
40-49	-53	-56	-50	40	43	37	-71	-65	-72
50-59	-29	-30	-22	45	49	44	-41	-37	-46
60-69	-15	-24	-12	98	100	87	-6	-15	-10
70+	-2	-39	-6	82	86	78	13	7	9
Total,10+	-67	-64	-62	50	56	52	-99	-88	-95
	West South Central			Mountain			Pacific		
10-14	-29	-32	-24	85	77	84	155	155	159
15-19	-33	-16	-16	47	58	69	183	188	194
20-29	-69	-35	-41	68	99	95	282	296	302
30-39	-27	-37	-34	122	105	110	198	186	186
40-49	-17	-21	-26	108	91	93	126	111	112
50-59	-12	-15	-13	75	70	72	81	62	68
60-69	9	-3	3	71	54	58	64	45	52
70+	29	-20	24	56	22	62	57	36	60
Total,10+	-24	-25	-20	84	79	85	155	148	153

TABLE 2. RATES OF NET MIGRATION OF NATIVE WHITES 10 YEARS OLD AND OVER, BY AGE AND SEX, AS DERIVED BY CSR, DOB, AND DOB-N METHODS, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

(Rates per 1,000 average population)

Age in 1960	CSR	DOB	DOB-N	CSR	DOB	DOB-N	CSR	DOB	DOB-N
	New England			Middle Atlantic			East North Central		
Female									
10-14	-26	-26	-27	-23	-38	-34	-5	-4	-7
15-19	1	-7	-7	-17	-42	-38	8	3	4
20-29	-54	-49	-46	-27	-54	-52	28	29	34
30-39	-43	-40	-44	-34	-42	-41	-11	-12	-12
40-49	-20	-24	-20	-33	-31	-37	-13	-15	-17
50-59	-19	-13	-14	-32	-29	-36	-22	-24	-27
60-69	-26	-22	-30	-47	-41	-50	-54	-42	-42
70+	-23	-9	-36	-46	-17	-50	-38	-15	-35
Total,10+	-29	-26	-29	-32	-37	-42	-11	-9	-11
	West North Central			South Atlantic			East South Central		
10-14	-76	-63	-73	39	38	41	-98	-92	-96
15-19	-58	-51	-56	43	44	43	-118	-97	-109
20-29	-132	-121	-128	37	47	47	-228	-201	-220
30-39	-100	-97	-94	41	47	42	-119	-111	-121
40-49	-48	-53	-52	46	46	44	-61	-60	-66
50-59	-34	-36	-28	65	64	68	-38	-36	-40
60-69	-36	-40	-36	111	106	105	-11	-16	-14
70+	-13	-52	-14	61	64	56	-9	-8	-12
Total,10+	-66	-67	-64	52	54	53	-96	-88	-96
	West South Central			Mountain			Pacific		
10-14	-30	-34	-25	88	80	82	153	153	151
15-19	-44	-41	-44	65	65	68	148	143	151
20-29	-55	-45	-45	78	86	85	270	274	279
30-39	-29	-27	-24	123	120	128	198	195	199
40-49	-16	-17	-13	95	87	94	118	114	124
50-59	-5	-12	-6	74	68	75	86	79	85
60-69	17	-2	11	56	44	45	90	86	91
70+	35	-14	41	67	34	80	75	54	75
Total,10+	-20	-25	-17	85	80	87	150	146	153

Source: CSR, computed from Table B of Eldridge, Net Intercensal Migration..., op. cit.; DOB, Appendix Table A-9; DOB-N, computed from Appendix Tables A-7 and A-8.

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RATES OF NET MIGRATION OF NATIVE WHITE MALES 10 YEARS OLD AND OVER, BY AGE, AS DERIVED BY CSR, DOB AND DOB-N METHODS, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950 - 1960
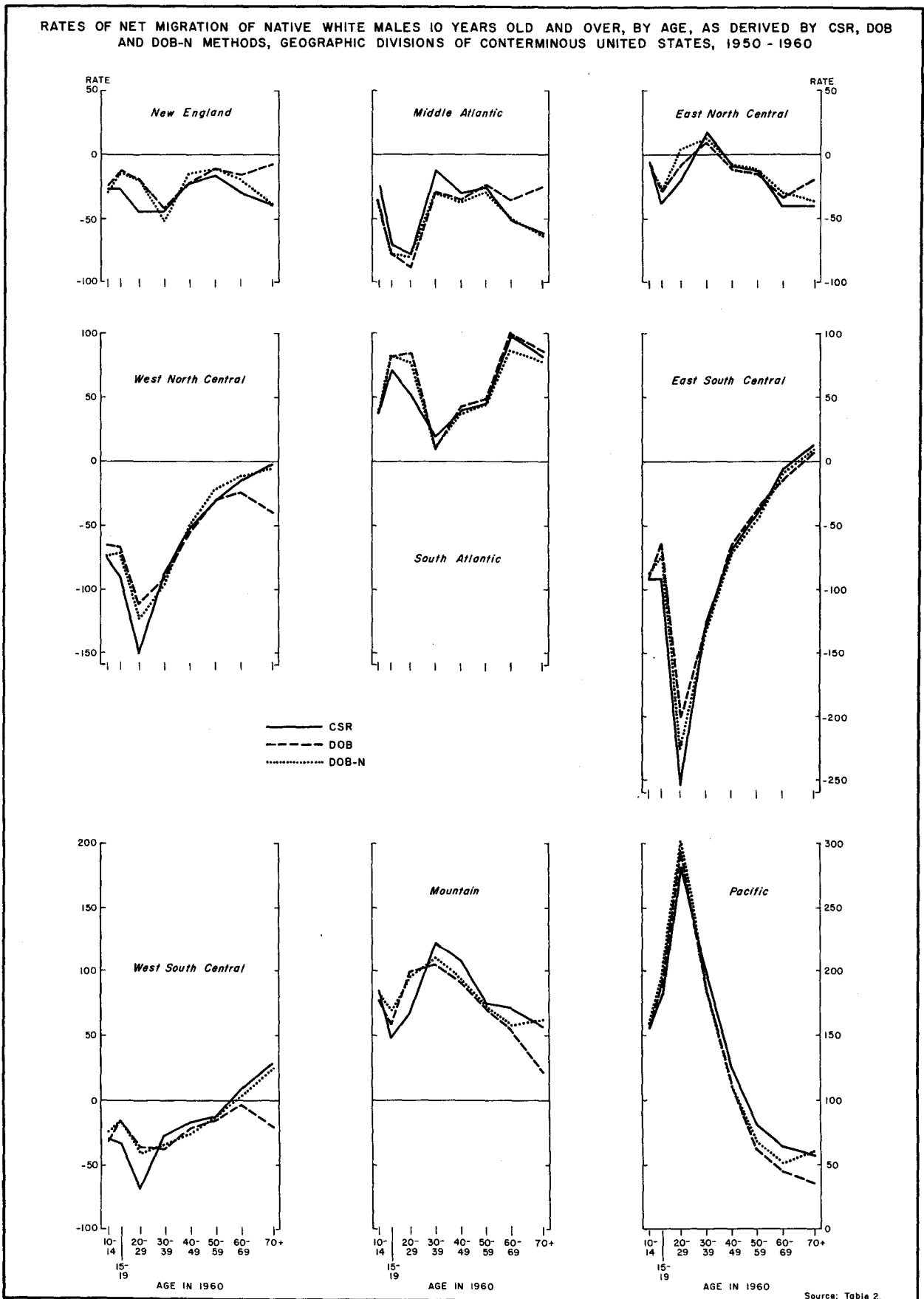
Figure 3

is closer to the DOB rate than to the CSR rate. The implication is that if
DOB rates could have been made for the expanded area rather than for the
conterminous area only, they would not have differed much from the CSR rates,
as computed. Our estimate of the change that would be introduced is the
ratio of the difference between DOB and DOB-N to DOB-N. The formula for the
"adjusted" CSR would be: CSR (DOB/DOB-N).

For the terminal age group (70 and over) and to a lesser degree for the
age group 60-69, the relations are quite different. Here, the DOB-N rate
tends to be closer to the CSR than to the DOB rate. The difference between
the CSR and the DOB rates is therefore largely explained by the neglect of
geographic variations that is inherent in the CSR estimates. But one hesi-
tates to conclude at once that the DOB estimates are necessarily superior to
the CSR estimates. Demographic data for persons in the advanced ages are
notoriously suspect, no matter what the characteristic under analysis, and
including age itself. If persons of advanced age are more subject to mis-
reporting of birthplace than are younger persons, this may be an important
factor in the greater differences found at these ages. Furthermore, an open-
end category such as 70 years and over is a particularly uncertain quantity
upon which to base firm conclusions.

One strong implication of the differences at advanced ages is that geo-
graphic differentials in mortality and therefore in survivorship are greater
at the older ages than at others. There is considerable support for this
view in Lee's analysis of variations of lifetable survival ratios for the
period 1939-1941.[5] Examination of divisional mortality rates for 1950
and 1960 gives further substantiation. Not only were the differentials in

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[5] Everett S. Lee et al., Population Redistribution and Economic Growth...,
op. cit., pp. 34 ff.

survivorship implied by 1950-1960 death rates greater at the older ages, but the directions of difference for all divisions except one (the South Atlantic) were such as would yield the kinds of difference actually found between the CSR and DOB estimates of net migration. As for the South Atlantic, the difference to be explained, though in the wrong direction, is very small. Probably other factors, such as differential census error and the possible effect of heavy in-migration at the advanced ages (mainly to Florida) upon the observed mortality rates of the resident population, have come into play with greater force in that division. The weight of the evidence inclines one to the belief that the DOB estimates are preferable to the CSR estimates for the population 70 and over in 1960 and no doubt also for the population 60-69 years old.

We may check these observations by examining comparable rates for native white females. The data for females, not being directly affected by military migration and therefore being less affected by external migration, should show smaller differences at the young adult ages; they would be expected to show similar differences at the advanced ages. By and large, these expectations are met. Except for the Middle Atlantic Division, the three sets of rates are in good conformity up to ages 50-59 (see Table 2 and Figure 4). In the rates for the Middle Atlantic, the marked spread at ages 10-39 between the DOB and DOB-N rates on the one hand, and the CSR rates, on the other, is no doubt accounted for by the heavy in-migration from Puerto Rico, principally to New York, during the 1950's. The effect of Puerto Rican in-migration upon the rates for males of this division (see Figure 3) was evidently such as to more than offset the effects of external out-migration. The result is that CSR rates of net loss are actually smaller than DOB rates for ages between 15 and 29, whereas the opposite relation was to be expected on the basis of the experience of other divisions.

RATES OF NET MIGRATION OF NATIVE WHITE FEMALES 10 YEARS OLD AND OVER, BY AGE, AS DERIVED BY CSR, DOB AND DOB-N METHODS, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950 - 1960
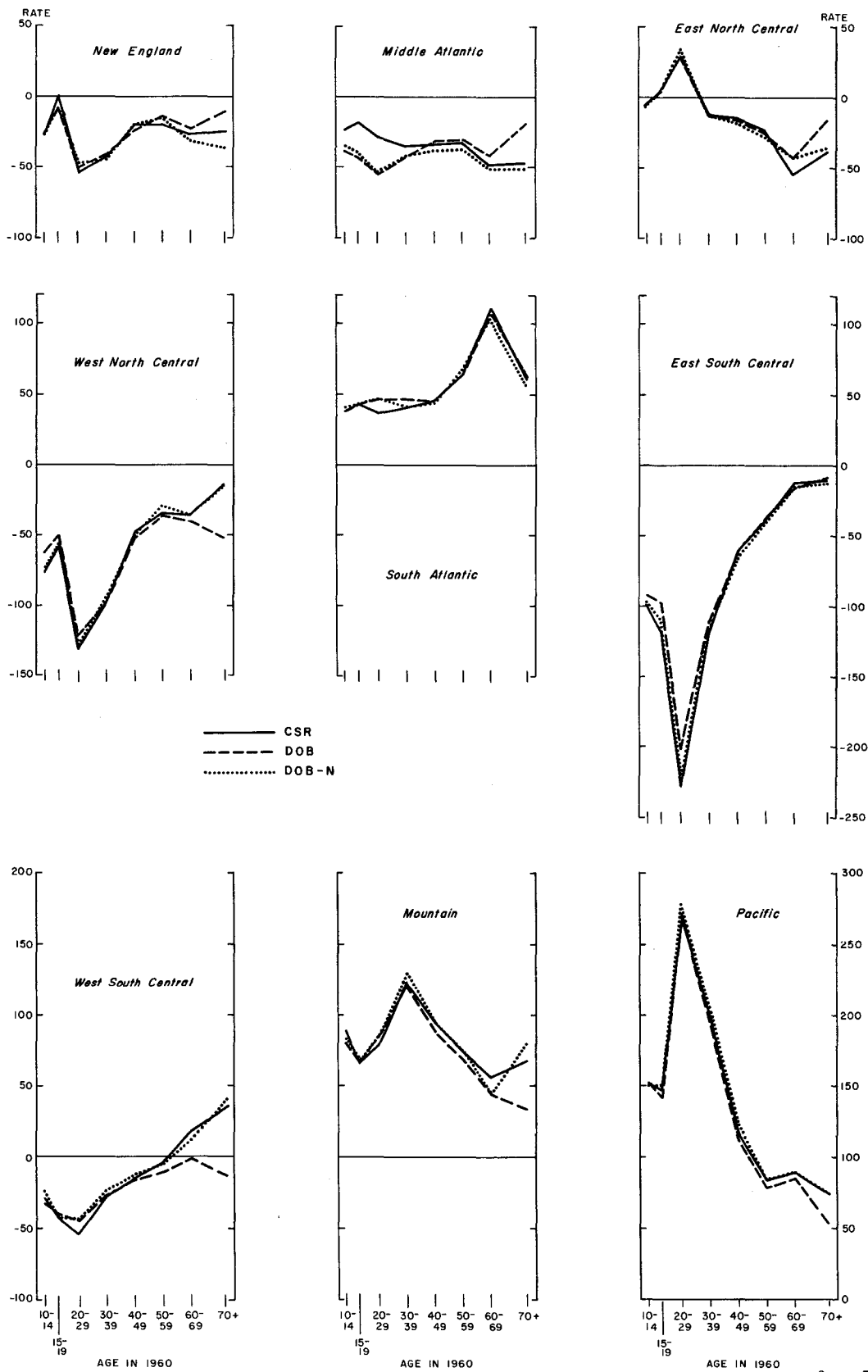
Figure 4

At ages 60 and over, the patterns of difference for females closely resemble those for males, reinforcing the inference that interdivisional mortality differentials are a contributing factor.

Conclusion

Although these findings are necessarily somewhat inconclusive, the DOB estimates perhaps have a slight edge. In any case, except for the advanced ages, the CSR estimates are in good agreement with the DOB estimates, once the effects of external migration are allowed for. In addition, the CSR estimates have the important advantage of providing finer age and finer geographic detail. In recognition of the unassessable contribution of "other nonwhites" to the differences between CSR rates for Negroes and DOB rates for native nonwhites, we shall not carry the comparative analysis further.

IV. MIGRATION OF THE IN-BORN AND THE OUT-BORN

We turn now to an appraisal of the two components of net migration (net migration of in-born and net migration of out-born) which the DOB estimates give us for each geographic division. These data are a step in the direction of measuring gross interdivisional migration, for the period 1950-1960, of persons born in the conterminous United States and living in the conterminous United States at both census dates, a migrant being defined as a person whose division of 1960 residence differed from his division of 1950 residence.[1] Since for each division the net movement of in-born was generally outward and the net movement of out-born was generally inward, we have, by treating the two categories separately, picked up a considerable part of gross movement beyond that represented by net interdivisional shift, or displacement (see Table 3). Thus, for the population 10 years old and over as a group, the DOB estimate of displacement is 3.2 million (column 9 of Table 3). This may be compared with the "gross" estimate of 7.3 million for the total net in-migration of out-born, which is of course equal to the total net out-migration of in-born (columns 7 and 8 of Table 3).

Comparative Analysis of Gross Data for 1955-1960

We are interested in how close the above figure comes to measuring gross interdivisional migration of natives in 1950-1960. As mentioned earlier, that portion of gross movement that is missed is equal to twice the number of moves that was cancelled by countermoves of persons born in the same division, return migration offsetting an equal amount of primary migration in the opposite direction and secondary (or progressive) migration in one direction offsetting equal amounts of secondary migration in the opposite direction. Some idea of

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[1] It should be noted that when "migrant" is defined in this way, total migration is equal to the total number of migrants surviving to the end of a migration interval. In this report, the terms "migrants" and "migration" are used interchangeably.

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TABLE 3. NET MIGRATION OF IN-BORN AND OUT-BORN AND NET BALANCE OF INTERDIVISIONAL MIGRATION AS ESTIMATED FROM DIVISION-OF-BIRTH SURVIVAL RATIOS FOR THE NATIVE POPULATION 10 YEARS OLD AND OVER IN 1960, BY COLOR, CONTERMINOUS UNITED STATES, 1950-1960.

(In thousands)

	Native White			Native Nonwhite			Total		
Division	In-born	Out-born	Net balance	In-born	Out-born	Net balance	In-born	Out-born	Net balance
NE	-401	223	-178	-2	46	45	-403	270	-133
MA	-1,187	263	-924	-9	302	293	-1,196	565	-631
ENC	-1,230	983	-247	-17	412	395	-1,247	1,395	148
WNC	-972	181	-791	-20	44	24	-992	225	-767
SA	-559	1,414	854	-390	33	-357	-950	1,447	497
ESC	-845	142	-703	-438	-8	-447	-1,283	133	-1,150
WSC	-624	346	-278	-220	18	-203	-844	363	-481
MT	-253	620	368	-10	28	18	-263	648	386
PAC	-113	2,012	1,899	3	229	232	-109	2,241	2,132
Total	-6,184	6,184	-	-1,104	1,104	-	-7,287	7,287	-
Sum of gains	-	6,184	3,121	3	1,112	1,007	-	7,287	3,162
Sum of losses	-6,184	-	-3,121	-1,107	-8	-1,007	-7,287	-	-3,162

Source: Appendix Tables A-3 to A-6.

the magnitude of the missing part may be gained by reference to data on gross migration for the period 1955-1960, as given in the Census of 1960.[2] Three-way cross-tabulations of the population by division of birth, division of residence in 1955 and division of residence in 1960 make it possible to adjust the five-year gross data for comparability with the ten-year DOB data, and obtain for the five-year interval those figures that would have been forthcoming if

[2] U.S. Bureau of the Census, U.S. Census of Population: 1960, Lifetime and Recent Migration, Final Report PC(2)-2D. Some of the 1955-1960 data analyzed in this report, although obtainable from the published tables, were drawn from a special tabulation prepared by the U.S. Bureau of the Census for the Population Studies Center of the University of Pennsylvania and may be subject to minor discrepancies with the published data.

birth-residence data had been available for 1955 and 1960, if period estimates

of migration had been developed from them in accordance with the method used

for 1950 and 1960, and if the influence of error factors had been constant.[3]

We can identify three categories of interdivisional migrants for the

five-year interval: (a) those who were living in the division of birth in 1955

and in a second division in 1960 ("primary migrants"); (b) those who were living

outside the division of birth in 1955 and had returned to it by 1960 ("return

migrants"); and (c) those who were living outside the division of birth in 1955

and in a third division in 1960 ("secondary migrants"). The figures for total

migrants are shown in Appendix Tables B-1 and B-2; those for the three cate-

gories are given in Appendix Tables B-3 to B-8. From these data, net migration

of the in-born can be obtained for each division by subtracting return in-migra-

tion from primary out-migration (entries in the "Total" columns of Tables B-3

and B-4 minus corresponding entries in the "Total" lines of Tables B-5 and B-6).

Net migration of the out-born is obtained by subtracting return plus secondary

out-migration from primary plus secondary in-migration, using the proper "Total"

entries in Tables B-3 to B-8.

The unadjusted and adjusted figures for whites and nonwhites 5 years old

and over are shown in Table 4. Adjustment of the five-year data for compara-

bility with the DOB estimates reduces gross interdivisional migration of native

whites by nearly 65 percent - from 8.8 million to 3.1 million. If the same

ratio holds for the ten-year period, then our estimate of 6.2 million (shown

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[3] The data for the five-year interval relate to the total United States, including Alaska and Hawaii. These states are assigned to the Pacific Division. The difference in area does not interfere with our analysis, for the inferences drawn are based entirely on internal comparisons of the five-year data.

in Table 3) should be more than doubled if it is to approximate gross migration for the interval 1950-1960.[4] Comparable figures for nonwhites are 726,000 and 363,000, involving a reduction of 50 percent. It is clear that the DOB estimates seriously underestimate the volume of gross migration.

The relative reduction brought about by the adjustments is not uniform from division to division nor as between in-born and out-born. There is therefore a certain degree of distortion to contend with when estimates of the DOB type are looked upon as indicators of geographic patterns of total in-migration and total out-migration. This distortion shows up in the rather low coefficients of rank correlation between the adjusted and the unadjusted figures. The values of Tau (n = 9) for whites are 0.72 for in-migration and 0.56 for out-migration. The coefficients for nonwhites are 0.44 and 0.83 respectively. For whites, the two measures of in-migration are in closer agreement than are the two measures of out-migration; for nonwhites, the opposite is true. An examination of the components of adjustment indicates that these differences arise from the differential impact of return migration as between the two color groups. For both groups, the adjustment for secondary migration has very little effect. For whites, interdivisional differences in the volume of primary in-migration are large enough so that deducting return out-migration has only a moderate effect on divisional ranks. For nonwhites, the same can be said with respect to primary out-migration in relation to return in-migration, principally because primary out-migration from the southern divisions was very heavy whereas return in-migration was comparatively light for all divisions.

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[4]The same ratio undoubtedly does not hold since the relative importance of return and secondary migration is likely to increase as the migration interval is lengthened. The degree of understatement suggested by the five-year data is therefore a less-than-minimum estimate.

TABLE 4. IN-MIGRATION, OUT-MIGRATION, NET MIGRATION OF THE OUT-BORN, AND NET
MIGRATION OF THE IN-BORN, FOR THE NATIVE POPULATION 5 YEARS OLD AND OVER IN
1960, BY COLOR, FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

(In thousands)

Color and Division	In-migration (1)	Net Migration of Out-born (2)	Out-migration (3)	Net Migration of In-born (4)
WHITE				
New England	412	140	-485	-213
Middle Atlantic	707	123	-1,273	-689
East North Central	1,232	267	-1,688	-723
West North Central	666	91	-1,064	-488
South Atlantic	1,697	803	-1,134	-240
East South Central	578	92	-766	-280
West South Central	818	165	-919	-266
Mountain	879	367	-638	-126
Pacific	1,852	1,062	-873	-83
Total	8,840	3,108	-8,840	-3,108
NONWHITE				
New England	28	19	-11	-2
Middle Atlantic	146	91	-70	-16
East North Central	149	84	-86	-20
West North Central	42	17	-35	-10
South Atlantic	93	25	-189	-121
East South Central	44	2	-160	-117
West South Central	55	12	-114	-72
Mountain	29	12	-23	-5
Pacific	139	102	-37	-1
Total	726	363	-726	-363

Source: Appendix Tables B-1 and B-13.

Similar relations hold for age-sex groups. We illustrate with data for native whites in the two age groups, 15-19 and 20-29. The numbers of inter-divisional migrants before and after adjustment are, in thousands:[5]

Age and Sex	Before Adjustment	After Adjustment	Percent Change
15-19			
Male	484	297	-38.6
Female	346	174	-49.7
20-29			
Male	1,435	492	-65.7
Female	1,150	460	-60.0

The coefficients of rank correlation between the total and adjusted divisional figures for in-migration and out-migration are:

Age and Sex	In-migration	Out-migration
15-19		
Male	0.67	0.67
Female	0.72	0.61
20-29		
Male	0.56	0.39
Female	0.78	0.56

The distorting effect of adjustment shows some tendency to increase with age, especially for males. This is to be expected since the importance of return and secondary migration also tends to increase with age.[6]

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[5]The data for males are taken from Appendix Tables B-2 and B-14; those for females are derived from Table 6, U.S. Census of Population: 1960, Lifetime and Recent Migration.

[6]Age-specific comparisons are limited to the data for whites in the most migratory age groups because the data of other age groups of whites and the age-specific data for nonwhites contain rather frequent instances of negative values (i.e.,net in-migration of in-born and net out-migration of out-born) which render the estimates wholly inappropriate as measures of gross migration.

It would appear that the relative efficiency of DOB estimates <u>vis-a-vis</u> in-migration and out-migration is less clear-cut for the younger than for the older age group.

It should be noted that adjustment of the five-year data for comparability with the DOB estimates does not change the net balances of migration for component areas. In other words, DOB estimates of net migration are not affected by the area-of-birth orientation of the data.

We are brought to the conclusion that while DOB estimates of in-migration and out-migration give us some insight into gross internal migration, they may not be taken as satisfactory stand-ins for gross data. It is therefore important to keep their characteristics firmly in mind and to call them by names that describe their nature; namely, estimates of net migration of the out-born and estimates of net migration of the in-born. The pertinence of this precept becomes abundantly clear when we observe that at some ages for some areas, net migration of the in-born is inward and net migration of the out-born is outward.

Age-Specific Rates, 1950-1960

With the appropriate reservations in mind, we may now examine the age-specific detail of our estimates for the ten-year period 1950-1960, as expressed in the form of rates per 1,000 average population.

<u>Native whites</u>. Division rates for the in-born and out-born and rates of net balance (the last are the same DOB rates that are shown in Figure 1) are charted in Figure 5 for native whites, by sex. At every age for some divisions and at most ages for the rest, net migration of the in-born was outward and net migration of the out-born was inward. The exceptions are confined to the older age groups which had had more opportunity than the

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RATES OF NET MIGRATION OF IN-BORN AND OUT-BORN AND RATES OF NET BALANCE FOR NATIVE WHITES
10 YEARS OLD AND OVER, BY AGE AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES
1950-1960

New England   Middle Atlantic

East North Central   West North Central

South Atlantic
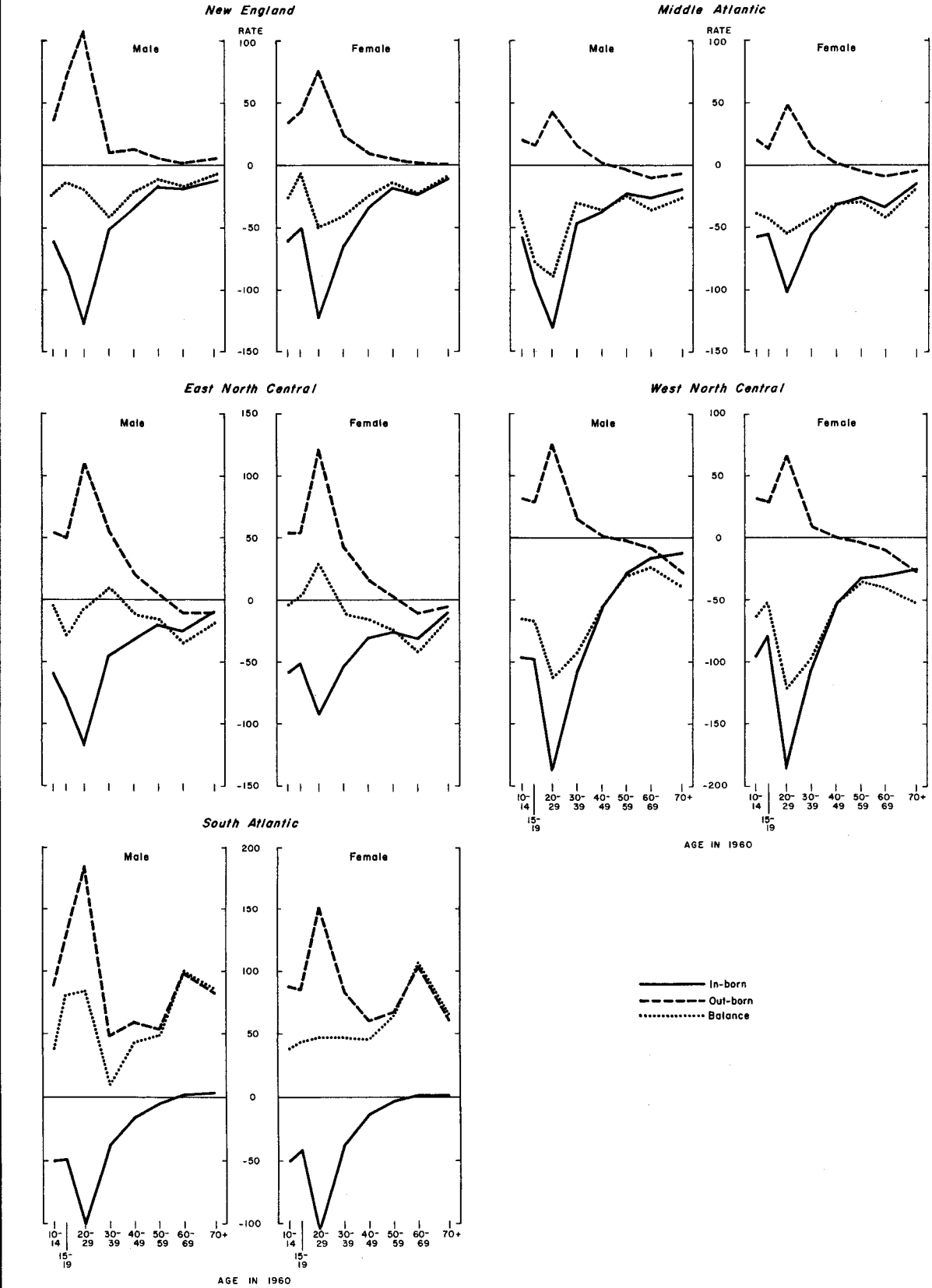
Source: Appendix Table A-9.

Figure 5 (Cont.)

RATES OF NET MIGRATION OF IN-BORN AND OUT-BORN AND RATES OF NET BALANCE FOR NATIVE WHITES
10 YEARS OLD AND OVER, BY AGE AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES
1950-1960
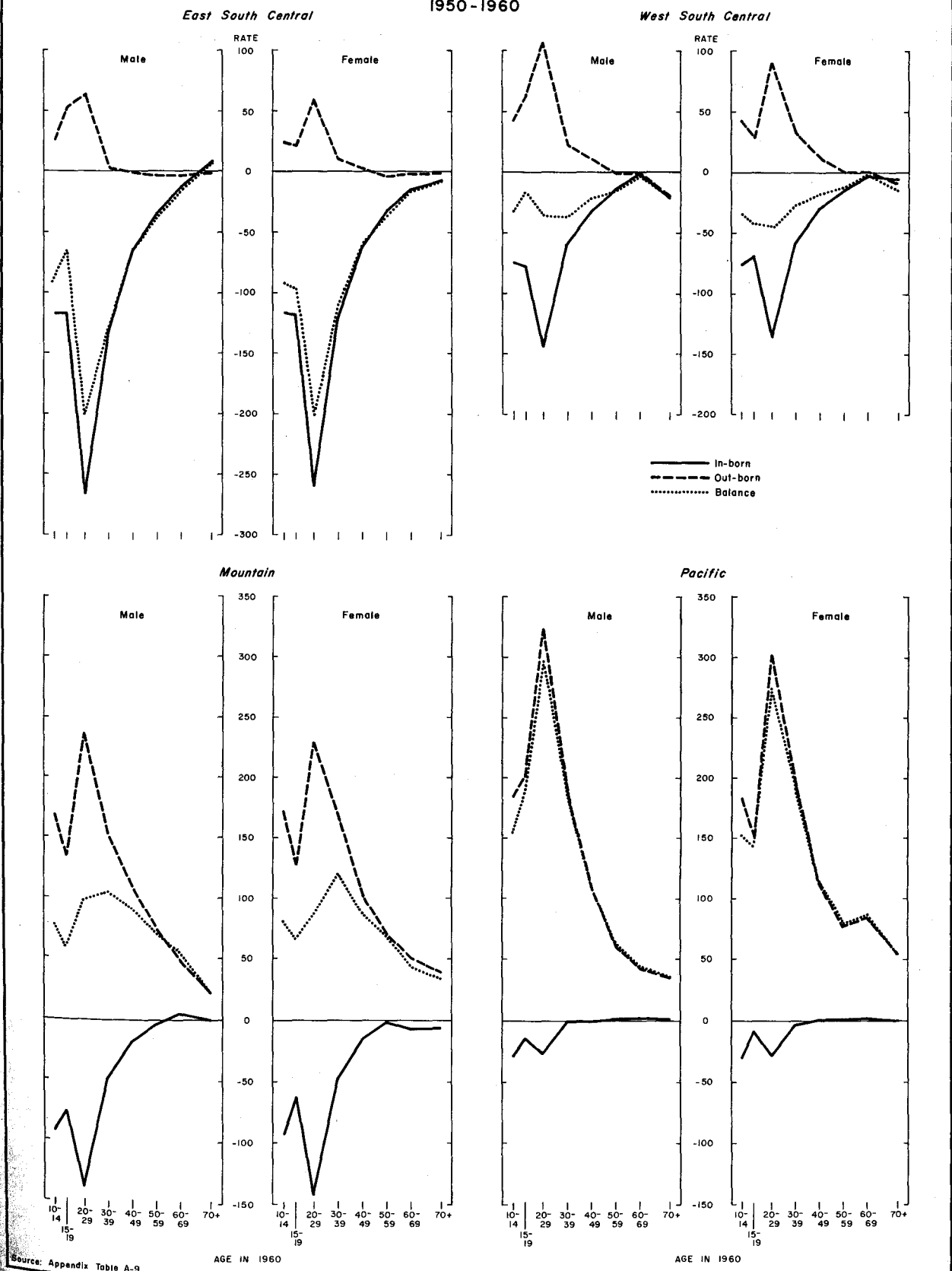
Source: Appendix Table A-9.

Figure 5 (Cont.)

younger to build up reservoirs of population living outside their divisions of
birth and so to produce migration balances in the opposite direction. Much
of this "reverse migration" probably represents return to the area of birth
during old age and at retirement. So far as net in-migration of the in-born
is concerned, this is certainly the effect of return migration, at least return
to the division of birth if not to the precise place of birth. As for net out-
migration of the out-born, we cannot determine its destination. For any given
division, it is produced no doubt by a mixture of return and secondary migration.

The age curves for the in-born and out-born have a basic similarity of
shape both within divisions and between divisions. In general, they resemble
the classic form of gross rates, with the peak characteristically at the young
adult ages (here the age group 20-29), with a tendency for the rate of the
youngest age group (here 10-14) to be higher than the rate of the next older
group (here 15-19), and with some tendency for the rates to show a minor peak
at the retirement ages (here approximated by the age group 60-69).

Distinctive features of the curves of male rates are associated with
military migration. Induction migration (that is, migration associated with
induction into the armed forces) appears to have prevented the rate from
falling at ages 15-19, or from faltering in its upward climb between ages
10-14 and 20-29, as it ordinarily does in gross rates for females and as
it usually has done in the gross rates for males in past periods. Separation
migration (that is, migration associated with discharge from the armed forces)
is reflected in a sharp decrease of the rate from ages 20-29 to ages 30-39,
followed by a leveling or an increase at ages 40-49, such that the rates for
the three age groups form an angle or notch convex to the zero-axis. These
departures from the usual age pattern are especially clear-cut in the rates

of the in-born moving away from areas with below average shares of military

population (Middle Atlantic, East North Central) and in the rates of the out-

born moving to areas with above average shares (South Atlantic, West South

Central).[7] The depressed rate at 30-39 would thus be in some part the result

of the reverse movement (that is, movement against the prevailing flow) of

persons leaving the armed forces. Such movement would tend to reduce net out-

migration of in-born from areas of low military concentration and to reduce

net in-migration of out-born to areas of high military concentration. To the

extent that separation migration (concentrated at ages 30-34) is also return

migration and to the extent that nonmilitary return migration (which has a

special impact at ages 35-39) is concordant with separation migration, the

10-year age group 30-39 is doubly affected by the factor of reverse migration.

The differential effects of military migration upon rates for the age

groups 20-24 and 25-29 are of course obscured in these data by the necessity

to consolidate them into a single 10-year age group. When 5-year age detail

is available, the impact of induction migration upon the age group 20-24 is

very evident, as can be seen from the CSR net rates charted in Figure 1.[8]

The impact of retirement migration is similarly dampened by the broader

age grouping. The two groups most affected by retirement migration, 65-69

and 70-74, (that is, persons who reached age 65 during the decade) are di-

vided between the groups 60-69 and 70 and over. Nevertheless, a minor peak

(or trough, depending on the direction of retirement migration as compared

with the prevailing direction of migration at the other ages) often appears

at ages 60-69. Some divisions - notably, the Middle Atlantic, the East

[7] U.S. Bureau of the Census, U.S. Census of Population: 1960. General Social and Economic Characteristics, United States Summary. Final Report PC(1)-1C, Table 119.

[8] For a more detailed discussion of the impact of military migration, see Eldridge, Intercensal Migration ..., op. cit., pp. 21 ff.

North Central, and the West North Central - lost by the migration of both the
in-born and the out-born at ages above 60. Others - notably the South Atlantic
and the Pacific - gained by the migration of both categories.

With regard to the South Atlantic states, these data give us a particu-
larly valuable insight into rates of net migration. For native white females,
the age curve of net balance shows a marked departure from prevalent forms, the
rates being low and nearly level at the young adult ages and reaching a pro-
nounced peak at ages 60-69. The component rates, however, look quite "normal",
with a maximum at ages 20-29, followed by a regular decline with increase in
age up to the retirement ages. The secondary peak at 60-69 in the rates for
the out-born is of course more insistent than in most areas because of the
great attraction that Florida exerts upon the elderly.

Comparable considerations apply, albeit less forcibly, with regard to
the net rates of some of the other divisions: New England (native white
males); East North Central (native white males); Mountain (native white males
and females). In each instance, the rate curves of the in-born and the rate
curves of the out-born have salient characteristics in common, but the curve
for the rates of net balance is noticeably different in shape.

Native nonwhites. Division rates for nonwhites, by sex, are charted in
Figure 6. In these data, there is a much greater spread between the rate
levels for the in-born and those for the out-born than was true of the rates
for native whites. The southern divisions are characterized by high rates
of net migration for the in-born and low rates for the out-born, the other
divisions by high rates for the out-born and low rates for the in-born.
Like the movements of whites, the net migration of out-born nonwhites was
generally inward and the net migration of in-born was generally outward,

RATES OF NET MIGRATION OF IN-BORN AND OUT-BORN AND RATES OF NET BALANCE FOR NATIVE NONWHITES
10 YEARS OLD AND OVER, BY AGE AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES
1950 - 1960
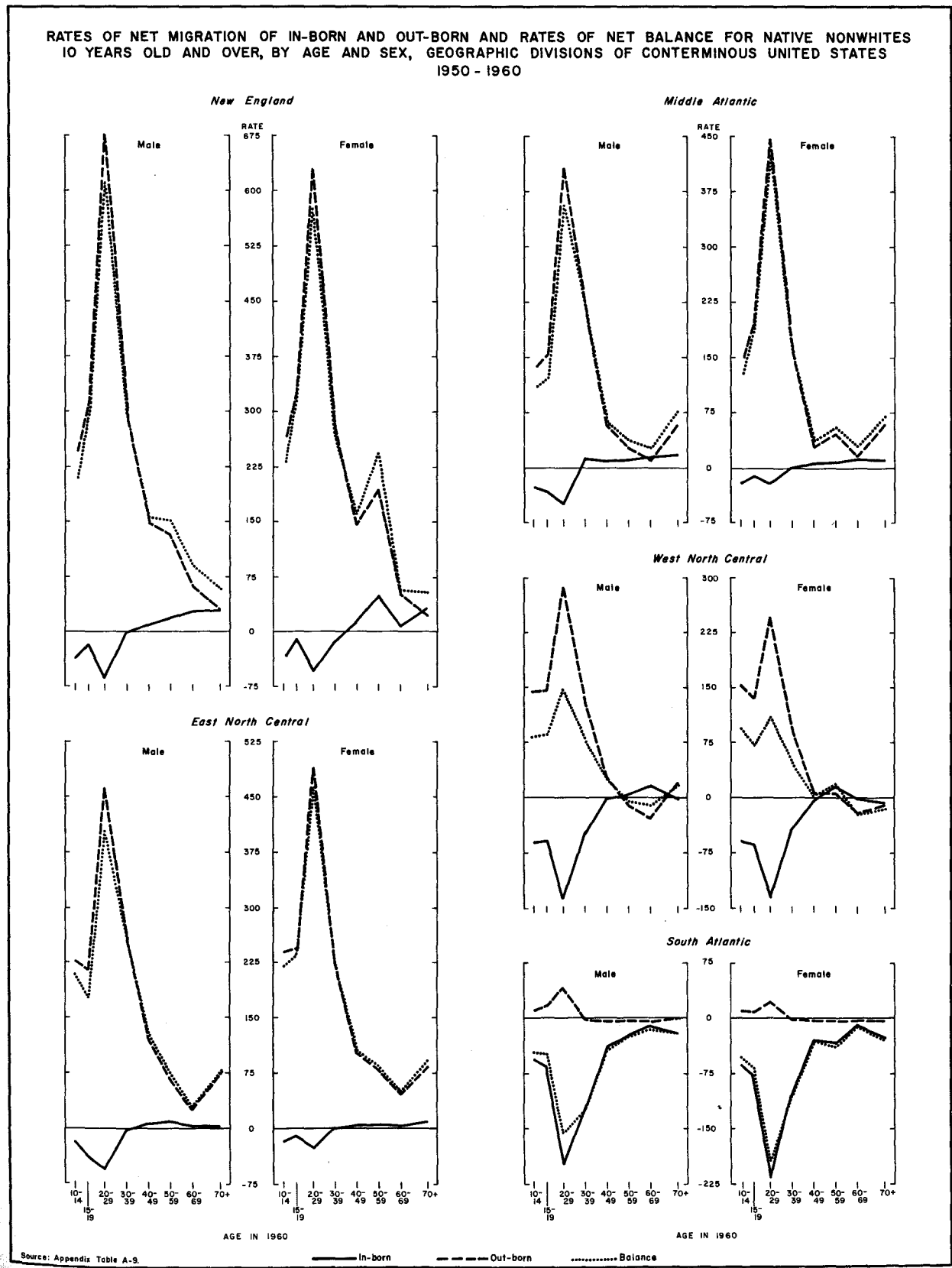
Figure 6

RATES OF NET MIGRATION OF IN-BORN AND OUT-BORN AND RATES OF NET BALANCE FOR NATIVE NONWHITES
IO YEARS OLD AND OVER, BY AGE AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES
1950 - 1960
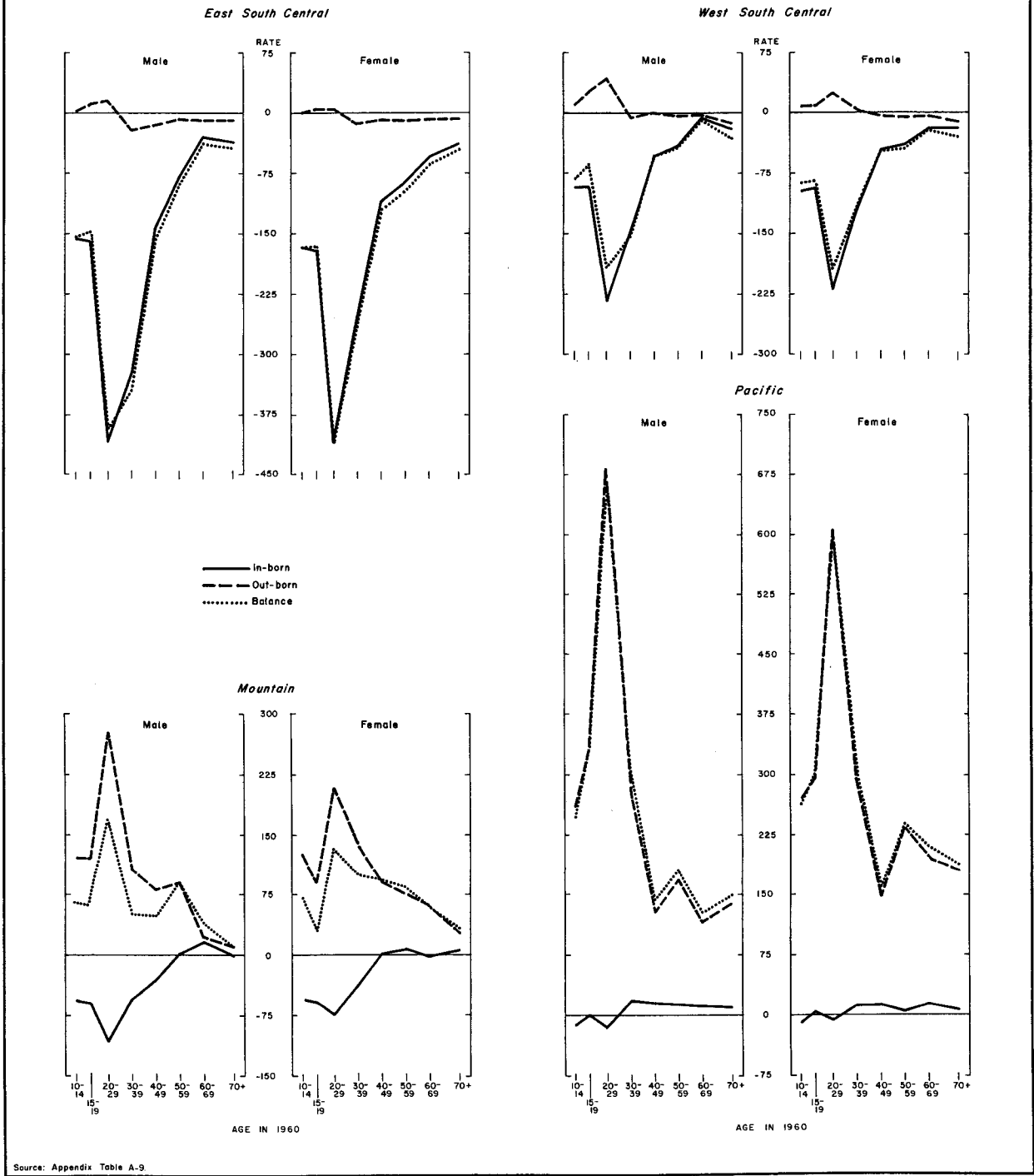
Figure 6 (Cont.)

but in the data for nonwhites there are more exceptions and they appear over a wider range of ages. This combination of characteristics reflects the disinclination of nonwhites, most of whom are Negroes, to remain in or move to the southern divisions. There was, in addition to the heavy net out-migration of in-born, a net out-migration of out-born at ages 30 and above from the South Atlantic and East South Central divisions, at ages 40 and above from the West South Central. Conversely, the divisions outside the South not only had heavy gains through the migration of out-born, but tended to gain through the return migration of in-born at ages above 30. The two extremes in this respect were the East South Central and the Pacific. For all ages combined (that is, 10 years old and over in 1960), the East South Central had a net out-migration of out-born, the Pacific a net in-migration of in-born (columns 4 and 5 of Table 3).

As a result of the kinds of relations just described, the rates of net balance are in close approximation to the rates for the component in the dominant direction. Thus, for the population 10 years old and over as a group, the sum of net changes due to the migration of the out-born (which is equal to the sum of net changes due to the migration of the in-born) is very close to the sum of net balances for the gaining divisions (which, in turn, is equal to the sum of net balances for the losing divisions): 1,104,000 as compared with 1,007,000 (columns 4, 5 and 6 of Table 3). The comparable figures for native whites are 6,184,000 and 3,121,000 (columns 1, 2, and 3 of Table 3).

Although the basic form of the curves for nonwhites is according to "standard", there are certain variations that should be noted. The first is the tendency of the fall in the rate after the peak at ages 20-29 to "break" at ages 40-49, the rates for subsequent ages either leveling off

or rising. It occurs almost exclusively in the rates for the dominant com-

ponent and in the rates of net balance. In the rates for the smaller com-

ponent, the break generally occurs, as would be expected, in the age group

30-39, and is suggestive of the phenomenon of return migration, as observed

at ages 35-39 in the data for native white males in earlier decades and as

observed in the DOB rates for the same group at ages 30-39. This peculiarity

is also evident in the CSR rates for five-year age groups of Negroes (see

Figure 2). It was noted in the analysis of Volume III of Population Redistri-

bution and Economic Growth that there was some indication that the maximum

effect of reverse migration occurred at later ages among Negroes than among

native whites.[9] A convincing explanation of why this should be is difficult

to come by.

The rates for one division - the Mountain States - differ from the rates

for the other divisions in several ways. The contrast in level between the

rates for the in-born and those for the out-born is much less than for most

divisions and the curves of rates of net balance have noticeably different

shapes from those of the other divisions. It seems likely that the explana-

tion lies in the composition of the nonwhite population of the Mountain

States. In earlier discussion, it was indicated that a considerable pro-

portion of the nonwhite population of this division are "other nonwhites",

that is, are nonwhites other than Negroes. It is reasonable, therefore, to

suppose that net gains of out-born came largely from the migration of Negroes,

while net changes due to the migration of the in-born came largely from the

migration of other nonwhites. We can check this possibility by comparing the

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[9] See Chapter VI in Hope T. Eldridge and Dorothy S. Thomas, Population
Redistribution and Economic Growth, United States, 1870-1950, III, Demographic
Analyses and Interrelations, American Philosophical Society, Philadelphia,
1964.

CSR estimates of net migration of Negroes with the DOB estimates of net migra-
tion of the nonwhite out-born. The numbers for comparable age groups of both
sexes are as follows, in thousands:[10]

Age	Net Migration of Negroes (CSR) (1)	Net In-migration of Out-born Nonwhites (DOB) (2)
10-14	3.5	4.4
15-19	2.9	2.9
20-29	10.7	11.4
30-39	4.7	4.7
40-49	2.8	2.4
50-59	1.5	1.7
60-69	0.9	0.5
70+	0.2	0.2
Total,10+	27.3	28.1

These figures are in such close agreement that there can be little doubt that
they refer essentially to the same population group. The deviant form of the
rates of net balance is therefore probably attributable to their being the
result of the opposing movements of two quite independent segments of the
population, with one segment (other nonwhites) overrepresented in the base
to which the rates are related.

Conclusion

DOB estimates of net migration of the in-born and net migration of the
out-born are not satisfactory approximations to total out-migration and
total in-migration for the geographic divisions of the United States, 1950-
1960. Adjustment of gross data for the period 1955-1960 so as to produce
estimates of the DOB type indicates that such estimates both (a) understate
the volume of in- and out-migration for each division and (b) alter the
ranking of divisions with respect to amounts of in-migration and amounts

[10] Column (1) is drawn from Eldridge, Net Intercensal Migration ...,
op. cit., Appendix Table B; Column 2 is derived from Appendix Tables A-5
and A-6 of this report.

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of out-migration. The adjustment does not affect the estimated balances of net migration.

The DOB estimates are nevertheless useful for gaining certain insights into the levels and patterns of internal migration, so long as their place-of-birth orientation is kept in mind and so long as they are properly labelled as estimates of net migration of the out-born and net migration of the in-born.

The age curves of rates, computed separately for the in-born and the out-born, generally conform to the classic shape for rates of gross out-migration and gross in-migration, and so give insight into the forms of rates of net balance.

V. MIGRATION STREAMS

The building blocks of both the net balances of migration discussed in Chapter III and the net migration of in-born and out-born discussed in Chapter IV are the individual entries (m_{ij}) in the DOB migration matrix which measure the changes due to the migration of each division's in-born population with respect to each of their divisions of residence. We now propose to examine the division-by-division details with a view to exploring their relevance to the study of individual interdivisional streams of migration. We know in advance that these data will fall short of a full statement of migration flows in a number of ways. Our purpose is to determine as well as we can how faithfully they reflect the relative volume and direction of such flows and to discover the positive aspects of their usefulness for understanding the patterns of internal migration in the United States.

The Character of Birth-Residence Estimates

The detailed estimates by age, sex and color for each division, presented in Appendix Tables A-3 to A-6, contain a rearrangement of the estimates originally computed for each division of birth, such that each table describes the experience of the given division (a) with respect to the migration of its own in-born population and (b) with respect to the migration of its out-born population classified by division of birth. From the point of view of migration streams, we are interested in those parts of the tables that are concerned with the net migration of the out-born classified by division of birth. Thus, according to Appendix Table A-3, New England had a net gain of 65,000 through the migration of white males born in the Middle Atlantic States, while the latter division had a net gain of 33,000 through the migration of white males born in New England. This is a cumbersome language. We should like to be

able to say, more simply, that between 1950 and 1960, New England gained 65,000
from the Middle Atlantic and that the Middle Atlantic gained 33,000 from New
England - in other words, to regard these data as measures of direct inter-
censal streams. But, as explained in the preceding chapter, return and secon-
dary migration have acted to produce considerable understatement and some dis-
tortion in our estimates. With regard to using them as approximate measures of
individual interdivisional streams, there is the further complication that such
use of them attributes the place of origin (that is, the place of 1950 residence)
of the migrants to their place of birth. Only for primary migrants is that
attribution correct. We shall, therefore, examine the DOB estimates both from
the point of view of their validity as measures of total streams and from the
point of view of their validity as measures of primary streams.

We confine our attention to the 72 interdivisional "streams" for four
groups: native whites 5 years old and over; native nonwhites 5 years old and
over; native white males 15-19; and native white males 20-29. The figures
for each group, arrayed in a division-by-division matrix, are presented in
Tables 5 and 6. It will be noted that these tables contain some negative
entries. This gives immediate indication of the limited value of such data
for purposes of stream analysis. Whereas positive entries might be taken
as measures of streams from the indicated origin (division of birth) to the
indicated destination (division of net change), negative entries cannot be
regarded as streams since they have no destination. Thus, in Table 5 the
entry "-3.7" in the panel for nonwhites signifies a net out-migration between
1950 and 1960 from the East South Central of 3,700 persons born in the West
South Central. It cannot be assumed that all of this movement went back
to the division of birth, that is, to the West South Central, though no

TABLE 5. NET CHANGES DUE TO THE MIGRATION OF THE OUT-BORN NATIVE POPULATION 10 YEARS OLD AND OVER IN 1960, BY COLOR AND DIVISION OF BIRTH, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

(In thousands)

Division of Net Change	Division of Birth								
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC
Native white, 10+									
NE	.	117.2	35.7	15.3	26.1	9.0	9.7	4.1	6.3
MA	64.9	.	65.6	24.4	64.0	18.7	13.4	5.3	7.8
ENC	28.1	154.3	.	105.2	223.9	377.3	73.9	9.5	10.8
WNC	9.3	21.7	56.3	.	17.3	16.1	52.2	5.8	2.6
SA	139.0	478.3	349.9	102.5	.	227.1	71.3	19.1	26.3
ESC	8.3	24.5	31.3	17.3	27.2	.	25.1	4.0	3.8
WSC	15.4	46.5	72.0	56.5	55.1	71.4	.	16.9	11.9
MT	20.4	66.2	146.4	178.8	37.2	32.1	96.3	.	43.0
PAC	116.1	277.9	472.7	473.2	108.5	93.4	282.0	188.0	.
Native nonwhite, 10+									
NE	.	2.4	1.1	0.4	33.2	6.8	2.1	0.1	0.2
MA	0.6	.	2.4	1.2	244.5	45.1	8.4	0.1	-0.5
ENC	0.2	3.0	.	4.8	77.3	272.3	57.1	0.3	-2.7
WNC	0.1	0.5	1.4	.	4.7	20.7	15.9	0.5	-0.1
SA	0.2	-1.4	1.0	0.9	.	26.9	4.9	...	0.5
ESC	...	-0.3	-2.2	-0.6	-1.3	.	-3.7	...	-0.2
WSC	...	-0.1	0.1	-0.5	5.7	11.7	.	0.7	...
MT	...	0.4	1.1	2.5	3.1	4.8	16.8	.	-0.6
PAC	0.5	5.0	12.2	11.1	23.1	50.1	118.5	8.2	.

Source: Appendix Tables A-3 to A-6.

doubt some of it did. Such an entry is therefore not a useable figure in the context of migration stream analysis. For some age groups, especially of nonwhites, similar tables would contain a large number of negative entries. Such compilations obviously could not serve as measures of interdivisional streams.

Comparative Analysis of Gross Data for 1955-1960

For a more detailed evaluation of the DOB estimates, we again have recourse to the 1955-1960 data on gross migration from the Census of 1960. The relevant tables for this analysis are presented in Appendix B.

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TABLE 6.   NET CHANGES DUE TO THE MIGRATION OF OUT-BORN NATIVE WHITE MALES 15-19
AND 20-29 YEARS OLD IN 1960, BY DIVISION OF BIRTH, FOR GEOGRAPHIC DIVISIONS OF
CONTERMINOUS UNITED STATES, 1950-1960.

Division of Net Change	Division of Birth (In thousands)								
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC
Native white males 15-19									
NE	.	13.9	5.0	1.8	2.5	0.9	0.9	0.5	0.8
MA	5.2	.	4.5	1.5	3.4	1.0	0.8	0.5	0.3
ENC	2.9	14.7	.	5.5	11.9	19.0	3.7	0.6	1.0
WNC	0.8	2.4	8.7	.	1.0	1.3	3.6	0.3	-1.5
SA	11.1	36.3	23.3	6.4	.	14.7	5.6	1.6	2.8
ESC	1.4	5.1	6.0	2.1	3.5	.	2.6	0.6	1.4
WSC	2.2	6.7	8.6	5.6	6.0	5.1	.	1.2	0.5
MT	1.3	4.5	8.2	7.8	2.3	1.5	4.8	.	3.0
PAC	6.0	13.9	30.0	24.5	7.9	6.4	22.6	13.5	.
Native white males 20-29									
NE	.	25.5	11.6	6.0	8.1	3.9	3.6	1.6	2.1
MA	15.9	.	16.3	6.9	16.7	5.9	4.9	1.8	2.4
ENC	5.5	34.4	.	26.1	42.5	77.3	15.9	2.6	2.7
WNC	3.0	9.0	27.9	.	6.2	5.1	13.7	2.1	1.8
SA	20.6	69.8	49.3	21.0	.	43.8	19.7	5.3	7.0
ESC	2.3	8.2	8.8	4.8	9.6	.	6.6	1.4	1.3
WSC	5.4	14.5	20.4	16.1	16.1	18.5	.	4.2	3.9
MT	4.0	11.8	19.3	23.2	7.9	5.5	15.4	.	5.2
PAC	16.3	41.6	67.5	67.6	21.1	18.5	51.6	34.5	.

Source: Appendix Table A-3.

Adjustments for Comparability

In order to make the stream data comparable with the DOB estimates, the following adjustments are necessary:

(a) Subtract return migration streams in one direction from primary migration streams in the opposite direction (for example, the lines of Appendix Table B-3 minus the columns of Appendix Table B-5). This adjusts for the effects of return migration.

(b) Cross-classify secondary migrants by division of birth and division of 1960 residence, obtaining secondary in-migration for each division, by division of birth. (See, for example, Appendix Table B-9)

(c) Cross-classify secondary migrants by division of birth and division of 1955 residence, obtaining secondary out-migration for each division, by division of birth. (See Appendix Table B-11)

(d) Subtract (c) from (b) and add the remainder to (a). This adjusts for the effect of secondary migration and at the same time attributes the 1955 residence of secondary migrants to the division of birth.

In symbolic terms, the equation for the adjusted "streams" (M') of A-born moving from Area A to Area B is:

$$M'_{A \to B} = P_{A \to B} - R_{B \to A} + S_{K \to B} - S_{B \to K}$$

where K refers to all areas outside A or B, and P, R and S refer to primary, return and secondary migrants respectively. Thus, $S_{K \to B}$ refers to secondary migrants who were born in A, lived in K in 1955, and lived in B in 1960; $S_{B \to K}$ refers to secondary migrants who were born in A, lived in B in 1955, and lived in K in 1960.

Effects of Adjustment

The results of the above adjustments are presented in Appendix Tables B-13 and B-14; the enumerated, or total, stream data, with which they are to be compared, are given in Appendix Tables B-1 and B-2. It has already been shown that the volume of interdivisional migration is considerably understated in the adjusted data. The present purpose is to assess the degree to which the relation between stream sizes is affected. We again use the method of rank order correlation for measuring the agreement between the two sets of data

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for the five-year period.[1] The figures for whites and nonwhites 5 years old and

over are shown in Appendix Tables B-1 and B-13. The value of Tau (n = 72) for

each color group is 0.63. The level of agreement cannot be said to be any better

than fair, if that. Certainly, we should require a higher correlation if we

wished to regard the DOB estimates as giving a reliable picture of the relative

importance of interdivisional streams.

In order to test whether the association is improved when the age factor

is held constant, separate correlations were run for native white males 15-19

and 20-29 years of age (Appendix Tables B-2 and B-14). The results are about

the same. The value of Tau for the younger age group is 0.69, that for the

older is 0.60, the difference again suggesting that the inroads of secondary

and return migration tend to increase with age. For convenient comparison,

the four coefficients are shown below:

Whites, 5+ 0.63	White males, 15-19 .... 0.69
Nonwhites, 5+ 0.63	White males, 20-29 .... 0.60

The next step was to test the association between primary migration streams

and the adjusted, or DOB, measures of streams, both sets of data relating to

the five-year period. The coefficients of rank correlation, based on the data

of Appendix Tables B-3, B-4, B-13 and B-14, are as follows for the four popu-

lation groups under study:

Whites, 5+ 0.76	White males, 15-19 .... 0.80
Nonwhites, 5+ 0.75	White males, 20-29 .... 0.82

These coefficients are higher than those obtained above. They indicate that

DOB estimates of interdivisional migration streams are better estimators of

the relative sizes of primary than of total migration streams. Again, one

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[1] In this procedure, the few negative entries do not create a problem.
Ranking is made on the algebraic scale, the largest positive entry taking the
rank of "1" and the largest negative the rank of "72".

must be warned that similar analysis for a ten-year interval would undoubtedly

yield lower levels of association between the two types of measure, the impact

of reverse migration being cumulative over time.

Net Exchanges Between Divisions

There is another way in which the DOB estimates could prove more useful,

namely as measures of the net balances of migratory exchange between all pairs

of divisions or of "net streams". It will be recalled that adjustment of the

five-year data for comparability with the DOB estimates had no effect on the

divisional balances of net migration. It might therefore be expected that

net exchanges between pairs of divisions would be less affected by adjustment

than are gross interchanges. In order to test this hypothesis, the appropriate

computations were performed on the five-year gross stream data and on the five-

year adjusted stream data. The results are set out in Tables 7 to 10 for the

same four population groups with the divisions ordered according to the number

of net gains as indicated by the unadjusted data. These figures were obtained

by subtracting the smaller member of each pair of streams from the larger.

They represent net flows in the direction of dominance for all pairs of streams,

giving 36 "net streams". In computing the balances, it was necessary to be

arbitrary in handling stream pairs that had one negative member. The procedure

adopted was to treat the negative entries as if they were movements in the

opposite direction from that indicated by their positions in the table, that

is, the negative number was subtracted from the positive number, with due

regard to the signs.

At first inspection, the results appear encouraging. The sums of net balances are nearly equal according to the two types of measure for each population group. The relevant totals, obtained by summing the entries in each bank of Tables 7 to 10, are as follows, in thousands:

	Enumerated (I)	Adjusted (II)	Percent Deviation of (I) from (II)
Whites, 5+	2,195	2,120	-3.4
Nonwhites, 5+	336	317	-5.6
White males, 15-19	190	189	-0.9
White males, 20-29	298	286	-3.9

The volume of shifts, as measured by the adjusted data, gives a good estimate of the more accurately measured volume of shift based on the unadjusted data. In the divisional detail, there are a few instances of balances in opposite directions as between the adjusted and unadjusted series, but these are small and infrequent enough not to disturb the general picture.

It remains to test whether the geographic patterns of shift are also well estimated. The values of Tau (n = 36) are as follows:[2]

Whites, 5+ 0.87	White males, 15-19 ..... 0.93
Nonwhites, 5+ 0.82	White males, 20-29 ..... 0.92

These coefficients are considerably higher than any previously obtained although the n is smaller by one-half. They bring us to the conclusion that the geographic pattern of net exchanges between pairs of divisions is quite accurately reflected in our DOB estimates. This conclusion is tempered by the need to keep in mind that findings for the ten-year period might not be so reassuring as those for the five-year period. Nevertheless, it is apparent that the disturbing effects of secondary and return migration tend to be offset when net exchanges are calculated.

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[2] In ranking the net balances, it was necessary to take account of the three instances of inconsistency in direction. In order to do this, the unadjusted set was treated as the base and discordant balances were inserted in the corresponding cells of the adjusted set and given negative signs.

TABLE 7. NET GAINS DUE TO EXCHANGES BETWEEN DIVISIONS, NATIVE WHITE POPULATION 5 YEARS OLD AND OVER, (I) AS ENUMERATED IN 1960, AND (II) ADJUSTED FOR COMPARABILITY WITH DOB ESTIMATES, GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

(In thousands)

Division of Gain	Division of Loss							
	MT	SA	WSC	NE	ENC	ESC	WNC	MA
I. Enumerated								
PAC	78.6	64.8	114.9	54.4	272.3	32.8	214.4	146.3
MT	.	13.7	49.9	6.4	94.5	9.1	110.3	35.8
SA	.	.	10.1	67.2	172.5	87.8	37.8	266.6
WSC	.	.	.	2.5	23.6	13.3	18.2	16.2
NE	.	.	.	.	5.8	1.3	3.7	46.3
ENC	.	.	.	.	.	54.6	11.5	46.5
ESC	.	.	.	.	.	.	2.3	8.5
WNC	.	.	.	.	.	.	.	0.5
II. Adjusted								
PAC	57.7	55.2	116.2	60.1	256.3	46.2	225.5	161.3
MT	.	10.9	47.4	8.8	79.3	13.4	102.6	36.4
SA	.	.	13.3	63.5	155.8	96.6	41.7	258.6
WSC	.	.	.	0.9	20.9	12.9	24.3	16.8
NE	.	.	.	.	8.2	1.0	3.7	47.1
ENC	.	.	.	.	.	28.8	0.5	35.1
ESC	.	.	.	.	.	.	2.1	8.7
WNC	.	.	.	.	.	.	.	2.6

Source: Appendix Tables B-1 and B-13.

One further warning is needed. The relative differences between the adjusted and unadjusted series are large in some instances, though principally where the numbers are small. Individual estimates of the DOB type must therefore be regarded as only roughly approximate measures of interdivisional exchanges.

Net Interdivisional Streams, 1950-1960

On the strength of the foregoing, we can with some confidence look upon the corresponding data for 1950-1960 (see Tables 11 and 12) as estimates of direct net exchanges between divisions, even though they are in truth measures

TABLE 8. NET GAINS DUE TO EXCHANGES BETWEEN DIVISIONS, NATIVE NONWHITE POPULA-
TION 5 YEARS OLD AND OVER, (I) AS ENUMERATED IN 1960, AND (II) ADJUSTED FOR
COMPARABILITY WITH DOB ESTIMATES, GEOGRAPHIC DIVISIONS OF THE UNITED STATES,
1955-1960.

(In thousands)

Division of Gain	Division of Loss							
	NE	MT	MA	ENC	WNC	SA	WSC	ESC
I. Enumerated								
PAC	0.9	4.8	6.7	17.7	6.8	9.4	39.2	16.1
NE	.	...	2.6	0.8	0.2	11.2	0.7	2.2
MT	.	.	0.4	0.8	0.9	1.1	6.4	1.7
MA	.	.	.	0.9	.	73.8	0.8	10.2
ENC	.	.	.	.	1.5	12.7	11.7	57.7
WNC	.	.	0.1	.	.	0.4	8.2	7.3
SA	.	.	.	.	.	.	0.5	12.0
WSC	.	.	.	.	.	.	.	7.9
II. Adjusted								
PAC	0.7	3.1	4.8	10.7	5.2	12.1	43.4	21.5
NE	.	.	1.6	0.6	0.1	11.7	0.8	2.6
MT	...	.	0.3	0.5	0.3	1.0	5.7	1.8
MA	.	.	.	0.1	...	70.6	0.7	11.1
ENC	.	.	.	.	0.1	11.9	9.6	53.7
WNC	.	.	.	.	.	0.7	5.5	6.1
SA	.	.	.	.	.	.	0.1	11.9
WSC	.	.	.	.	.	.	.	6.4

Source: Appendix Tables B-1 and B-13.

of net balances resulting from the intercensal migration of persons born in the
respective pairs of divisions between which the exchanges are indicated to have
occurred. Accordingly, the estimates for whites and nonwhites 10 years old and
over in 1960 have been mapped in Figures 7 and 8 as net intercensal streams
between divisions. Net streams of less than 10,000 for whites and less than
5,000 for nonwhites have been omitted, partly to avoid crowding the maps and
partly because of the greater relative error in the small numbers.

TABLE 9.   NET GAINS DUE TO EXCHANGES BETWEEN DIVISIONS, NATIVE WHITE MALES 15-19 YEARS OLD, (I) AS ENUMERATED IN 1960, AND (II) ADJUSTED FOR COMPARABILITY WITH DOB ESTIMATES, GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

(In thousands)

Division of Gain	Division of Loss							
	MT	WSC	SA	NE	ESC	ENC	WNC	MA
I. Enumerated								
PAC	8.4	12.3	4.0	2.4	2.7	20.5	16.9	8.6
MT	.	2.2	0.3	0.5	0.3	5.2	4.6	2.9
WSC	.	.	0.5	1.3	1.1	6.3	2.1	4.9
SA	.	.	.	6.4	5.5	13.5	4.1	25.8
NE	.	.	.	.	.	1.9	0.7	7.0
ESC	.	.	.	0.5	.	.	1.0	3.6
ENC	.	.	.	.	0.6	.	.	7.0
WNC	.	.	.	.	.	3.9	.	0.7
II. Adjusted								
PAC	6.3	12.8	4.4	2.8	4.1	19.9	16.3	9.2
MT	.	1.7	0.3	0.5	0.3	4.3	4.0	2.8
WSC	.	.	0.2	1.2	1.2	6.0	2.6	5.0
SA	.	.	.	6.1	6.0	13.2	4.5	25.5
NE	.	.	.	.	.	2.1	0.9	6.9
ESC	.	.	.	0.6	.	0.9	1.2	3.7
ENC	.	.	.	.	.	.	.	6.4
WNC	.	.	.	.	.	3.8	.	0.7

Source: Appendix Tables B-2 and B-14.

These data show that between 1950 and 1960 the westward flow still dominated the pattern of internal migration for native whites, as it has for many decades, but that large net streams into the South Atlantic States were building up.   The picture for nonwhites also gives some evidence of breaking with the past.   The heaviest flow was, as it has been for some time, out of the southern divisions and into the northern divisions, but the westward flow gained markedly in relative importance.

TABLE 10. NET GAINS DUE TO EXCHANGES BETWEEN DIVISIONS, NATIVE WHITE MALES 20-29 YEARS OLD, (I) AS ENUMERATED IN 1960, AND (II) ADJUSTED FOR COMPARABILITY WITH DOB ESTIMATES, GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

(In thousands)

Division of Gain	Division of Loss							
	MT	SA	WSC	NE	WNC	ENC	ESC	MA
I. Enumerated								
PAC	15.7	10.1	21.1	7.5	28.5	34.4	7.3	20.6
MT	.	1.1	6.7	0.4	10.2	7.1	1.2	3.8
SA	.	.	3.3	6.3	5.0	8.5	14.2	31.0
WSC	.	.	.	0.8	.	1.8	2.7	4.7
NE	.	.	.	.	1.4	1.9	0.8	5.8
WNC	.	.	1.5	.	.	2.7	0.6	0.7
ENC	.	.	.	.	.	.	16.0	9.6
ESC	.	.	.	.	.	.	.	2.6
II. Adjusted								
PAC	12.2	8.4	19.7	8.0	29.8	35.1	8.0	24.0
MT	.	0.4	5.7	0.8	9.2	5.9	1.3	3.6
SA	.	.	3.7	5.7	4.1	8.0	14.8	29.6
WSC	.	.	.	0.3	.	0.8	2.5	4.3
NE	.	.	.	.	1.6	1.4	1.1	5.3
WNC	.	.	1.2	.	.	2.9	0.6	0.6
ENC	.	.	.	.	.	.	14.1	9.2
ESC	.	.	.	.	.	.	.	2.2

Source: Appendix Tables B-2 and B-14.

This brief presentation is only illustrative of the ways in which net stream data as estimated from birth-residence statistics may be used for the study of internal migration. Similar flow charts could be developed for specific age-sex groups from the detail in Appendix Tables A-3 to A-6. Rates can be computed by relating amounts of net change to the populations shown in Tables A-1 and A-8 or to the more detailed cross-classifications of the population by place of birth and place of residence (not shown in this report).

TABLE 11. NET GAINS DUE TO EXCHANGES BETWEEN DIVISIONS, NATIVE WHITE POPULATION 10 YEARS OLD AND OVER IN 1960, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

(In thousands)

Division of Gain	Division of Loss							
	MT	SA	ENC	WSC	NE	ESC	MA	WNC
PAC	145.0	82.2	461.9	270.2	109.8	89.6	270.1	470.6
MT	.	18.1	136.8	79.4	16.3	28.0	60.9	173.0
SA	.	.	126.0	16.2	112.9	199.9	414.4	85.2
ENC	.	.	.	1.9	.	346.0	88.7	48.9
WSC	.	.	.	.	5.7	46.3	33.2	4.3
NE	.	.	7.6	.	.	0.7	52.4	6.1
ESC	.	.	.	.	.	.	5.8	1.2
MA	.	.	.	.	.	.	.	2.7

Source: Table 5.

TABLE 12. NET GAINS DUE TO EXCHANGES BETWEEN DIVISIONS, NATIVE NONWHITE POPULATION 10 YEARS OLD AND OVER IN 1960, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

(In thousands)

Division of Gain	Division of Loss							
	NE	MT	ENC	MA	WNC	WSC	SA	ESC
PAC	0.4	8.8	14.8	5.5	11.2	118.6	22.6	50.2
NE	.	0.1	0.9	1.7	0.3	2.2	33.0	6.8
MT	.	.	0.7	0.3	2.0	16.1	3.1	4.8
ENC	.	.	.	0.6	3.4	57.0	76.3	274.5
MA	.	.	.	.	0.8	8.5	246.0	45.5
WNC	.	.	.	.	.	16.4	3.9	21.3
WSC	.	.	.	.	.	.	0.9	15.3
SA	.	.	.	.	.	.	.	28.1

Source: Table 5.

NET STREAMS BETWEEN DIVISIONS, NATIVE WHITES 10 YEARS OLD AND OVER, CONTERMINOUS UNITED STATES, 1950-1960

(In thousands. Amounts under 10,000 not shown)

Mt.

WNC

ENC

NE

387

110

16

173

270

1900

145

61

137

113

Pac.

49

52

471

462

MA

33

414

85

126

90

82

35

125

16

200

527

270

28

18

79

46

SA

ESC

WSC

427
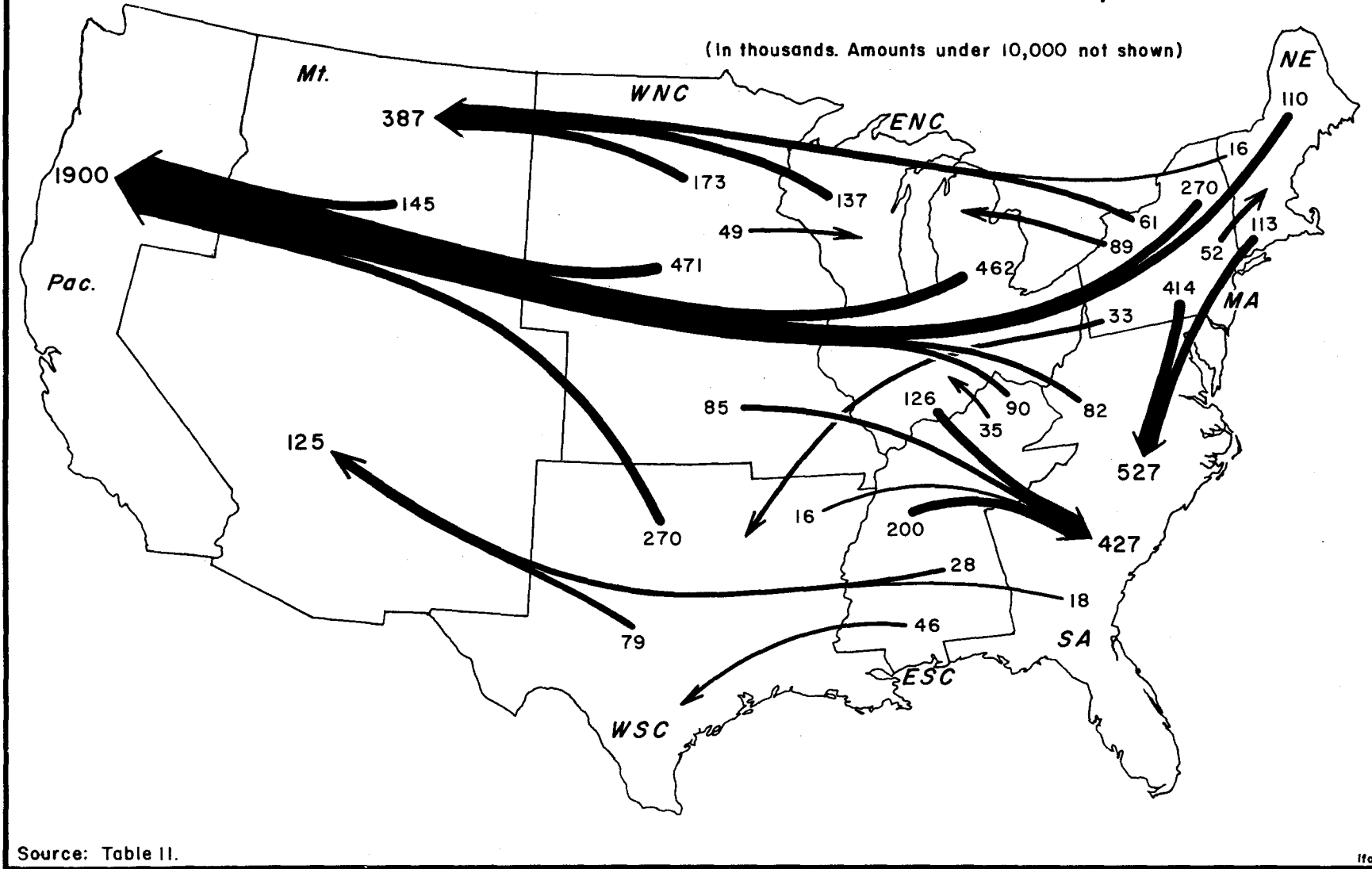
Source: Table II.

Figure 7

NET STREAMS BETWEEN DIVISIONS, NATIVE NONWHITES 10 YEARS OLD AND OVER, CONTERMINOUS UNITED STATES, 1950-1960

Pac.

Mt.

WNC

ENC

NE

(In thousands. Amounts under 5,000 not shown)

40

9

11

15

232

5

300

MA

407

23

37

50

119

57

21

274

76

7

33

16

15

246

45

28

9

S.A

ESC

WSC
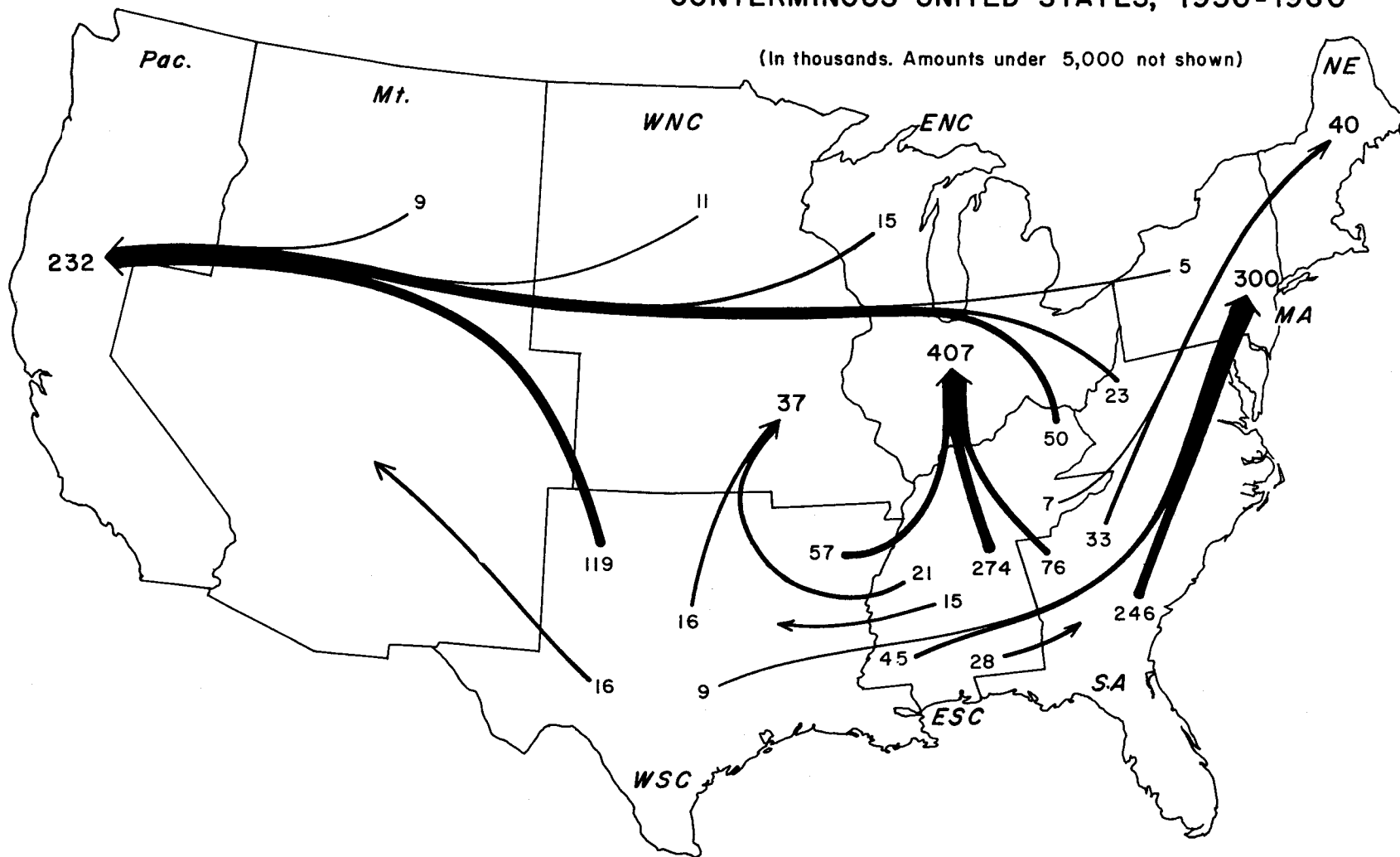
Source: Table 12.

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Figure 8

For age-sex groups containing significant numbers of negative changes due to the migration of the out-born, the analytical approach should be cautious. The stream concept is not applicable here and such compilations of data should be scrupulously labelled in order to avoid misinterpretation. Also, in dealing with individual age-sex groups, the problem of small numbers arises. Aggregations by regions or by broader age groups may be indicated.

Conclusion

While estimates of net decade changes due to the migration of persons having a common area of birth and a common area of residence in 1950 are strongly influenced by primary migration (i.e. by movement during the intercensal period from the area of birth to the area of residence in 1960), these data are of limited value for the purpose of measuring either the size or the relative importance of total migration streams. Amounts of return and secondary migration are sufficiently large and their patterns are sufficiently different from those of primary migration that the built-in assumption that all migration is primary migration (the assumption that must be adopted if DOB estimates are to be regarded as stream estimates) cannot be accepted without serious reservation. The slightly different assumption, namely that the DOB estimates are measures of primary rather than total migration streams, is somewhat more acceptable. But the proper approach to these data is for the study of net changes due to the migration of persons born in a specified area.

On the other hand, it appears that net exchanges between pairs of areas are rather accurately measured by the DOB estimates. The distorting effects of return and secondary migration tend to be cancelled when the nets are calculated. On the strength of this finding, which is based on an analysis of gross migration data for the period 1955-1960, the DOB estimates of net

exchanges for the period 1950-1960 have been taken at face value, that is, they have been accepted as measures of direct exchange on the assumption that their division-of-birth orientation has negligible effect. Nevertheless, it should not be forgotten that findings for the five-year period may not be strictly applicable to the ten-year period because the effects of secondary and return migration are cumulative and are therefore likely to have more impact on data for the longer period.

TABLE A-1. ESTIMATED POPULATION BORN IN CONTERMINOUS UNITED STATES ON OR BEFORE APRIL 1, 1950, AND LIVING IN CONTERMINOUS UNITED STATES AT THE CENSUS DATES, BY AGE, COLOR, AND SEX, FOR GEOGRAPHIC DIVISIONS OF BIRTH, 1950 AND 1960.

Age	Born in New England				Born in Middle Atlantic			
	Native White		Native Nonwhite		Native White		Native Nonwhite	
	Male	Female	Male	Female	Male	Female	Male	Female
1950								
0-4	465,097	445,100	8,419	8,205	1,361,035	1,296,852	98,242	97,273
5-9	378,265	361,845	5,421	5,501	1,116,416	1,075,637	64,469	64,579
10-19	606,335	591,111	8,827	8,897	1,866,222	1,818,508	99,651	100,215
20-29	687,705	713,847	9,076	9,180	2,133,202	2,229,746	78,982	86,718
30-39	656,641	694,077	5,783	6,889	2,121,819	2,225,206	41,922	47,577
40-49	500,240	523,714	4,350	4,645	1,624,536	1,681,813	29,551	29,964
50-59	361,245	390,954	2,890	3,093	1,150,382	1,230,466	16,661	16,323
60+	362,988	453,651	2,607	3,018	1,152,997	1,417,051	13,132	15,172
Total	4,018,516	4,174,299	47,373	49,428	12,526,609	12,975,279	442,610	457,821
1960								
10-14	467,291	450,248	8,927	8,896	1,377,499	1,317,613	108,602	107,210
15-19	368,524	359,141	5,475	5,977	1,088,482	1,072,140	67,947	69,017
20-29	567,328	582,993	8,152	9,182	1,763,284	1,793,472	98,519	111,623
30-39	691,055	713,429	8,538	10,004	2,165,949	2,240,454	88,170	100,782
40-49	653,776	682,354	5,407	6,565	2,091,434	2,162,051	47,906	54,230
50-59	473,087	503,744	3,900	4,987	1,526,770	1,606,187	31,948	35,337
60-69	297,874	352,718	2,181	2,731	935,508	1,107,278	15,998	18,296
70+	177,156	261,838	1,419	1,982	555,382	808,034	8,300	10,299
Total,10+	3,696,091	3,906,465	43,999	50,324	11,504,308	12,107,229	467,390	506,794

TABLE A-1. ESTIMATED POPULATION BORN IN CONTERMINOUS UNITED STATES ON OR BEFORE APRIL 1, 1950, AND LIVING IN CONTERMINOUS UNITED STATES AT THE CENSUS DATES, BY AGE, COLOR, AND SEX, FOR GEOGRAPHIC DIVISIONS OF BIRTH, 1950 AND 1960.

Age	Born in East North Central				Born in West North Central			
	Native White		Native Nonwhite		Native White		Native Nonwhite	
	Male	Female	Male	Female	Male	Female	Male	Female
1950								
0-4	1,522,349	1,458,968	95,249	95,561	743,217	708,317	27,756	27,389
5-9	1,217,854	1,172,615	57,848	56,913	615,227	586,858	20,072	20,215
10-19	1,948,213	1,900,760	78,680	78,983	1,111,939	1,080,768	32,380	32,635
20-29	2,043,774	2,119,815	65,659	70,356	1,194,264	1,230,672	29,316	31,731
30-39	1,939,167	2,022,797	30,655	32,601	1,229,910	1,278,431	21,913	23,434
40-49	1,566,433	1,623,903	20,782	21,793	1,087,393	1,117,626	18,878	19,767
50-59	1,280,657	1,335,825	15,722	14,055	915,609	952,640	15,213	14,650
60+	1,552,228	1,785,552	14,673	14,923	985,378	1,114,233	16,887	17,437
Total	13,070,675	13,420,235	379,268	385,185	7,882,937	8,069,545	182,415	187,258
1960								
10-14	1,534,186	1,472,378	104,305	104,870	743,690	709,262	28,958	28,910
15-19	1,189,741	1,166,323	59,313	61,512	596,680	579,430	19,723	20,548
20-29	1,852,164	1,882,891	78,891	87,249	1,031,012	1,055,562	28,795	32,772
30-39	2,088,048	2,128,867	69,358	77,193	1,207,170	1,238,912	29,236	32,759
40-49	1,924,846	1,975,389	33,362	35,055	1,222,771	1,251,825	21,050	22,449
50-59	1,488,806	1,558,031	22,492	22,761	1,038,422	1,085,998	17,205	18,579
60-69	1,066,126	1,215,806	12,560	13,911	767,234	871,238	12,572	13,209
70+	770,381	1,033,195	7,966	9,972	539,680	713,853	8,913	10,491
Total,10+	11,914,298	12,432,880	388,247	412,523	7,146,659	7,506,080	166,452	179,717

TABLE A-1. ESTIMATED POPULATION BORN IN CONTERMINOUS UNITED STATES ON OR BEFORE APRIL 1, 1950, AND
LIVING IN CONTERMINOUS UNITED STATES AT THE CENSUS DATES, BY AGE, COLOR, AND SEX, FOR GEOGRAPHIC
DIVISIONS OF BIRTH, 1950 AND 1960.

Age	Born in South Atlantic				Born in East South Central			
	Native White		Native Nonwhite		Native White		Native Nonwhite	
	Male	Female	Male	Female	Male	Female	Male	Female
1950								
0-4	912,414	871,509	346,139	343,946	530,776	513,733	191,465	190,846
5-9	760,432	732,832	297,785	302,212	469,858	451,522	170,593	171,929
10-19	1,210,249	1,179,567	510,677	529,911	837,610	824,001	301,038	312,255
20-29	1,201,300	1,273,779	476,098	564,222	816,074	861,048	266,072	309,440
30-39	1,096,888	1,147,801	462,788	538,876	766,251	793,921	262,979	302,334
40-49	869,187	894,671	377,541	411,584	661,524	672,118	233,983	251,927
50-59	629,687	655,202	255,662	259,528	494,251	504,284	167,715	165,517
60+	693,406	794,868	248,270	270,628	606,706	648,015	180,967	186,575
Total	7,373,563	7,550,229	2,974,960	3,220,907	5,183,050	5,268,642	1,774,812	1,890,823
1960								
10-14	923,142	885,310	356,940	355,200	538,502	517,754	193,553	190,853
15-19	742,731	727,831	286,616	290,693	453,481	442,926	159,284	162,285
20-29	1,124,183	1,161,828	436,197	497,336	765,755	795,916	244,611	285,957
30-39	1,221,939	1,271,858	459,520	539,653	825,753	854,745	251,188	292,712
40-49	1,075,475	1,119,951	429,596	487,740	751,273	771,982	245,178	275,834
50-59	817,850	866,444	324,695	358,885	619,881	644,179	207,199	223,125
60-69	510,677	595,535	195,579	229,091	411,265	459,645	134,800	149,334
70+	350,631	470,665	121,801	151,446	311,654	385,172	92,897	105,177
Total,10+	6,766,628	7,099,422	2,610,944	2,910,044	4,677,564	4,872,319	1,528,710	1,685,277

TABLE A-1. ESTIMATED POPULATION BORN IN CONTERMINOUS UNITED STATES ON OR BEFORE APRIL 1, 1950, AND LIVING IN CONTERMINOUS UNITED STATES AT THE CENSUS DATES, BY AGE, COLOR, AND SEX, FOR GEOGRAPHIC DIVISIONS OF BIRTH, 1950 AND 1960.

| Age | Born in West South Central | | | | Born in Mountain States | | | |
| | Native White | | Native Nonwhite | | Native White | | Native Nonwhite | |
	Male	Female	Male	Female	Male	Female	Male	Female
1950								
0-4	696,278	665,892	166,887	166,786	291,411	281,812	17,183	16,807
5-9	602,175	580,844	147,839	148,387	229,569	222,610	14,056	14,508
10-19	1,035,753	1,014,990	248,727	260,154	372,067	369,416	20,665	20,330
20-29	1,039,361	1,086,662	220,305	264,618	346,454	360,835	15,005	15,192
30-39	957,277	989,715	212,042	245,894	321,363	333,339	10,141	10,094
40-49	770,893	786,837	195,033	199,649	205,783	208,044	7,268	6,612
50-59	490,898	505,304	129,421	121,591	125,936	127,972	5,025	3,629
60+	422,749	475,910	125,621	129,434	87,634	96,167	5,764	4,874
Total	6,015,384	6,106,154	1,445,875	1,536,513	1,980,217	2,000,195	95,107	92,046
1960								
10-14	709,735	680,705	172,712	172,193	297,089	286,014	17,315	17,238
15-19	587,237	574,896	141,584	143,758	227,040	221,865	14,285	13,816
20-29	965,530	998,749	213,839	245,424	347,196	362,809	18,329	18,738
30-39	1,059,754	1,093,993	217,642	257,576	355,396	366,557	14,442	14,991
40-49	940,249	972,946	200,189	226,011	318,240	329,645	10,215	9,682
50-59	731,675	763,717	168,995	179,571	194,210	202,795	6,664	6,132
60-69	408,601	467,987	107,918	116,027	104,212	115,728	4,039	3,441
70+	237,793	315,444	67,274	77,208	51,514	66,119	3,166	2,586
Total,10+	5,640,574	5,868,437	1,290,153	1,417,768	1,894,897	1,951,532	88,455	86,624

TABLE A-1. ESTIMATED POPULATION BORN IN CONTERMINOUS UNITED STATES ON OR
BEFORE APRIL 1, 1950, AND LIVING IN CONTERMINOUS UNITED STATES AT THE
CENSUS DATES, BY AGE, COLOR, AND SEX, FOR GEOGRAPHIC DIVISIONS OF BIRTH,
1950 AND 1960.

| Age | Born in Pacific | | | |
| | Native White | | Native Nonwhite | |
	Male	Female	Male	Female
1950				
0-4	708,837	687,207	42,529	41,212
5-9	496,101	474,575	17,402	17,550
10-19	571,444	555,981	22,974	22,142
20-29	500,986	514,675	26,162	26,649
30-39	384,823	387,926	16,850	14,986
40-49	246,108	251,094	6,688	5,307
50-59	157,064	165,697	3,668	2,364
60+	121,610	161,009	4,383	2,646
Total	3,186,973	3,198,164	140,656	132,856
1960				
10-14	719,251	694,305	44,671	43,578
15-19	488,011	476,649	18,899	18,975
20-29	543,216	552,617	24,962	25,179
30-39	508,297	519,755	30,913	30,061
40-49	379,598	390,762	18,955	16,764
50-59	235,989	244,550	6,934	5,671
60-69	132,074	153,199	3,379	2,525
70+	68,366	100,915	2,509	1,692
Total,10+	3,074,802	3,132,752	151,222	144,445

Source: Census of 1950, State of Birth, Tables 19-22; Census of 1960,
State of Birth, Tables 26-29. Published figures were adjusted to include
persons for whom state of birth was not reported. Persons who were born
in conterminous United States and were living elsewhere at the respective
census dates are not included.

TABLE A-2. DIVISION-OF-BIRTH SURVIVAL RATIOS FOR THE NATIVE POPULATION 10 YEARS
OLD AND OVER, BY AGE, COLOR, AND SEX, GEOGRAPHIC DIVISIONS OF
CONTERMINOUS UNITED STATES, 1950-1960.

Division of Birth and Age in 1960	Native White		Native Nonwhite	
	Male	Female	Male	Female

New England

Division of Birth and Age in 1960	Native White Male	Female	Native Nonwhite Male	Female
10-14	1.00472	1.01157	1.06034	1.08422
15-19	0.97425	0.99253	1.00996	1.08653
20-29	0.93567	0.98627	0.92353	1.03203
30-39	1.00487	0.99941	0.94072	1.08976
40-49	0.99564	0.98311	0.93498	0.95297
50-59	0.94572	0.96187	0.89655	1.07363
60-69	0.82458	0.90220	0.75467	0.88296
70+	0.48805	0.57718	0.54430	0.65673

Middle Atlantic

Division of Birth and Age in 1960	Native White Male	Female	Native Nonwhite Male	Female
10-14	1.01210	1.01601	1.10545	1.10216
15-19	0.97498	0.99675	1.05395	1.06872
20-29	0.94484	0.98623	0.98864	1.11384
30-39	1.01535	1.00480	1.11633	1.16218
40-49	0.98568	0.97162	1.14274	1.13984
50-59	0.93982	0.95503	1.08111	1.17932
60-69	0.81322	0.89989	0.96021	1.12087
70+	0.48169	0.57022	0.63204	0.67882

East North Central

Division of Birth and Age in 1960	Native White Male	Female	Native Nonwhite Male	Female
10-14	1.00778	1.00919	1.09508	1.09741
15-19	0.97692	0.99463	1.02532	1.08081
20-29	0.95070	0.99060	1.00268	1.10466
30-39	1.02166	1.00427	1.05634	1.09718
40-49	0.99262	0.97656	1.08831	1.07527
50-59	0.95044	0.95944	1.08228	1.04442
60-69	0.83248	0.91015	0.79888	0.98975
70+	0.49631	0.57864	0.54290	0.66823

TABLE A-2. DIVISION-OF-BIRTH SURVIVAL RATIOS FOR THE NATIVE POPULATION 10 YEARS
OLD AND OVER, BY AGE, COLOR, AND SEX, GEOGRAPHIC DIVISIONS OF
CONTERMINOUS UNITED STATES, 1950-1960.

Division of Birth and Age in 1960	Native White		Native Nonwhite	
	Male	Female	Male	Female
West North Central				
10-14	1.00064	1.00133	1.04331	1.05553
15-19	0.96985	0.98734	0.98261	1.01647
20-29	0.92722	0.97668	0.88928	1.00420
30-39	1.01081	1.00670	0.99727	1.03240
40-49	0.99420	0.97919	0.96062	0.95797
50-59	0.95496	0.97170	0.91138	0.93990
60-69	0.83795	0.91455	0.82640	0.90164
70+	0.54769	0.64067	0.52780	0.60165
South Atlantic				
10-14	1.01176	1.01584	1.03120	1.03272
15-19	0.97672	0.99318	0.96249	0.96188
20-29	0.92889	0.98496	0.85415	0.93853
30-39	1.01718	0.99849	0.96518	0.95646
40-49	0.98048	0.97574	0.92828	0.90511
50-59	0.94094	0.96845	0.86003	0.87196
60-69	0.81100	0.90893	0.76499	0.88272
70+	0.50566	0.59213	0.49060	0.55961
East South Central				
10-14	1.01456	1.00783	1.01091	1.00004
15-19	0.96514	0.98096	0.93371	0.94391
20-29	0.91421	0.96592	0.81256	0.91578
30-39	1.01186	0.99268	0.94406	0.94594
40-49	0.98045	0.97237	0.93231	0.91235
50-59	0.93705	0.95843	0.88553	0.88567
60-69	0.83210	0.91148	0.80374	0.90223
70+	0.51368	0.59439	0.51334	0.56373

TABLE A-2. DIVISION-OF-BIRTH SURVIVAL RATIOS FOR THE NATIVE POPULATION 10 YEARS
OLD AND OVER, BY AGE, COLOR, AND SEX, GEOGRAPHIC DIVISIONS OF
CONTERMINOUS UNITED STATES, 1950-1960.

Division of Birth and Age in 1960	Native White		Native Nonwhite	
	Male	Female	Male	Female
West South Central				
10-14	1.01933	1.02225	1.03490	1.03242
15-19	0.97519	0.98976	0.95769	0.96880
20-29	0.93220	0.98400	0.85973	0.94338
30-39	1.01962	1.00675	0.98791	0.97339
40-49	0.98221	0.98306	0.94410	0.91914
50-59	0.94913	0.97062	0.86649	0.89943
60-69	0.83235	0.92615	0.83385	0.95424
70+	0.56249	0.66282	0.53553	0.59650
Mountain				
10-14	1.01948	1.01491	1.00768	1.02564
15-19	0.98898	0.99665	1.01629	0.95230
20-29	0.93315	0.98212	0.88696	0.92169
30-39	1.02581	1.01586	0.96248	0.98677
40-49	0.99028	0.98892	1.00730	0.95918
50-59	0.94376	0.97477	0.91690	0.92740
60-69	0.82750	0.90432	0.80378	0.94820
70+	0.58783	0.68754	0.54927	0.53057
Pacific				
10-14	1.01469	1.01033	1.05037	1.05741
15-19	0.98369	1.00437	1.08602	1.08120
20-29	0.95060	0.99395	1.08653	1.13716
30-39	1.01459	1.00987	1.18160	1.12803
40-49	0.98642	1.00731	1.12493	1.11864
50-59	0.95888	0.97394	1.03678	1.06859
60-69	0.84089	0.92457	0.92121	1.06810
70+	0.56217	0.62677	0.57244	0.63946

Source: Table A-1.   The ratios were computed by dividing the age-specific entries
of the lower panel by the corresponding entries of the upper panel.

TABLE A-3. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
New England						
10-14	-27,596	16,590	.	9,333	2,531	594
15-19	-30,963	26,320	.	13,918	5,013	1,752
20-29	-73,024	62,291	.	25,529	11,572	5,964
30-39	-33,954	6,781	.	6,572	-195	213
40-49	-20,394	7,765	.	5,736	1,477	332
50-59	-7,477	2,809	.	2,173	498	110
60-69	-5,325	667	.	969	-40	-106
70+	-3,042	1,392	.	837	108	293
Total,10+	-201,775	124,615	.	65,067	20,964	9,152
Middle Atlantic						
10-14	-76,922	27,053	5,517	.	7,480	1,686
15-19	-97,486	17,219	5,238	.	4,467	1,456
20-29	-214,826	70,731	15,890	.	16,312	6,872
30-39	-87,267	30,570	8,613	.	7,944	3,184
40-49	-70,173	3,869	2,149	.	613	339
50-59	-31,136	-3,607	-1,121	.	-640	-96
60-69	-24,643	-8,478	-1,656	.	-2,925	-927
70+	-14,373	-4,580	-1,537	.	-1,011	-363
Total,10+	-616,826	132,777	33,093	.	32,240	12,151
East North Central						
10-14	-90,092	82,357	2,558	12,880	.	11,292
15-19	-94,284	59,357	2,910	14,711	.	5,523
20-29	-221,049	207,067	5,497	34,370	.	26,133
30-39	-94,100	115,683	2,787	17,551	.	15,313
40-49	-63,437	42,368	823	8,378	.	3,015
50-59	-31,719	9,118	-497	-589	.	-1,574
60-69	-27,656	-10,879	-1,125	-5,130	.	-3,195
70+	-9,068	-10,029	-647	-4,424	.	-3,036
Total,10+	-631,405	495,042	12,306	77,747	.	53,471

TABLE A-3. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						New England
2,086	271	567	276	932	-11,006	10-14
2,512	878	929	497	821	-4,643	15-19
8,104	3,867	3,582	1,611	2,062	-10,733	20-29
451	258	170	-263	-425	-27,173	30-39
200	-141	7	-102	256	-12,629	40-49
7	-10	54	53	-76	-4,668	50-59
-94	59	-73	-57	9	-4,658	60-69
159	17	-22	23	-23	-1,650	70+
13,425	5,199	5,214	2,038	3,556	-77,160	Total,10+
						Middle Atlantic
7,163	1,400	1,392	565	1,850	-49,869	10-14
3,357	1,039	831	540	291	-80,267	15-19
16,658	5,886	4,894	1,780	2,439	-144,095	20-29
7,077	2,030	753	557	412	-56,697	30-39
1,098	78	85	-222	-271	-66,304	40-49
-417	-283	-362	-406	-282	-34,743	50-59
-1,399	-326	-524	-326	-395	-33,121	60-69
-960	-314	-242	-69	-84	-18,953	70+
32,577	9,510	6,827	2,419	3,960	-484,049	Total,10+
						East North Central
16,332	27,119	7,664	1,814	2,698	-7,735	10-14
11,934	18,967	3,734	567	1,011	-34,927	15-19
42,451	77,275	15,948	2,649	2,744	-13,982	20-29
27,969	43,787	8,153	274	-151	21,583	30-39
10,672	17,244	3,238	-270	-732	-21,069	40-49
4,176	8,541	-159	-64	-716	-22,601	50-59
-563	121	-582	-113	-292	-38,535	60-69
-204	-1,047	-258	-185	-228	-19,097	70+
112,767	192,007	37,738	4,672	4,334	-136,363	Total,10+

TABLE A-3. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH AND NET BALANCE OF MIGRATION, NATIVE WHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
West North Central						
10-14	-68,612	22,522	793	2,167	7,135	.
15-19	-54,966	16,672	790	2,417	8,731	.
20-29	-171,605	68,704	3,028	8,990	27,855	.
30-39	-100,114	14,211	380	1,818	3,736	.
40-49	-50,544	1,470	57	244	-141	.
50-59	-21,553	-1,273	-43	186	-506	.
60-69	-9,546	-4,687	-73	-274	-2,736	.
70+	-6,992	-15,735	-386	-2,112	-10,560	.
Total,10+	-483,932	101,884	4,546	13,436	33,514	.
South Atlantic						
10-14	-47,067	82,562	7,852	26,072	18,699	4,812
15-19	-38,362	101,812	11,053	36,317	23,322	6,354
20-29	-128,146	236,510	20,583	69,778	49,345	21,021
30-39	-50,630	64,419	4,990	21,302	14,966	3,623
40-49	-19,272	71,284	7,348	28,303	17,441	4,677
50-59	-4,517	48,967	5,855	19,401	13,673	3,614
60-69	1,325	61,420	6,470	24,665	21,398	4,612
70+	1,983	45,895	4,975	17,180	16,369	3,732
Total,10+	-284,686	712,869	69,126	243,018	175,213	52,445
East South Central						
10-14	-58,271	12,899	538	1,708	3,175	1,027
15-19	-49,867	22,664	1,447	5,055	5,980	2,093
20-29	-178,320	43,044	2,334	8,239	8,780	4,779
30-39	-84,012	2,064	202	-387	-555	871
40-49	-37,376	-519	223	639	-246	-53
50-59	-16,036	-1,649	-17	-14	220	284
60-69	-3,939	-939	-67	-113	202	-130
70+	2,615	-317	-59	-12	-45	-3
Total,10+	-425,206	77,247	4,601	15,115	17,511	8,868

TABLE A-3. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						West North Central
1,729	1,674	5,121	1,693	2,210	-46,090	10-14
1,012	1,261	3,646	267	-1,452	-38,294	15-19
6,198	5,094	13,685	2,092	1,762	-102,901	20-29
1,841	2,179	4,868	-423	-188	-85,903	30-39
296	808	1,213	-747	-260	-49,074	40-49
-220	-270	-144	-49	-227	-22,826	50-59
-25	-218	-943	-335	-83	-14,233	60-69
-563	-1,322	-548	-141	-103	-22,727	70+
10,268	9,206	26,898	2,357	1,659	-382,048	Total,10+
						South Atlantic
.	14,750	5,080	1,595	3,702	35,495	10-14
.	14,717	5,594	1,618	2,837	63,450	15-19
.	43,757	19,730	5,326	6,970	108,364	20-29
.	16,878	2,478	183	-1	13,789	30-39
.	10,519	2,024	595	377	52,012	40-49
.	5,271	796	178	179	44,450	50-59
.	3,637	323	183	132	62,745	60-69
.	2,999	488	35	117	47,878	70+
.	112,528	36,513	9,713	14,313	428,183	Total,10+
						East South Central
2,925	.	2,597	445	484	-45,372	10-14
3,487	.	2,594	647	1,361	-27,203	15-19
9,598	.	6,614	1,361	1,339	-135,276	20-29
912	.	1,598	-203	-374	-81,948	30-39
-778	.	-203	-9	-92	-37,895	40-49
-1,658	.	-559	34	61	-17,685	50-59
-381	.	-382	33	-101	-4,878	60-69
-156	.	-24	-2	-16	2,298	70+
13,949	.	12,235	2,306	2,662	-347,959	Total,10+

TABLE A-3. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
West South Central						
10-14	-51,981	29,715	609	2,938	5,750	4,994
15-19	-44,756	35,869	2,231	6,691	8,569	5,557
20-29	-131,397	99,029	5,382	14,492	20,378	16,041
30-39	-54,534	20,219	477	432	3,535	4,570
40-49	-26,277	8,626	221	1,264	2,360	807
50-59	-9,456	-915	-178	143	489	-941
60-69	-812	-803	81	92	402	-316
70+	-247	-8,385	96	-256	-944	-1,965
Total,10+	-319,460	183,355	8,919	25,796	40,539	28,747
Mountain						
10-14	-28,985	53,010	1,414	4,324	11,876	13,880
15-19	-18,882	33,285	1,323	4,496	8,158	7,750
20-29	-53,600	92,261	4,046	11,821	19,267	23,236
30-39	-18,900	60,322	1,778	5,678	13,556	20,146
40-49	-6,370	39,413	1,481	4,664	10,885	12,080
50-59	-1,128	20,048	568	2,520	5,424	6,138
60-69	984	8,890	232	1,380	3,282	2,191
70+	3	3,620	-117	468	1,032	1,826
Total,10+	-126,878	310,849	10,725	35,351	73,480	87,247
Pacific						
10-14	-23,281	146,099	8,314	17,499	33,447	30,328
15-19	-8,420	124,791	5,971	13,881	30,043	24,481
20-29	-26,365	318,692	16,265	41,605	67,539	67,561
30-39	-994	210,239	14,727	34,302	51,113	52,194
40-49	-225	119,795	8,092	20,946	31,047	29,349
50-59	555	48,961	2,909	7,315	12,560	14,018
60-69	908	23,511	1,462	3,053	8,072	7,416
70+	465	16,795	717	2,693	4,118	6,507
Total,10+	-57,357	1,008,883	58,457	141,294	237,939	231,854

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TABLE A-3. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						West South Central
4,374	6,487	.	1,950	2,613	-22,266	10-14
5,951	5,086	.	1,242	542	-8,887	15-19
16,146	18,492	.	4,240	3,858	-32,368	20-29
3,221	7,584	.	542	-142	-34,315	30-39
1,543	1,855	.	414	162	-17,651	40-49
-4	-280	.	51	-195	-10,371	50-59
-105	-789	.	-70	-98	-1,615	60-69
-983	-4,046	.	-111	-176	-8,632	70+
30,143	34,389	.	8,258	6,564	-136,105	Total,10+
						Mountain
2,947	1,811	7,967	.	8,791	24,025	10-14
2,251	1,490	4,807	.	3,010	14,403	15-19
7,858	5,482	15,359	.	5,192	38,661	20-29
2,440	2,984	11,876	.	1,864	41,422	30-39
1,772	2,178	5,568	.	785	33,043	40-49
976	1,045	2,678	.	699	18,920	50-59
447	596	840	.	-78	9,874	60-69
314	173	-124	.	48	3,623	70+
19,005	15,759	48,971	.	20,311	183,971	Total,10+
						Pacific
9,512	4,758	21,593	20,648	.	122,818	10-14
7,859	6,429	22,622	13,505	.	116,371	15-19
21,132	18,466	51,583	34,541	.	292,327	20-29
6,718	8,313	24,638	18,234	.	209,245	30-39
4,468	4,836	14,345	6,712	.	119,570	40-49
1,656	2,022	7,150	1,331	.	49,516	50-59
795	859	2,153	-299	.	24,419	60-69
410	925	978	447	.	17,260	70+
52,550	46,608	145,062	95,119	.	951,526	Total,10+

Source: See note on procedures following Table A-6.

TABLE A-4. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH AND NET BALANCE OF MIGRATION, NATIVE WHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
New England						
10-14	-26,219	14,727	.	8,017	1,996	743
15-19	-17,777	15,383	.	8,813	2,125	793
20-29	-70,641	42,812	.	19,067	6,334	3,143
30-39	-43,189	16,311	.	9,807	2,344	778
40-49	-21,777	6,306	.	3,665	1,348	470
50-59	-8,641	2,678	.	2,047	363	-77
60-69	-8,011	421	.	670	53	159
70+	-3,434	221	.	93	172	176
Total,10+	-199,689	98,859	.	52,179	14,735	6,185
Middle Atlantic						
10-14	-73,069	25,202	5,138	.	6,686	1,539
15-19	-56,504	13,463	3,283	.	3,306	919
20-29	-173,321	81,166	19,144	.	17,254	7,612
30-39	-115,106	27,285	8,124	.	8,290	2,378
40-49	-65,868	2,178	900	.	1,908	437
50-59	-37,311	-6,412	-2,395	.	-750	-195
60-69	-34,864	-8,570	-1,613	.	-2,452	-618
70+	-13,803	-3,143	-800	.	-893	176
Total,10+	-569,846	131,169	31,781	.	33,349	12,248
East North Central						
10-14	-84,506	78,630	2,462	12,996	.	9,280
15-19	-59,301	62,813	1,438	10,638	.	6,395
20-29	-180,577	236,373	8,468	37,941	.	34,225
30-39	-119,192	92,407	3,368	16,895	.	11,523
40-49	-65,028	33,979	1,915	7,137	.	-379
50-59	-42,201	3,807	-297	-1,960	.	-1,242
60-69	-36,583	-13,556	-796	-4,286	.	-5,109
70+	-11,126	-6,443	-748	-2,840	.	-3,000
Total,10+	-598,514	488,010	15,810	76,521	.	51,693

TABLE A-4. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						New England
1,834	336	607	315	879	-11,492	10-14
1,866	499	659	211	417	-2,394	15-19
6,391	2,663	2,779	1,202	1,233	-27,829	20-29
2,115	406	307	278	276	-26,878	30-39
197	233	165	39	189	-15,471	40-49
284	-139	139	108	-47	-5,963	50-59
-92	-140	-49	-94	-86	-7,590	60-69
38	-67	-75	-23	-93	-3,213	70+
12,633	3,791	4,532	2,036	2,768	-100,830	Total,10+
						Middle Atlantic
6,975	1,284	1,317	635	1,628	-47,867	10-14
3,890	926	531	321	287	-43,041	15-19
19,672	6,450	5,396	2,220	3,418	-92,155	20-29
6,309	1,929	183	367	-295	-87,821	30-39
-282	-117	-31	-160	-477	-63,690	40-49
-1,541	-382	-444	-250	-455	-43,723	50-59
-2,552	-617	-261	-221	-236	-43,434	60-69
-1,083	-309	-159	-26	-49	-16,946	70+
31,388	9,164	6,532	2,886	3,821	-438,677	Total,10+
						East North Central
15,960	26,517	6,732	1,571	3,112	-5,876	10-14
13,970	24,163	5,278	624	307	3,512	15-19
48,788	79,756	18,216	4,210	4,769	55,796	20-29
21,503	34,000	5,852	-379	-355	-26,785	30-39
9,668	15,560	990	-335	-577	-31,049	40-49
2,393	5,791	257	-561	-574	-38,394	50-59
-1,141	-1,062	-959	-130	-73	-50,139	60-69
28	585	-208	-152	-108	-17,569	70+
111,169	185,310	36,158	4,848	6,501	-110,504	Total,10+

TABLE A-4. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
West North Central						
10-14	-64,297	21,665	717	1,670	7,188	.
15-19	-43,938	15,762	466	1,230	7,991	.
20-29	-170,469	60,305	2,556	5,375	22,636	.
30-39	-101,275	9,635	1,089	2,106	3,170	.
40-49	-48,469	248	319	269	96	.
50-59	-24,936	-3,145	9	181	-1,513	.
60-69	-19,222	-6,759	-110	-162	-4,622	.
70+	-16,608	-18,371	-337	-2,424	-12,156	.
Total,10+	-489,214	-79,340	4,709	8,245	22,790	.
South Atlantic						
10-14	-45,143	79,054	7,445	24,983	17,875	4,331
15-19	-30,925	63,501	5,886	20,881	14,088	3,698
20-29	-129,882	187,820	17,414	53,469	36,554	14,991
30-39	-51,335	115,274	12,068	38,746	26,922	7,603
40-49	-17,911	74,995	7,897	28,529	19,345	5,603
50-59	-2,682	64,803	7,258	24,609	20,064	4,718
60-69	1,608	73,102	7,787	28,509	25,208	5,780
70+	1,612	42,162	4,083	15,571	14,647	3,304
Total,10+	-274,658	700,711	69,838	235,297	174,703	50,028
East South Central						
10-14	-55,699	11,366	493	1,387	2,450	1,067
15-19	-48,039	8,686	391	998	1,786	1,120
20-29	-173,629	38,696	1,639	3,993	7,272	4,520
30-39	-81,038	7,088	880	1,815	1,981	1,307
40-49	-37,584	1,364	256	793	554	584
50-59	-16,053	-1,895	-2	206	111	-113
60-69	-5,135	-573	2	10	-508	1
70+	-2,610	-457	5	195	150	-71
Total,10+	-419,787	64,275	3,664	9,397	13,796	8,415

TABLE A-4. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						West North Central
1,533	1,623	5,439	1,886	1,609	-42,632	10-14
446	1,128	3,921	1,128	-548	-28,176	15-19
5,320	4,826	14,817	3,117	1,658	-110,164	20-29
1,157	1,641	2,414	-1,200	-742	-91,640	30-39
182	160	733	-894	-617	-48,221	40-49
-353	-451	-611	-251	-156	-28,081	50-59
-315	-496	-696	-162	-196	-25,981	60-69
-951	-1,557	-695	-218	-33	-34,979	70+
7,019	6,874	25,322	3,406	975	-409,874	Total,10+
						South Atlantic
.	14,178	4,638	1,482	4,122	33,911	10-14
.	12,006	4,467	1,080	1,395	32,576	15-19
.	41,489	15,017	4,194	4,692	57,938	20-29
.	21,733	5,787	1,176	1,239	63,939	30-39
.	10,003	2,491	663	464	57,084	40-49
.	6,449	1,261	405	39	62,121	50-59
.	4,952	646	228	-8	74,710	60-69
.	3,781	521	185	70	43,774	70+
.	114,591	34,828	9,413	12,013	426,053	Total,10+
						East South Central
2,689	.	2,629	226	425	-44,333	10-14
1,824	.	2,030	193	344	-39,353	15-19
11,292	.	8,018	1,185	777	-134,933	20-29
-83	.	1,250	97	-159	-73,950	30-39
-842	.	172	-1	-152	-36,220	40-49
-1,306	.	-696	14	-109	-17,948	50-59
3	.	-107	24	2	-5,708	60-69
-282	.	-461	-17	24	-3,067	70+
13,295	.	12,835	1,721	1,152	-355,512	Total,10+

TABLE A-4. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
West South Central						
10-14	-50,500	27,921	826	2,898	5,214	4,697
15-19	-38,259	15,859	803	1,602	3,016	3,118
20-29	-121,920	81,485	3,247	9,347	13,265	15,425
30-39	-55,156	29,890	1,025	4,072	6,909	5,714
40-49	-24,723	9,868	349	1,763	2,115	1,465
50-59	-9,788	1,051	131	538	812	-934
60-69	-1,752	585	71	510	812	-736
70+	-2,398	-4,363	71	-9	-691	-1,002
Total,10+	-304,496	162,296	6,523	20,721	31,452	27,747
Mountain						
10-14	-28,150	52,268	1,174	4,079	11,649	13,626
15-19	-15,275	30,845	859	2,601	7,570	8,611
20-29	-55,384	88,967	2,997	8,250	18,385	25,999
30-39	-18,662	66,194	2,347	7,126	14,971	20,173
40-49	-5,411	36,572	1,490	4,627	9,716	10,487
50-59	-612	18,273	382	2,052	5,884	5,664
60-69	-1,222	9,396	397	1,586	3,208	3,251
70+	-1,047	6,909	35	534	1,502	3,708
Total,10+	-125,763	309,424	9,681	30,855	72,885	91,519
Pacific						
10-14	-23,150	139,901	7,964	17,039	31,447	29,015
15-19	-5,379	89,082	4,650	9,742	19,419	19,283
20-29	-26,419	284,617	15,177	35,879	58,876	64,553
30-39	-3,353	224,225	14,288	34,539	54,607	51,799
40-49	723	120,536	8,649	19,084	29,946	29,801
50-59	1,298	61,768	3,555	9,639	17,231	17,116
60-69	926	50,210	2,272	8,027	14,884	16,494
70+	165	32,729	1,124	2,682	8,396	13,316
Total,10+	-55,189	1,003,068	57,679	136,631	234,806	241,377

TABLE A-4. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE WHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						West South Central
4,012	5,221	.	2,681	2,372	-22,579	10-14
2,493	4,253	.	677	-103	-22,400	15-19
13,602	18,487	.	4,984	3,128	-40,435	20-29
4,127	7,281	.	431	331	-25,266	30-39
1,164	3,132	.	18	-138	-14,855	40-49
258	567	.	-162	-159	-8,737	50-59
95	-101	.	59	-125	-1,167	60-69
-781	-1,849	.	-95	-7	-6,761	70+
24,970	36,991	.	8,593	5,299	-142,200	Total,10+
						Mountain
2,789	1,844	8,103	.	9,004	24,118	10-14
1,573	1,297	5,053	.	3,281	15,570	15-19
6,152	4,942	15,498	.	6,744	33,583	20-29
4,047	3,734	10,738	.	3,058	47,532	30-39
2,044	2,438	5,186	.	584	31,161	40-49
849	881	2,397	.	164	17,661	50-59
422	616	120	.	-204	8,174	60-69
328	555	216	.	31	5,862	70+
18,204	16,307	47,311	.	22,662	183,661	Total,10+
						Pacific
9,350	4,697	21,035	19,354	.	116,751	10-14
4,863	3,766	16,319	11,040	.	83,703	15-19
18,665	15,016	42,178	34,273	.	258,198	20-29
12,161	10,315	28,625	17,891	.	220,872	30-39
5,780	6,176	15,018	6,082	.	121,259	40-49
2,097	3,337	7,485	1,308	.	63,066	50-59
1,972	1,983	3,059	1,519	.	51,136	60-69
1,091	1,470	3,258	1,392	.	32,894	70+
55,979	46,760	136,977	92,859	.	947,879	Total,10+

Source: See note on procedures following Table A-6.

TABLE A-5. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
New England						
10-14	-356	2,407	.	364	36	17
15-19	-132	2,260	.	286	111	-1
20-29	-964	10,154	.	921	385	174
30-39	-25	4,892	.	82	158	43
40-49	106	1,690	.	8	-39	-24
50-59	151	1,040	.	-35	-30	-3
60-69	127	291	.	-53	33	-16
70+	114	122	.	-90	-21	8
Total,10+	-979	22,856	.	1,483	633	198
Middle Atlantic						
10-14	-2,939	15,210	113	.	561	112
15-19	-2,662	12,572	-16	.	324	99
20-29	-7,509	61,275	401	.	1,051	341
30-39	2,163	35,861	256	.	544	233
40-49	1,296	8,562	33	.	-272	-70
50-59	1,282	3,169	-106	.	-539	-
60-69	970	799	-61	.	-108	-38
70+	755	2,463	-61	.	-31	24
Total,10+	-6,644	139,911	559	.	1,530	701
East North Central						
10-14	-2,202	26,977	83	798	.	603
15-19	-3,275	18,135	37	482	.	130
20-29	-8,345	68,672	26	1,173	.	1,297
30-39	-592	49,300	-44	-2	.	650
40-49	1,074	19,712	-18	-38	.	-29
50-59	1,152	8,346	46	-433	.	-374
60-69	251	1,942	-28	-310	.	-336
70+	177	3,919	-45	-168	.	-9
Total,10+	-11,760	197,003	57	1,502	.	1,932

TABLE A-5. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH,
AND NET BALANCE OF MIGRATION, NATIVE NONWHITE MALES 10 YEARS OLD AND OVER IN 1960,
BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						New England
1,659	233	98	4	-4	2,051	10-14
1,435	332	79	23	-5	2,128	15-19
6,451	1,473	570	27	153	9,190	20-29
3,570	724	289	23	3	4,867	30-39
1,181	415	123	-6	32	1,796	40-49
818	233	84	-	-27	1,191	50-59
339	-28	40	1	-25	418	60-69
283	-22	14	-8	-42	236	70+
15,736	3,360	1,297	64	85	21,877	Total,10+
						Middle Atlantic
11,731	2,242	327	8	116	12,271	10-14
10,331	1,521	335	6	-28	9,910	15-19
49,276	8,135	1,830	119	122	53,766	20-29
29,014	4,722	1,074	33	-15	38,024	30-39
6,848	1,966	173	-16	-100	9,858	40-49
2,668	1,095	351	-46	-254	4,451	50-59
360	519	215	-11	-77	1,769	60-69
2,044	448	111	-16	-56	3,218	70+
112,272	20,648	4,416	77	-292	133,267	Total,10+
						East North Central
4,541	16,673	4,046	99	134	24,775	10-14
3,203	11,704	2,578	-21	22	14,860	15-19
11,819	42,972	11,172	162	51	60,327	20-29
9,864	32,324	7,330	85	-907	48,708	30-39
4,048	14,212	2,163	-53	-573	20,786	40-49
1,950	6,600	728	-13	-158	9,498	50-59
864	2,229	-350	-66	-61	2,193	60-69
1,148	2,524	427	29	13	4,096	70+
37,437	129,238	28,094	222	-1,479	185,243	Total,10+

TABLE A-5. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH AND NET BALANCE OF MIGRATION, NATIVE NONWHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
West North Central						
10-14	-1,776	4,156	-12	6	322	.
15-19	-1,309	3,225	2	105	296	.
20-29	-5,123	10,659	75	480	937	.
30-39	-1,818	4,647	-25	47	177	.
40-49	-72	828	-31	-45	-42	.
50-59	110	-287	9	-90	-244	.
60-69	364	-604	11	-83	-67	.
70+	-50	392	-5	-33	88	.
Total,10+	-9,674	23,016	24	387	1,467	.
South Atlantic						
10-14	-19,472	3,619	-4	1,168	118	52
15-19	-18,002	4,831	87	913	547	102
20-29	-81,091	16,983	222	1,874	1,584	492
30-39	-43,790	-1,094	-132	-1,852	-260	-52
40-49	-12,697	-1,497	-9	-954	-292	-80
50-59	-5,830	-647	-42	-624	-168	82
60-69	-1,709	-819	-20	-351	-114	-7
70+	-2,839	-111	-1	-121	-97	-72
Total,10+	-185,430	21,265	101	53	1,318	517
East South Central						
10-14	-26,858	290	32	17	-157	-23
15-19	-21,840	1,547	-3	136	279	-13
20-29	-79,909	2,906	-16	398	308	64
30-39	-47,824	-3,241	-3	-264	-812	-168
40-49	-19,726	-2,023	-34	-71	-375	-41
50-59	-10,242	-1,078	9	-103	-124	-56
60-69	-2,797	-843	-22	-40	4	-22
70+	-3,284	-834	7	-58	-38	-12
Total,10+	-212,480	-3,276	-30	15	-915	-271

TABLE A-5. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						West North Central
123	1,851	1,658	87	121	2,380	10-14
232	1,269	1,199	116	6	1,916	15-19
1,556	3,657	3,704	125	125	5,536	20-29
451	2,165	1,864	56	-88	2,829	30-39
317	581	107	19	-78	756	40-49
41	309	-295	-12	-5	-177	50-59
91	-121	-426	-43	34	-240	60-69
37	130	209	-6	-28	342	70+
2,848	9,841	8,020	342	87	13,342	Total,10+
						South Atlantic
.	2,034	240	2	9	-15,853	10-14
.	2,702	442	16	22	-13,171	15-19
.	9,431	2,820	139	421	-64,108	20-29
.	1,616	-344	-30	-40	-44,884	30-39
.	-86	-71	5	-10	-14,194	40-49
.	181	-31	-14	-31	-6,477	50-59
.	-389	67	6	-11	-2,528	60-69
.	217	-25	-	-12	-2,950	70+
.	15,706	3,098	124	348	164,165	Total,10+
						East South Central
334	.	141	-18	-36	-26,568	10-14
920	.	226	7	-5	-20,293	15-19
1,847	.	192	40	73	-77,003	20-29
-879	.	-1,149	21	13	-51,065	30-39
-871	.	-607	5	-29	-21,749	40-49
-523	.	-232	-9	-40	-11,320	50-59
-414	.	-312	1	-38	-3,640	60-69
-592	.	-121	-19	-1	-4,118	70+
-178	.	-1,862	28	-63	-215,756	Total,10+

TABLE A-5. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
West South Central						
10-14	-14,877	1,713	41	49	-28	-23
15-19	-11,690	3,493	11	373	534	86
20-29	-44,201	8,177	67	447	690	296
30-39	-22,781	-889	-66	-369	-549	-173
40-49	-7,870	192	-32	-126	-59	-15
50-59	-5,308	-340	-24	-47	-27	-93
60-69	-693	-197	-3	-50	-11	-95
70+	-1,853	-1,100	-6	-101	-62	11
Total,10+	- 109,273	11,049	-12	176	488	- 6
Mountain						
10-14	-1,014	2,159	21	36	117	227
15-19	-827	1,683	10	94	140	222
20-29	-2,556	6,567	50	301	448	409
30-39	-1,088	2,052	-24	-80	-50	277
40-49	-451	1,143	-15	38	10	137
50-59	20	937	-17	-46	-22	69
60-69	118	154	-5	-36	17	12
70+	-6	62	-12	-68	-3	57
Total,10+	--5,804	14,757	8	239	657	1,410
Pacific						
10-14	-690	13,653	83	501	1,233	809
15-19	-15	12,006	4	272	1,045	683
20-29	-994	45,299	139	1,914	2,944	2,050
30-39	1,393	22,838	64	276	1,384	1,008
40-49	924	8,806	1	-110	-6	193
50-59	536	6,988	-26	96	2	265
60-69	230	2,419	-1	-46	-5	137
70+	133	1,942	9	-116	-13	44
Total,10+	1,517	113,951	273	2,787	6,584	5,189

TABLE A-5. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE MALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

| Net Migration of Out-born by Division of Birth | | | | | Net Balance of Migration | Division and Age in 1960 |
SA	ESC	WSC	MT	PAC		
						West South Central
98	1,413	.	63	100	-13,164	10-14
770	1,554	.	113	52	-8,197	15-19
2,677	3,715	.	176	109	-36,024	20-29
-183	574	.	-1	-122	-23,670	30-39
104	277	.	60	-17	-7,678	40-49
104	-243	.	24	-34	-5,648	50-59
213	-203	.	-17	-31	-890	60-69
-253	-679	.	-17	7	-2,953	70+
3,530	6,408	.	401	64	-98,224	Total,10+
						Mountain
80	170	1,258	.	250	1,145	10-14
115	227	924	.	-49	856	15-19
1,280	1,226	2,914	.	-61	4,011	20-29
77	520	1,567	.	-235	964	30-39
41	191	890	.	-149	692	40-49
95	208	637	.	13	957	50-59
-52	59	179	.	-20	272	60-69
39	-25	89	.	-15	56	70+
1,675	2,576	8,458	.	-266	8,953	Total,10+
						Pacific
906	2,241	7,110	770	.	12,963	10-14
995	2,532	5,908	567	.	11,991	15-19
6,185	9,299	20,999	1,769	.	44,305	20-29
1,876	5,179	12,150	901	.	24,231	30-39
1,028	2,171	5,091	438	.	9,730	40-49
677	1,860	4,065	49	.	7,524	50-59
308	732	1,282	12	.	2,649	60-69
134	691	1,149	44	.	2,075	70+
12,109	24,705	57,754	4,550	.	115,468	Total,10+

Source: See note on procedures following Table A-6.

TABLE A-6. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
New England						
10-14	-325	2,605	.	277	136	45
15-19	-80	2,461	.	203	117	-
20-29	-828	9,605	.	538	134	63
30-39	-212	4,729	.	267	114	5
40-49	180	1,842	.	-22	-23	12
50-59	432	1,720	.	-143	35	14
60-69	34	261	.	-104	18	27
70+	165	113	.	-133	-33	-3
Total,10+	-634	23,336	.	883	498	163
Middle Atlantic						
10-14	-2,324	16,696	131	.	442	114
15-19	-987	17,147	-32	.	222	55
20-29	-3,715	78,974	340	.	1,123	448
30-39	277	33,638	116	.	102	86
40-49	1,316	5,370	-146	.	-475	5
50-59	1,067	6,071	-352	.	-353	-124
60-69	930	1,269	-29	.	-33	32
70+	624	3,046	58	.	-109	-78
Total,10+	-2,812	162,211	86	.	919	538
East North Central						
10-14	-2,180	28,601	23	460	.	542
15-19	-948	21,772	43	349	.	522
20-29	-4,425	83,363	133	1,423	.	2,224
30-39	-96	46,184	75	160	.	771
40-49	761	17,504	6	-129	.	-327
50-59	636	9,961	-24	-219	.	-526
60-69	307	3,498	1	-396	.	-393
70+	490	4,586	-85	-123	.	91
Total,10+	-5,455	215,469	172	1,525	.	2,904

TABLE A-6. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						New England
1,815	319	27	-3	-11	2,280	10-14
1,701	339	61	7	33	2,381	15-19
6,789	1,568	475	8	30	8,777	20-29
3,492	596	175	9	71	4,517	30-39
1,575	319	-	-6	-13	2,022	40-49
1,571	189	65	7	-18	2,152	50-59
285	68	-17	-	-16	295	60-69
224	30	35	-	-7	278	70+
17,452	3,428	821	22	69	22,702	Total,10+
						Middle Atlantic
13,038	2,414	365	17	175	14,372	10-14
14,082	2,492	270	53	5	16,160	15-19
65,015	9,772	2,157	58	61	75,259	20-29
27,362	4,915	1,143	4	-90	33,915	30-39
4,033	2,173	-82	-25	-113	6,686	40-49
5,215	1,470	268	-3	-50	7,138	50-59
644	832	-29	-6	-142	2,199	60-69
2,878	422	-66	-26	-33	3,670	70+
132,267	24,490	4,026	72	-187	159,399	Total,10+
						East North Central
4,799	18,165	4,316	55	241	26,421	10-14
3,657	13,979	3,254	4	-36	20,824	15-19
13,935	52,133	13,224	153	138	78,938	20-29
9,690	30,607	5,772	11	-902	46,088	30-39
3,760	12,411	2,324	-77	-464	18,265	40-49
1,890	8,985	-62	-44	-39	10,597	50-59
867	3,487	57	-8	-117	3,805	60-69
1,263	3,330	144	-7	-27	5,076	70+
39,861	143,097	29,029	87	-1,206	210,014	Total,10+

TABLE A-6. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
West North Central						
10-14	-1,683	4,405	7	24	300	.
15-19	-1,431	3,058	11	72	127	.
20-29	-5,385	9,712	18	164	384	.
30-39	-1,841	3,815	3	45	-147	.
40-49	-157	263	2	-82	-118	.
50-59	450	189	37	-49	-205	.
60-69	-12	-462	-4	-33	-142	.
70+	-116	-187	5	-45	-218	.
Total,10+	-10,175	20,793	79	96	-19	.
South Atlantic						
10-14	-21,336	3,302	118	974	-6	36
15-19	-21,279	2,556	18	85	131	63
20-29	-93,975	9,665	147	313	508	257
30-39	-43,162	-698	-102	-1,119	-437	1
40-49	-10,269	-1,000	-39	-866	-267	82
50-59	-9,260	-1,294	-77	-490	-85	-35
60-69	-1,641	-373	75	-254	-78	-22
70+	-4,097	-464	-28	-142	-57	-38
Total,10+	-205,019	11,694	112	-1,499	-291	344
East South Central						
10-14	-28,595	75	3	-37	-145	-23
15-19	-23,531	630	20	39	-105	-31
20-29	-87,189	1,085	-18	-50	-122	-11
30-39	-46,215	-2,338	-2	-178	-449	-178
40-49	-18,558	-1,529	14	-27	-137	-19
50-59	-12,359	-1,472	-5	-29	-113	-42
60-69	-5,523	-786	-18	-16	-96	-40
70+	-3,846	-658	-12	-43	-77	-20
Total,10+	-225,816	-4,993	-18	-341	-1,244	-364

TABLE A-6. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						West North Central
177	1,890	1,869	76	62	2,722	10-14
82	1,276	1,281	212	-3	1,627	15-19
895	4,309	3,989	-72	25	4,327	20-29
489	2,418	1,138	-7	-124	1,974	30-39
112	502	-26	14	-141	106	40-49
161	298	-51	-9	7	639	50-59
26	124	-399	-33	-1	-474	60-69
-63	28	104	2	-	-303	70+
1,879	10,845	7,905	183	-175	10,618	Total,10+
						South Atlantic
.	1,915	248	-11	28	-18,034	10-14
.	1,944	295	17	3	-18,723	15-19
.	6,748	1,483	85	124	-84,310	20-29
.	1,080	-187	-3	69	-43,860	30-39
.	165	-31	-49	5	-11,269	40-49
.	-522	-9	-46	-30	-10,554	50-59
.	-14	-55	-21	-4	-2,014	60-69
.	-169	37	-48	-19	-4,561	70+
.	11,147	1,781	-76	176	-193,325	Total,10+
						East South Central
294	.	60	7	-84	-28,520	10-14
526	.	177	-15	19	-22,901	15-19
1,024	.	257	2	3	-86,104	20-29
-967	.	-569	5	-	-48,553	30-39
-726	.	-610	-10	-14	-20,087	40-49
-554	.	-690	-23	-16	-13,831	50-59
-462	.	-148	-1	-5	-6,309	60-69
-214	.	-266	-16	-10	-4,504	70+
-1,079	.	-1,789	-51	-107	-230,809	Total,10+

TABLE A-6. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Division and Age in 1960	Net Migration of In-born	Net Migration of Out-born by Division of Birth				
		All Divisions	NE	MA	ENC	WNC
West South Central						
10-14	-15,526	1,516	-21	19	-21	33
15-19	-11,881	1,256	-	23	-131	-81
20-29	-44,360	5,106	45	139	+39	11
30-39	-22,404	912	-12	-102	-130	-242
40-49	-7,541	-317	-7	-89	-34	-178
50-59	-5,569	-765	-12	-92	-55	-88
60-69	-1,827	-247	6	-69	-51	65
70+	-1,756	-1,001	-23	-95	2	12
Total,10+	-110,864	6,460	-24	-266	-381	-468
Mountain						
10-14	-973	2,211	12	24	97	237
15-19	-815	1,239	-2	38	52	178
20-29	-1,735	4,799	12	89	249	377
30-39	-725	2,606	6	25	48	229
40-49	29	1,264	-1	16	41	137
50-59	76	733	-7	-1	-17	-30
60-69	-11	347	-21	-12	-36	-29
70+	37	145	-13	7	-34	32
Total,10+	-4,117	13,344	-14	186	400	1,131
Pacific						
10-14	-438	13,966	51	+583	1,377	699
15-19	+183	10,651	24	177	536	725
20-29	-372	39,677	152	1,099	2,110	2,017
30-39	1,009	24,522	128	626	996	1,169
40-49	907	9,933	-10	-118	253	444
50-59	206	9,177	8	-45	157	379
60-69	277	3,959	-45	-46	111	371
70+	103	2,814	-66	-51	36	119
Total,10+	1,875	114,699	242	2,225	5,576	5,923

TABLE A-6. NET MIGRATION OF IN-BORN, NET MIGRATION OF OUT-BORN BY DIVISION OF BIRTH, AND NET BALANCE OF MIGRATION, NATIVE NONWHITE FEMALES 10 YEARS OLD AND OVER IN 1960, BY AGE, FOR GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Net Migration of Out-born by Division of Birth					Net Balance of Migration	Division and Age in 1960
SA	ESC	WSC	MT	PAC		
						West South Central
203	1,325	.	133	-155	-14,010	10-14
351	1,183	.	49	-138	-10,625	15-19
1,482	3,205	.	93	+92	-39,254	20-29
278	1,019	.	39	+62	-21,492	30-39
240	-264	.	-29	44	-7,858	40-49
69	-555	.	-33	1	-6,334	50-59
-142	-63	.	6	1	-2,074	60-69
-280	-602	.	-7	-8	-2,757	70+
2,201	5,248	.	251	-101	-104,404	Total,10+
						Mountain
84	251	1,325	.	181	1,238	10-14
125	159	755	.	-66	424	15-19
668	927	2,577	.	-100	3,064	20-29
218	315	1,860	.	-95	1,881	30-39
184	385	714	.	-212	1,293	40-49
66	122	661	.	-61	809	50-59
70	38	330	.	7	336	60-69
30	19	103	.	1	182	70+
1,445	2,216	8,325	.	-345	9,227	Total,10+
						Pacific
926	2,316	7,316	698	.	13,528	10-14
755	2,159	5,788	487	.	10,834	15-19
4,168	8,527	20,197	1,407	.	39,305	20-29
2,600	5,265	13,073	665	.	25,531	30-39
1,091	2,868	5,251	154	.	10,840	40-49
844	2,372	5,388	74	.	9,383	50-59
354	1,050	2,090	74	.	4,236	60-69
258	788	1,664	66	.	2,917	70+
10,996	25,345	60,767	3,625	.	116,574	Total,10+

Source: See following note on procedures.

SOURCES AND PROCEDURES FOR TABLES A-3, A-4, A-5 AND A-6

1. Adjustment for nonreporting of state of birth

Prorate the "unknowns" among the knowns for each division of residence to produce tables in the form of Table I and Table II, with the age data of 1960 grouped in such a way as to reflect the ages in 1960 of the cohorts of 1950. Repeat for the other divisions, producing one pair of tables for each sex-color group of each division.

I. Resident Population of Division 1 Classified by Division of Birth, 1950

Division of Birth	Age in 1950								
	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+	All ages
1	Source:		U.S. Census of Population: 1950, State of Birth						
2			Table 19 for native white males						
.			Table 20 for native white females						
.			Table 21 for native nonwhite males						
9			Table 22 for native nonwhite females						
Total									

II. Resident Population of Division 1 Classified by Division of Birth, 1960

Division of Birth	Age in 1960								
	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70+	Total, 10+
1									
2	Source:		U.S. Census of Population: 1960, State of Birth						
.									
.			Table 26 for native white males						
.			Table 27 for native white females						
9			Table 28 for native nonwhite males						
Total			Table 29 for native nonwhite females						

2. Calculation of survival ratios

Rearrange the data of Tables I and II into the form of Tables III and IV, so that each division's natives are accumulated into a single table for each census date. Compute division-of-birth survival ratios from the "Total" lines of Tables III and IV. The formula for the youngest cohort is:

$$\frac{\text{Population aged 10-14 in 1960}}{\text{Population aged } \quad \text{0-4} \quad \text{ in 1950}} = SR\,^{10-14}_{0-4}$$

Repeat for each division.

III. Division 1: In-born, by Division of Residence in 1950

Division of Residence 1950	Age in 1950								
	0-4	5-9	10-19	20-29	30-39	40-49	50-59	60+	All ages
1									
2									
.									
.									
.			Source: Line 1 of Table I for each division						
.									
9									
Total									

IV. Division 1: In-born, by Division of Residence in 1960

Division of Residence 1960	Age in 1960								
	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70+	Total, 10+
1									
2									
.									
.									
.			Source: Line 1 of Table II for each division						
9									
Total									

3. Calculation of "expected" population, 1960

Multiply the appropriate survival ratio by each entry in the body of Table III (e.g., SR^{10-14}_{0-4} x each entry in column 1) and record the result in Table V. This develops Table V for each division in the same form as Table IV. The column sums of Table V for a given division equal the column sums of Table IV for the same division.

V. Division 1: Expected Distribution of In-born by
Division of Residence in 1960

Division of Expected Residence in 1960	Age in 1960								
	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70+	Total, 10+
1									
2									
.		Source:	Survival ratios derived from Tables III and IV and applied to Table III						
.									
.									
9									
Total									

4. Calculation of net migration

Subtract the "expected" 1960 numbers of Table V from the enumerated 1960 numbers of Table IV, producing Table VI for each division. These are estimates of net change due to the migration of the natives of the given division with respect to that division and with respect to each of the other divisions. The sum of the frequencies in each column will be zero, since net migration of Division 1 natives to or from Division 1 equals net migration of Division 1 natives from or to the other eight divisions combined, with the sign reversed.

VI. Division 1: Net Migration of In-born, by Divisions, 1950-1960

Division of Net Gain or Loss through Migration	Age in 1960								Total, 10+
	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70+	
1									
2									
.				Source:	Table IV minus Table V.				
.									
.									
9									
Total									

5. Rearrangement of data for each division of residence

From Tables VI, collect lines 1 for Division 1 and put into form of Table VII. From Tables VI, collect lines 2 for Division 2 and put into form of Table VII. Repeat for each division.

VII. Division 1: Net Migration of In-born and Net Migration of
Out-born Classified by Division of Birth, 1950-1960

Division of Birth	Age in 1960								Total, 10+
	10-14	15-19	20-29	30-39	40-49	50-59	60-69	70+	
1									
2									
.				Source:	Line 1 of Table VI for each division.				
.									
.									
9									
Total									

This table gives, for each division, net change due to migration of its own natives (the "in-born") and net change due to the migration of natives of each of the other divisions (together, the "out-born"). In each divisional

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table, the figures for the in-born appear on the line that corresponds to that particular division - on line 1 in the table for Division 1, on line 2 in the table for Division 2, on line 3 in the table for Division 3, etc. In each case, the figures for the out-born appear on the remaining lines, according to their various divisions of birth. The "Total" line of each table gives the net balance of migration to and from the division for each age-sex-color group. In general, net migration of the in-born is outward and net migration of the out-born is inward, but there are exceptions for some age groups in some divisions.

TABLE A-7. COMBINED DIVISION-OF-BIRTH (DOB-N) SURVIVAL RATIOS AND ESTIMATES OF NET MIGRATION OF THE NATIVE WHITE POPULATION 10 YEARS OLD AND OVER, BY AGE AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960

Age in 1960	Survival Ratio	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Male										
10-14	1.01092	-13,732	-48,364	-12,308	-53,085	36,257	-43,584	-16,806	26,265	125,358
15-19	0.97554	-5,093	-80,831	-33,584	-41,191	64,138	-31,477	-9,028	16,964	120,102
20-29	0.93722	-11,369	-131,159	8,553	-111,936	98,884	-151,754	-37,099	37,401	298,479
30-39	1.01608	-33,601	-58,238	30,475	-89,983	14,597	-84,264	-31,700	43,482	209,233
40-49	0.98771	-8,431	-69,595	-13,697	-44,011	45,092	-41,865	-21,469	33,720	120,255
50-59	0.94618	-5,041	-43,285	-17,849	-16,740	40,097	-21,713	-8,695	19,372	53,854
60-69	0.82658	-5,551	-45,864	-32,813	-7,506	54,570	-3,288	1,215	10,778	28,460
70+	0.51165	-9,222	-47,080	-35,810	-3,551	43,024	3,071	10,653	10,358	28,556
Total, 10+	.	-92,040	-524,416	-107,033	-368,003	396,659	-374,874	-112,929	198,340	984,297
Female										
10-14	1.01215	-11,708	-43,046	-10,093	-49,711	36,893	-46,326	-16,426	24,780	115,637
15-19	.99326	-2,600	-39,526	4,766	-31,128	32,421	-44,237	-24,188	16,259	88,233
20-29	.98412	-26,558	-88,479	66,100	-116,770	58,475	-147,718	-40,825	32,969	262,806
30-39	1.00361	-29,409	-85,814	-26,358	-88,793	57,929	-80,788	-22,815	50,550	225,498
40-49	.97809	-12,827	-75,796	-34,305	-47,094	54,195	-39,379	-11,252	33,576	132,882
50-59	.96338	-6,900	-55,462	-43,576	-22,303	65,304	-20,036	-4,262	19,588	67,647
60-69	.91404	-10,333	-53,889	-49,870	-23,007	73,918	-5,048	5,566	8,332	54,331
70+	.62011	-12,152	-50,061	-41,625	-9,681	37,998	-4,491	20,385	13,819	45,808
Total, 10+	.	-112,487	-492,073	-134,961	-388,487	417,133	-388,023	-93,817	199,873	992,842

Source: Survival ratios were derived from Table A-1 by combining the divisional detail for each age-sex group and computing the appropriate ratios. Expected 1960 numbers were derived by applying the ratios to each division's 1950 conterminous-born resident population, and estimates of net migration were calculated by subtracting the expected numbers from the 1960 conterminous-born resident population.

TABLE A-8. COHORT AVERAGES OF 1950 AND 1960 POPULATION BORN IN CONTERMINOUS
UNITED STATES AND LIVING IN CONTERMINOUS UNITED STATES AT THE CENSUS DATES,
BY AGE, COLOR, AND SEX, FOR GEOGRAPHIC DIVISIONS OF RESIDENCE.

Division of Residence and Age in 1960	Native White		Native Nonwhite	
	Male	Female	Male	Female
New England				
10-14	455,646	436,312	9,812	9,812
15-19	366,862	356,259	7,292	7,558
20-29	574,910	572,983	15,089	15,246
30-39	646,962	·671,269	16,400	16,638
40-49	602,625	639,196	11,410	12,576
50-59	439,287	476,296	7,904	8,852
60-69	295,250	346,017	4,593	5,144
70+	243,473	339,347	4,038	5,108
Total, 10+	3,625,015	3,837,679	76,538	80,934
Middle Atlantic				
10-14	1,332,753	1,273,814	111,388	111,274
15-19	1,044,313	1,032,486	81,380	86,391
20-29	1,644,877	1,692,984	150,968	176,602
30-39	1,944,484	2,088,880	177,048	216,171
40-49	1,906,180	2,042,212	149,643	182,658
50-59	1,436,948	1,522,280	118,152	129,752
60-69	944,180	1,069,062	68,330	72,753
70+	747,466	996,758	42,394	51,978
Total, 10+	11,001,201	11,718,476	899,303	1,027,579
East North Central				
10-14	1,531,502	1,468,878	119,214	120,190
15-19	1,188,268	1,173,006	84,423	89,109
20-29	1,883,705	1,935,282	148,942	170,748
30-39	2,103,655	2,192,274	186,402	207,101
40-49	1,978,829	2,065,547	160,830	170,236
50-59	1,555,733	1,603,160	125,930	125,422
60-69	1,119,182	1,197,062	80,522	76,179
70+	988,740	1,197,602	51,478	54,939
Total, 10+	12,349,614	12,832,811	957,741	1,013,924

TABLE A-8. COHORT AVERAGES OF 1950 AND 1960 POPULATION BORN IN CONTERMINOUS UNITED STATES AND LIVING IN CONTERMINOUS UNITED STATES AT THE CENSUS DATES, BY AGE, COLOR, AND SEX, FOR GEOGRAPHIC DIVISIONS OF RESIDENCE.

Division of Resi-dence and Age in 1960	Native White		Native Nonwhite	
	Male	Female	Male	Female
West North Central				
10-14	712,590	679,556	28,928	28,791
15-19	568,533	552,842	22,157	22,552
20-29	907,404	914,108	37,112	39,665
30-39	934,455	947,077	36,424	41,443
40-49	876,924	901,479	31,902	35,695
50-59	757,669	789,384	29,136	31,643
60-69	603,153	646,542	22,327	21,770
70+	583,554	676,598	20,057	20,400
Total, 10+	5,944,282	6,107,586	228,043	241,959
South Atlantic				
10-14	938,772	900,280	341,540	338,095
15-19	782,562	746,054	273,802	273,996
20-29	1,283,056	1,239,508	412,064	434,948
30-39	1,338,839	1,368,894	358,532	414,612
40-49	1,205,310	1,239,652	323,361	361,057
50-59	911,691	964,908	248,582	271,101
60-69	626,911	702,990	159,222	174,562
70+	553,884	682,231	138,918	157,686
Total, 10+	7,641,025	7,844,517	2,256,021	2,426,057
East South Central				
10-14	500,079	480,928	172,644	170,789
15-19	426,596	405,983	137,659	137,701
20-29	672,492	671,329	195,493	211,472
30-39	634,058	668,851	147,928	182,076
40-49	580,328	600,891	138,912	168,264
50-59	474,510	495,852	127,571	143,666
60-69	330,296	358,513	92,917	100,638
70+	328,410	376,934	93,744	100,056
Total, 10+	3,946,769	4,059,281	1,106,868	1,214,662

TABLE A-8. COHORT AVERAGES OF 1950 AND 1960 POPULATION BORN IN CONTERMINOUS
UNITED STATES AND LIVING IN CONTERMINOUS UNITED STATES AT THE CENSUS DATES,
BY AGE, COLOR, AND SEX, FOR GEOGRAPHIC DIVISIONS OF RESIDENCE.

Division of Residence and Age in 1960	Native White		Native Nonwhite	
	Male	Female	Male	Female
West South Central				
10-14	695,582	664,636	161,200	160,430
15-19	571,584	548,094	127,634	127,168
20-29	914,072	904,414	188,112	202,226
30-39	919,222	944,084	154,150	185,686
40-49	831,208	851,006	140,123	166,346
50-59	687,098	706,209	132,578	143,894
60-69	470,878	502,452	94,974	98,035
70+	435,735	499,665	92,286	96,658
Total, 10+	5,525,379	5,620,560	1,091,057	1,180,443
Mountain				
10-14	313,816	303,228	17,654	17,494
15-19	247,243	240,652	13,893	13,718
20-29	392,428	389,172	23,774	23,126
30-39	395,364	394,852	19,374	18,876
40-49	361,421	356,792	14,280	13,890
50-59	269,722	260,788	10,486	9,684
60-69	184,394	184,150	6,901	5,569
70+	166,562	173,118	6,406	5,460
Total, 10+	2,330,950	2,302,752	112,768	107,817
Pacific				
10-14	790,158	763,858	52,546	51,611
15-19	617,950	584,892	36,065	35,994
20-29	986,804	941,190	66,402	65,457
30-39	1,126,201	1,133,642	81,581	84,314
40-49	1,073,078	1,068,284	68,006	67,786
50-59	796,735	798,857	41,714	39,135
60-69	545,407	596,950	20,714	20,007
70+	476,304	608,594	13,955	15,494
Total, 10+	6,412,637	6,496,267	380,983	379,798

Source: Data underlying Table A-1 averages were computed by the formula
$0.5 (P_x + P_{x+10})$ where P_x refers to the population aged x in 1950 and P_{x+10}
to the population 10 years old in 1960.

TABLE A-9. RATES: NET MIGRATION OF IN-BORN AND OUT-BORN AND NET BALANCE OF MIGRATION PER 1,000 AVERAGE POPULATION, BY AGE, COLOR, AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Age in 1960 And Sex	New England						Middle Atlantic					
	Native White			Native Nonwhite			Native White			Native Nonwhite		
	In-born	Out-born	Balance	In-born	Out-born	Balance	In-born	Out-born	Balance	In-born	Out-born	Balance
Male												
10-14	-61	36	-24	-36	245	209	-58	20	-37	-26	137	110
15-19	-84	72	-13	-18	310	292	-93	16	-77	-33	154	122
20-29	-127	108	-19	-64	673	609	-131	43	-88	-50	406	356
30-39	-52	10	-42	-2	298	297	-45	16	-29	12	203	215
40-49	-34	13	-21	9	148	157	-37	2	-35	9	57	66
50-59	-17	6	-11	19	132	151	-22	-3	-24	11	27	38
60-69	-18	2	-16	28	63	91	-26	-9	-35	14	12	26
70+	-12	6	-7	28	30	58	-19	-6	-25	18	58	76
Total,10+	-56	34	-21	-13	299	286	-56	12	-44	-7	156	148
Female												
10-14	-60	34	-26	-33	265	232	-57	20	-38	-21	150	129
15-19	-50	43	-7	-11	326	315	-55	13	-42	-11	198	187
20-29	-123	75	-49	-54	630	576	-102	48	-54	-21	447	426
30-39	-64	24	-40	-13	284	271	-55	13	-42	1	156	157
40-49	-34	10	-24	14	146	161	-32	1	-31	7	29	37
50-59	-18	6	-13	49	194	243	-25	-4	-29	8	47	55
60-69	-23	1	-22	7	51	57	-33	-8	-41	13	17	30
70+	-10	1	-9	32	22	54	-14	-3	-17	12	59	71
Total,10+	-52	26	-26	-8	288	281	-49	11	-37	-3	158	155

TABLE A-9.   RATES: NET MIGRATION OF IN-BORN AND OUT-BORN AND NET BALANCE OF MIGRATION PER 1,000 AVERAGE POPULATION, BY AGE, COLOR, AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Age in 1960 And Sex	East North Central						West North Central					
	Native White			Native Nonwhite			Native White			Native Nonwhite		
	In-born	Out-born	Balance	In-born-	Out-born	Balance	In-born	Out-born-	Balance	In-born-	Out-born	Balance
Male												
10-14	-59	54	-5	-18	226	208	-96	32	-65	-61	144	82
15-19	-79	50	-29	-39	215	176	-97	29	-67	-59	146	86
20-29	-117	110	-7	-56	461	405	-189	76	-113	-138	287	149
30-39	-45	55	10	-3	264	261	-107	15	-92	-50	128	78
40-49	-32	21	-11	7	123	129	-58	2	-56	-2	26	24
50-59	-20	6	-15	9	66	75	-28	-2	-30	4	-10	-6
60-69	-25	-10	-34	3	24	27	-16	-8	-24	16	-27	-11
70+	-9	-10	-19	3	76	80	-12	-27	-39	-2	20	17
Total,10+	-51	40	-11	-12	206	193	-81	17	-64	-42	101	59
Female												
10-14	-58	54	-4	-18	238	220	-95	32	-63	-58	153	95
15-19	-51	54	3	-11	244	234	-79	29	-51	-63	136	72
20-29	-93	122	29	-26	488	462	-186	66	-121	-136	245	109
30-39	-54	42	-12	...	223	223	-107	10	-97	-44	92	48
40-49	-31	16	-15	4	103	107	-54	..	-53	-4	7	3
50-59	-26	2	-24	5	79	84	-32	-4	-36	14	6	20
60-69	-31	-11	-42	4	46	50	-30	-10	-40	-1	-21	-22
70+	-9	-5	-15	9	83	92	-25	-27	-52	-6	-9	-15
Total,10+	-47	38	-9	-5	213	207	-80	13	-67	-42	86	44

TABLE A-9. RATES: NET MIGRATION OF IN-BORN AND OUT-BORN AND NET BALANCE OF MIGRATION PER 1,000 AVERAGE POPULATION, BY AGE, COLOR, AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Age in 1960 And Sex	South Atlantic						East South Central					
	Native White			Native Nonwhite			Native White			Native Nonwhite		
	In-born	Out-born	Balance	In-born	Out-born	Balance	In-born	Out-born	Balance	In-born	Out-born	Balance
Male												
10-14	-50	88	38	-57	11	-46	-117	26	-91	-156	2	-154
15-19	-49	130	81	-66	18	-48	-117	53	-64	-159	11	-147
20-29	-100	184	84	-197	41	-156	-265	64	-201	-409	15	-394
30-39	-38	48	10	-122	-3	-125	-132	3	-129	-323	-22	-345
40-49	-16	59	43	-39	-5	-44	-64	-1	-65	-142	-15	-157
50-59	-5	54	49	-23	-3	-26	-34	-3	-37	-80	-8	-89
60-69	2	98	100	-11	-5	-16	-12	-3	-15	-30	-9	-39
70+	4	83	86	-20	-1	-21	8	-1	7	-35	-9	-44
Total, 10+	-37	93	56	-82	9	-73	-108	20	-88	-192	-3	-195
Female												
10-14	-50	88	38	-63	10	-53	-116	24	-92	-167	...	-167
15-19	-41	85	44	-78	9	-68	-118	21	-97	-171	5	-166
20-29	-105	152	47	-216	22	-194	-259	58	-201	-412	5	-407
30-39	-38	84	47	-104	-2	-106	-121	11	-111	-254	-13	-267
40-49	-14	60	46	-28	-3	-31	-63	2	-60	-110	-9	-119
50-59	-3	67	64	-34	-5	-39	-32	-4	-36	-86	-10	-96
60-69	2	104	106	-9	-2	-12	-14	-2	-16	-55	-8	-63
70+	2	62	64	-26	-3	-29	-7	-1	-8	-38	-7	-45
Total, 10+	-35	89	54	-85	5	-80	-103	16	-88	-186	-4	-190

TABLE A-9. RATES: NET MIGRATION OF IN-BORN AND OUT-BORN AND NET BALANCE OF MIGRATION PER 1,000 AVERAGE POPULATION, BY AGE, COLOR, AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Age in 1960 And Sex	West South Central						Mountain					
	Native White			Native Nonwhite			Native White			Native Nonwhite		
	In-born	Out-born	Balance	In-born	Out-born	Balance	In-born	Out-born	Balance	In-born	Out-born	Balance
Male												
10-14	-75	43	-32	-92	11	-82	-92	169	77	-57	122	65
15-19	-78	63	-16	-92	27	-64	-76	135	58	-60	121	62
20-29	-144	108	-35	-235	43	-192	-136	235	98	-108	276	169
30-39	-59	22	-37	-148	-6	-154	-48	153	105	-56	106	50
40-49	-32	10	-21	-56	1	-55	-18	109	91	-32	80	48
50-59	-14	-1	-15	-40	-3	-43	-4	74	70	2	89	91
60-69	-2	-2	-3	-7	-2	-9	5	48	54	17	22	39
70+	-1	-19	-20	-20	-12	-32	...	22	22	-1	10	9
Total, 10+	-58	33	-25	-100	10	-90	-54	133	79	-51	131	79
Female												
10-14	-76	42	-34	-97	9	-87	-93	172	80	-56	126	71
15-19	-70	29	-41	-93	10	-84	-63	128	65	-59	90	31
20-29	-135	90	-45	-219	25	-194	-142	229	86	-75	208	132
30-39	-58	32	-27	-121	5	-116	-47	168	120	-38	138	100
40-49	-29	12	-17	-45	-2	-47	-15	103	87	2	91	93
50-59	-14	1	-12	-39	-5	-44	-2	70	68	8	76	84
60-69	-3	1	-2	-19	-3	-21	-7	51	44	-2	62	60
70+	-5	-9	-14	-18	-10	-29	-6	40	34	7	27	33
Total, 10+	-54	29	-25	-94	5	-88	-55	134	80	-38	124	86

TABLE A-9. RATES: NET MIGRATION OF IN-BORN AND OUT-BORN AND NET BALANCE OF MIGRATION PER 1,000 AVERAGE POPULATION, BY AGE, COLOR, AND SEX, GEOGRAPHIC DIVISIONS OF CONTERMINOUS UNITED STATES, 1950-1960.

Age in 1960 And Sex	Pacific					
	Native White			Native Nonwhite		
	In-born	Out-born	Balance	In-born	Out-born	Balance
Male						
10-14	-29	185	155	-13	260	247
15-19	-14	202	188	...	333	332
20-29	-27	323	296	-15	682	667
30-39	-1	187	186	17	280	297
40-49	...	112	111	14	129	143
50-59	1	61	62	13	168	180
60-69	2	43	45	11	117	128
70+	1	35	36	10	139	149
Total, 10+	-9	157	148	4	299	303
Female						
10-14	-30	183	153	-8	271	262
15-19	-9	152	143	5	296	301
20-29	-28	302	274	-6	606	600
30-39	-3	198	195	12	291	303
40-49	1	113	114	13	147	160
50-59	2	77	79	5	234	240
60-69	2	84	86	14	198	212
70+	...	54	54	7	182	188
Total, 10+	-8	154	146	5	302	307

Source: Tables A-7 and A-8.

APPENDIX B

Migration Tables, 1955-1960

TABLE B-1. MIGRATION STREAMS, NATIVE POPULATION 5 YEARS OLD AND OVER IN 1960, BY COLOR, FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of 1960 Residence	Division of 1955 Residence									Total: In-mi-gration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
NATIVE WHITE										
New England	.	175,605	55,619	19,750	76,562	12,736	20,968	13,032	37,810	412,082
Mid. Atlantic	129,279	.	163,147	39,259	208,309	31,625	43,016	23,824	68,119	706,578
E.N. Central	49,787	209,649	.	226,905	247,233	227,092	103,041	53,787	114,588	1,232,082
W.N. Central	16,065	39,769	215,435	.	57,340	31,278	122,227	76,356	107,454	665,924
S. Atlantic	143,762	474,901	419,704	95,164	.	258,390	127,332	44,091	134,021	1,697,365
E.S. Central	11,402	40,090	172,541	33,536	170,605	.	96,604	15,667	37,370	577,815
W.S. Central	23,457	59,185	126,652	140,477	117,252	109,908	.	99,596	140,998	817,525
Mountain	19,399	59,611	148,303	186,674	57,810	24,767	149,499	.	232,861	878,924
Pacific	92,208	214,397	386,861	321,815	198,869	70,123	255,930	311,486	.	1,851,689
Total: Out-mig.	485,359	1,273,207	1,688,262	1,063,580	1,133,980	765,919	918,617	637,839	873,221	8,839,984
NATIVE NONWHITE										
New England	.	6,003	2,022	565	14,111	2,547	1,295	293	1,136	27,972
Mid. Atlantic	3,416	.	10,618	1,622	107,638	13,933	4,474	794	3,495	145,990
E.N. Central	1,249	9,756	.	9,962	27,104	73,203	20,799	1,813	5,546	149,432
W.N. Central	412	1,763	8,438	.	3,085	9,425	12,886	2,273	3,545	41,827
S. Atlantic	2,958	33,836	14,449	2,720	.	24,986	7,895	1,220	5,260	93,324
E.S. Central	395	3,687	15,503	2,090	13,008	.	7,311	559	1,913	44,466
W.S. Central	616	3,688	9,113	4,728	7,426	15,215	.	4,121	9,904	54,811
Mountain	262	1,239	2,647	3,188	2,299	2,279	10,500	.	6,650	29,064
Pacific	2,020	10,149	23,236	10,331	14,676	17,931	49,147	11,450	.	138,940
Total: Out-mig.	11,328	70,121	86,026	35,206	189,347	159,519	114,307	22,523	37,449	725,826

Source: U. S. Bureau of the Census. U. S. Census of Population: 1960. Lifetime and Recent Migration. Final Report PC(2)-2D. Table 3.

TABLE B-2. MIGRATION STREAMS, NATIVE WHITE MALES 15-19 AND 20-29 YEARS OLD IN 1960,
FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of 1960 Residence	Division of 1955 Residence									Total: In-mi-gration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
AGE: 15-19										
New England	.	13,634	5,042	1,717	3,437	817	976	695	1,756	28,074
Mid. Atlantic	6,588	.	7,092	1,858	7,540	1,374	1,477	765	2,115	28,809
E.N. Central	3,143	14,057	.	8,466	10,654	11,060	3,553	1,850	3,581	56,364
W.N. Central	970	2,571	12,395	.	1,859	1,459	5,221	3,063	3,317	30,855
S. Atlantic	9,805	33,310	24,161	5,988	.	14,771	6,521	2,103	5,712	102,371
E.S. Central	1,319	4,927	10,481	2,503	9,236	.	4,817	955	2,496	36,734
W.S. Central	2,313	6,377	9,863	7,278	7,053	5,927	.	4,530	6,809	50,150
Mountain	1,156	3,670	7,034	7,679	2,435	1,224	6,780	.	9,540	39,518
Pacific	4,200	10,682	24,121	20,228	9,704	5,242	19,066	17,936	.	111,179
Total: Out-mig.	29,494	89,228	100,189	55,717	51,918	41,874	48,411	31,897	35,326	484,054
AGE: 20-29										
New England	.	29,052	11,860	5,063	15,777	3,503	5,427	3,119	6,820	80,621
Mid. Atlantic	23,273	.	22,605	7,370	36,320	6,838	9,805	5,230	11,660	123,101
E.N. Central	9,946	32,200	.	32,122	46,713	38,975	21,733	9,870	23,184	214,743
W.N. Central	3,636	8,026	34,820	.	13,515	6,052	22,085	10,462	18,892	117,488
S. Atlantic	22,061	67,307	55,251	18,478	.	40,394	26,095	9,212	23,899	262,697
E.S. Central	2,722	9,418	22,966	5,463	26,237	.	14,500	3,025	7,729	92,060
W.S. Central	6,276	14,527	23,561	20,548	22,824	17,248	.	13,104	23,826	141,914
Mountain	3,540	9,054	16,959	20,622	10,281	4,236	19,772	.	28,454	112,918
Pacific	14,365	32,290	57,607	47,409	33,976	15,070	44,889	44,154	.	289,760
Total: Out-mig.	85,819	201,874	245,629	157,075	205,643	132,316	164,306	98,176	144,464	1,435,302

Source: Special tabulation of 1960 Census data prepared by the U. S. Bureau of the Census for the Population Studies Center, University of Pennsylvania.

TABLE B-3. PRIMARY MIGRATION STREAMS, NATIVE POPULATION 5 YEARS OLD AND OVER IN 1960, BY COLOR, FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of 1960 Residence	Division of Birth and 1955 Residence									Total: In-migration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
NATIVE WHITE										
New England	.	123,609	32,278	10,898	27,178	6,289	8,604	3,774	10,582	223,212
Mid. Atlantic	76,205	.	86,221	19,853	81,811	14,554	16,524	6,139	17,594	318,901
E.N. Central	27,091	149,014	.	140,182	130,280	174,549	47,688	12,867	24,662	706,333
W.N. Central	8,408	24,687	131,551	.	19,713	16,405	65,721	22,149	22,589	311,223
S. Atlantic	101,290	373,262	273,006	58,884	.	172,050	59,668	12,742	35,314	1,086,216
E.S. Central	6,918	26,557	64,314	17,479	80,183	.	43,748	3,921	8,597	251,717
W.S. Central	14,034	40,919	71,076	78,472	54,461	68,220	.	25,373	32,796	385,351
Mountain	13,055	45,419	108,229	144,472	26,274	14,513	102,797	.	81,690	536,449
Pacific	65,496	164,554	282,732	250,302	85,882	43,873	173,979	146,470	.	1,213,288
Total: Out-mig.	312,497	948,021	1,049,407	720,542	505,782	510,453	518,729	233,435	233,824	5,032,690
NATIVE NONWHITE										
New England	.	2,681	875	219	12,576	2,212	886	56	426	19,931
Mid. Atlantic	1,083	.	3,699	685	97,664	12,237	3,090	122	1,240	119,820
E.N. Central	345	4,121	.	4,427	21,827	67,903	16,923	456	1,996	117,998
W.N. Central	84	781	3,244	.	2,084	8,434	10,726	1,011	1,086	27,450
S. Atlantic	818	11,024	4,798	1,081	.	19,933	4,686	290	1,712	44,342
E.S. Central	65	1,149	3,391	402	7,655	.	3,532	93	470	16,757
W.S. Central	171	1,638	2,565	1,272	4,877	12,252	.	955	2,034	25,764
Mountain	106	617	1,125	1,683	1,660	1,920	8,992	.	2,306	18,409
Pacific	747	4,856	9,937	5,528	10,616	15,922	44,695	5,094	.	97,395
Total: Out-mig.	3,419	26,867	29,634	15,297	158,959	140,813	93,530	8,077	11,270	487,866

Source: See Table B-1.

TABLE B-4. PRIMARY MIGRATION STREAMS, NATIVE WHITE MALES 15-19 AND 20-29 YEARS OLD IN 1960,
FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of 1960 Residence	Division of Birth and 1955 Residence									Total: In-migration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
AGE: 15-19										
New England	.	11,804	4,089	1,282	1,989	544	639	388	839	21,574
Mid. Atlantic	5,087	.	4,784	1,221	4,332	857	879	351	855	18,366
E.N. Central	2,492	11,820	.	5,906	7,435	9,184	2,292	595	1,330	41,054
W.N. Central	738	2,083	9,668	.	1,077	967	3,642	1,212	1,310	20,697
S. Atlantic	8,527	29,830	19,204	4,608	.	11,282	4,348	979	2,574	81,352
E.S. Central	1,146	4,310	6,623	1,919	5,938	.	3,054	484	1,321	24,795
W.S. Central	2,078	5,658	7,473	5,107	5,056	4,449	.	1,693	3,010	34,524
Mountain	935	3,219	5,749	5,953	1,518	859	5,009	.	5,082	28,324
Pacific	3,541	9,196	20,302	16,466	6,360	4,245	15,477	10,409	.	85,996
Total: Out-mig.	24,544	77,920	77,892	42,462	33,705	32,387	35,340	16,111	16,321	356,682
AGE: 20-29										
New England	.	23,124	8,586	3,337	5,453	1,979	2,062	889	1,811	47,241
Mid. Atlantic	13,974	.	13,329	3,982	11,785	2,882	3,049	1,181	2,240	52,422
E.N. Central	4,500	24,508	.	19,212	20,204	29,455	7,414	1,705	2,523	109,521
W.N. Central	1,838	5,540	25,296	.	3,848	2,927	10,870	3,023	2,349	55,691
S. Atlantic	16,236	57,865	39,516	13,339	.	29,058	13,340	3,180	6,196	178,730
E.S. Central	1,751	7,648	11,341	3,408	12,328	.	6,755	806	1,488	45,525
W.S. Central	4,207	11,744	16,194	13,226	11,171	11,576	.	3,937	4,453	76,508
Mountain	2,319	7,255	12,779	16,300	4,524	2,288	13,121	.	8,261	66,847
Pacific	9,921	27,096	45,362	38,659	16,004	9,855	31,438	23,481	.	201,816
Total: Out-mig.	54,746	164,780	172,403	111,463	85,317	90,020	88,049	38,202	29,321	834,301

Source: See Table B-2.

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TABLE B-5. RETURN MIGRATION STREAMS, NATIVE POPULATION 5 YEARS OLD AND OVER IN 1960,
BY COLOR, FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of Birth and 1960 Residence	Division of 1955 Residence									Total: In-mi-gration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
NATIVE WHITE										
New England	.	34,804	10,060	3,495	26,778	2,723	5,756	3,373	12,660	99,649
Mid. Atlantic	40,100	.	50,490	9,890	93,109	9,357	15,276	10,436	30,034	258,692
E.N. Central	11,783	36,061	.	60,223	71,039	31,831	32,678	25,268	57,403	326,286
W.N. Central	3,711	7,462	58,769	.	20,630	7,691	37,037	37,286	59,561	232,147
S. Atlantic	13,379	48,923	65,882	10,567	.	54,044	29,189	9,909	34,190	266,083
E.S. Central	1,941	6,079	90,305	8,314	66,182	.	37,858	5,518	14,483	230,680
W.S. Central	3,761	7,642	28,913	41,675	27,416	25,170	.	48,370	69,587	252,534
Mountain	1,255	2,926	6,642	14,990	6,337	2,032	14,369	.	59,175	107,726
Pacific	5,393	11,282	17,691	17,578	23,582	5,149	22,902	47,210	.	150,787
Total: Out-mig.	81,323	155,179	328,752	166,732	335,073	137,997	195,065	187,370	337,093	1,924,584
NATIVE NONWHITE										
New England	.	582	153	57	437	103	82	30	78	1,522
Mid. Atlantic	685	.	1,400	224	6,982	620	445	237	705	11,298
E.N. Central	226	1,211	.	1,058	1,828	2,479	1,030	416	1,175	9,423
W.N. Central	106	210	1,663	.	296	373	775	580	1,181	5,184
S. Atlantic	1,688	20,857	6,034	857	.	4,155	2,183	479	1,935	38,188
E.S. Central	220	1,861	10,952	1,381	4,801	.	3,431	363	1,114	24,123
W.S. Central	191	1,057	4,524	2,796	1,519	2,338	.	2,589	6,647	21,661
Mountain	9	30	137	290	77	48	637	.	1,666	2,894
Pacific	366	1,212	2,665	890	1,186	408	1,664	1,910	.	10,301
Total: Out-mig.	3,491	27,020	27,528	7,553	17,126	10,524	10,247	6,604	14,501	124,594

Source: See Table B-1.

TABLE B-6.   RETURN MIGRATION STREAMS, NATIVE WHITE MALES 15-19 AND 20-29 YEARS OLD IN 1960,
FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of Birth and 1960 Residence	Division of 1955 Residence									Total: In-mi-gration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
AGE: 15-19										
New England	.	980	253	81	640	63	105	64	360	2,546
Mid. Atlantic	1,116	.	1,313	211	2,215	177	240	167	679	6,118
E.N. Central	206	1,194	.	1,604	1,754	1,121	754	789	1,311	8,733
W.N. Central	95	140	1,667	.	238	170	910	1,161	1,263	5,644
S. Atlantic	337	1,823	2,192	359	.	2,251	809	263	968	9,002
E.S. Central	37	151	2,918	202	2,188	.	1,129	148	272	7,045
W.S. Central	83	174	1,117	1,352	638	814	.	1,853	2,224	8,255
Mountain	38	55	199	684	152	41	549	.	2,188	3,906
Pacific	189	477	727	1,299	951	176	1,430	3,229	.	8,478
Total: Out-mig.	2,101	4,994	10,386	5,792	8,776	4,813	5,926	7,674	9,265	59,727
AGE: 20-29										
New England	.	4,134	1,164	870	6,275	861	2,014	1,037	2,499	18,854
Mid. Atlantic	7,528	.	6,307	2,244	20,151	2,835	4,920	2,896	6,533	53,414
E.N. Central	3,723	5,369	.	9,799	18,820	6,613	10,100	5,589	14,974	74,987
W.N. Central	1,137	1,486	6,492	.	6,908	1,981	8,397	5,233	12,725	44,359
S. Atlantic	1,976	4,931	7,490	1,765	.	7,066	6,483	2,404	7,257	39,372
E.S. Central	462	828	9,567	1,179	10,286	.	5,661	1,214	3,838	33,035
W.S. Central	928	1,193	3,548	4,980	5,866	3,459	.	5,816	13,378	39,168
Mountain	322	491	883	1,738	1,780	540	2,533	.	10,016	18,303
Pacific	903	1,075	1,861	2,077	3,887	1,163	3,679	6,120	.	20,765
Total: Out-mig.	16,979	19,507	37,312	24,652	73,973	24,518	43,787	30,309	71,220	342,257

Source: See Table B-2.

TABLE B-7. SECONDARY MIGRATION STREAMS, NATIVE POPULATION 5 YEARS OLD AND OVER IN 1960,
BY COLOR, FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of 1960 Residence	Division of 1955 Residence									Total: In-mi-gration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
NATIVE WHITE										
New England	.	17,192	13,281	5,357	22,606	3,724	6,608	5,885	14,568	89,221
Mid. Atlantic	12,974	.	26,436	9,516	33,389	7,714	11,216	7,249	20,491	128,985
E.N. Central	10,913	24,574	.	26,500	45,914	20,712	22,675	15,652	32,523	199,463
W.N. Central	3,946	7,620	25,115	.	16,997	7,182	19,469	16,921	25,304	122,554
S. Atlantic	29,093	52,716	80,816	25,713	.	32,296	38,475	21,440	64,517	345,066
E.S. Central	2,543	7,454	17,922	7,743	24,240	.	14,998	6,228	14,290	95,418
W.S. Central	5,662	10,624	26,663	20,330	35,375	16,518	.	25,853	38,615	179,640
Mountain	5,089	11,266	33,432	27,212	25,199	8,222	32,333	.	91,996	234,749
Pacific	21,319	38,561	86,438	53,935	89,405	21,101	59,049	117,806	.	487,614
Total: Out-mig.	91,539	170,007	310,103	176,306	293,125	117,469	204,823	217,034	302,304	1,882,710
NATIVE NONWHITE										
New England	.	2,740	994	289	1,098	232	327	207	632	6,519
Mid. Atlantic	1,648	.	5,519	713	2,992	1,076	939	435	1,550	14,872
E.N. Central	678	4,424	.	4,477	3,449	2,821	2,846	941	2,375	22,011
W.N. Central	222	772	3,531	.	705	618	1,385	682	1,278	9,193
S. Atlantic	452	1,955	3,617	782	.	898	1,026	451	1,613	10,794
E.S. Central	110	677	1,160	307	552	.	348	103	329	3,586
W.S. Central	254	993	2,024	660	1,030	625	.	577	1,223	7,386
Mountain	147	592	1,385	1,215	562	311	871	.	2,678	7,761
Pacific	907	4,081	10,634	3,913	2,874	1,601	2,788	4,446	.	31,244
Total: Out-mig.	4,418	16,234	28,864	12,356	13,262	8,182	10,530	7,842	11,678	113,366

Source: See Table B-1.

TABLE B-8. SECONDARY MIGRATION STREAMS, NATIVE WHITE MALES 15-19 AND 20-29 YEARS OLD IN 1960,
FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of 1960 Residence	Division of 1955 Residence									Total: In-migration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
AGE: 15-19										
New England	.	850	700	354	808	210	232	243	557	3,954
Mid. Atlantic	385	.	995	426	993	340	358	247	581	4,325
E.N. Central	445	1,043	.	956	1,465	755	507	466	940	6,577
W.N. Central	137	348	1,060	.	544	322	669	690	744	4,514
S. Atlantic	941	1,657	2,765	1,021	.	1,238	1,364	861	2,170	12,017
E.S. Central	136	466	940	382	1,110	.	634	323	903	4,894
W.S. Central	152	545	1,273	819	1,359	664	.	984	1,575	7,371
Mountain	183	396	1,086	1,042	765	324	1,222	.	2,270	7,288
Pacific	470	1,009	3,092	2,463	2,393	821	2,159	4,298	.	16,705
Total: Out-mig.	2,849	6,314	11,911	7,463	9,437	4,674	7,145	8,112	9,740	67,645
AGE: 20-29										
New England	.	1,794	2,110	856	4,049	663	1,351	1,193	2,510	14,526
Mid. Atlantic	1,771	.	2,969	1,144	4,384	1,121	1,836	1,153	2,887	17,265
E.N. Central	1,723	2,323	.	3,111	7,689	2,907	4,219	2,576	5,687	30,235
W.N. Central	661	1,000	3,032	.	2,759	1,144	2,818	2,206	3,818	17,438
S. Atlantic	3,849	4,511	8,245	3,374	.	4,270	6,272	3,628	10,446	44,595
E.S. Central	509	942	2,058	876	3,623	.	2,084	1,005	2,403	13,500
W.S. Central	1,141	1,590	3,819	2,342	5,787	2,213	.	3,351	5,995	26,238
Mountain	899	1,308	3,297	2,584	3,977	1,408	4,118	.	10,177	27,768
Pacific	3,541	4,119	10,384	6,673	14,085	4,052	9,772	14,553	.	67,179
Total: Out-mig.	14,094	17,587	35,914	20,960	46,353	17,778	32,470	29,665	43,923	258,744

Source: See Table B-2.

TABLE B-9. SECONDARY MIGRANTS, 1955-1960, BY DIVISION OF RESIDENCE IN 1960 AND DIVISION OF BIRTH, NATIVE POPULATION 5 YEARS OLD AND OVER, BY COLOR, UNITED STATES.

Division of 1960 Residence	Division of Birth									Total: In-mi-gration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
NATIVE WHITE										
New England	.	25,981	17,494	10,625	12,383	6,611	7,015	3,440	5,672	89,221
Mid. Atlantic	18,692	.	30,134	19,856	21,348	12,881	11,494	6,195	8,385	128,985
E.N. Central	14,075	39,381	.	37,864	29,202	34,688	23,454	9,915	10,884	199,463
W.N. Central	6,249	16,826	30,065	.	12,153	15,718	22,826	9,459	9,258	122,554
S. Atlantic	31,530	74,231	66,879	48,345	.	57,912	34,432	14,544	17,193	345,066
E.S. Central	5,692	14,488	18,770	14,053	18,146	.	15,427	4,158	4,684	95,418
W.S. Central	8,285	23,552	34,025	37,095	22,416	30,884	.	12,102	11,281	179,640
Mountain	9,367	26,770	43,496	61,584	18,429	20,058	41,003	.	14,042	234,749
Pacific	28,516	70,385	92,718	110,038	42,032	44,143	69,771	30,011	.	487,614
Total: Out-mig.	122,406	291,614	333,581	339,460	176,109	222,895	225,422	89,824	81,399	1,882,710
NATIVE NONWHITE										
New England	.	510	349	189	3,162	1,306	718	74	211	6,519
Mid. Atlantic	309	.	840	505	6,050	5,118	1,480	102	468	14,872
E.N. Central	141	746	.	898	4,920	10,315	4,316	148	527	22,011
W.N. Central	54	311	447	.	1,441	3,610	2,738	172	420	9,193
S. Atlantic	184	1,126	933	617	.	5,046	2,158	175	555	10,794
E.S. Central	58	277	363	235	1,408	.	987	62	196	3,586
W.S. Central	79	558	463	505	2,221	3,031	.	189	340	7,386
Mountain	62	318	426	607	1,155	1,632	3,148	.	413	7,761
Pacific	273	1,362	1,665	1,965	6,073	9,212	10,138	556	.	31,244
Total: Out-mig.	1,160	5,208	5,486	5,521	26,430	39,270	25,683	1,478	3,130	113,366

Source: See Table B-1.

TABLE B-10. SECONDARY MIGRANTS, 1955-1960, BY DIVISION OF RESIDENCE IN 1960 AND DIVISION OF BIRTH,
NATIVE WHITE MALES 15-19 AND 20-29 YEARS OLD, UNITED STATES.

Division of 1960 Residence	Division of Birth									Total: In-mi-gration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
AGE: 15-19										
New England	.	972	816	424	652	280	322	161	327	3,954
Mid. Atlantic	498	.	813	528	829	457	480	241	479	4,325
E.N. Central	472	1,112	.	995	1,223	889	908	281	697	6,577
W.N. Central	179	529	879	.	502	529	851	388	657	4,514
S. Atlantic	853	2,105	2,222	1,520	.	1,923	1,562	686	1,146	12,017
E.S. Central	323	760	886	611	829	.	764	300	421	4,894
W.S. Central	254	910	1,362	1,283	1,134	1,153	.	575	700	7,371
Mountain	306	791	1,259	1,354	781	576	1,180	.	1,041	7,288
Pacific	859	1,979	3,347	2,798	1,897	1,931	2,718	1,176	.	16,705
Total: Out-mig.	3,744	9,158	11,584	9,513	7,847	7,738	8,785	3,808	5,468	67,645
AGE: 20-29										
New England	.	4,799	2,723	1,807	1,722	1,200	1,143	470	662	14,526
Mid. Atlantic	2,747	.	4,620	2,495	2,707	1,747	1,415	702	832	17,265
E.N. Central	1,810	6,448	.	5,692	4,294	6,819	3,143	1,164	865	30,235
W.N. Central	783	2,674	4,942	.	1,561	2,035	3,203	1,296	944	17,438
S. Atlantic	3,423	9,849	9,086	5,855	.	8,060	4,750	1,917	1,655	44,595
E.S. Central	751	2,324	2,853	2,053	2,373	.	2,045	612	489	13,500
W.S. Central	1,397	4,072	4,885	5,170	3,046	4,559	.	1,917	1,192	26,238
Mountain	1,187	3,544	5,228	6,870	2,059	2,321	5,161	.	1,398	27,768
Pacific	3,679	10,332	12,937	14,122	5,195	6,532	9,776	4,606	.	67,179
Total: Out-mig.	15,777	44,042	47,274	44,064	22,957	33,273	30,636	12,684	8,037	258,744

Source: See Table B-2.

TABLE B-11. SECONDARY MIGRANTS, 1955-1960, BY DIVISION OF RESIDENCE IN 1955 AND DIVISION OF BIRTH, NATIVE POPULATION 5 YEARS OLD AND OVER IN 1960, BY COLOR, UNITED STATES.

Division of 1955 Residence	Division of Birth									Total: In-mi-gration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
NATIVE WHITE										
New England	.	35,165	16,472	9,544	10,835	5,942	5,539	3,077	4,965	91,539
Mid. Atlantic	32,900	.	43,918	22,668	27,799	15,040	12,604	6,157	8,921	170,007
E.N. Central	17,825	66,436	.	70,454	37,500	63,813	30,013	11,939	12,123	310,103
W.N. Central	6,551	19,407	53,033	.	13,839	18,031	38,931	14,919	11,595	176,306
S. Atlantic	27,206	69,392	56,983	37,470	.	47,587	29,277	11,133	14,077	293,125
E.S. Central	5,896	16,694	24,895	15,932	24,723	.	19,398	4,621	5,310	117,469
W.S. Central	9,320	24,591	39,299	46,276	23,595	33,784	.	15,224	12,734	204,823
Mountain	7,348	22,127	42,946	64,471	14,109	14,209	40,150	.	11,674	217,034
Pacific	15,360	37,802	56,035	72,645	23,709	24,489	49,510	22,754	.	302,304
Total: Out-mig.	122,406	291,614	333,581	339,460	176,109	222,895	225,422	89,824	81,399	1,882,710
NATIVE NONWHITE										
New England	.	381	235	150	2,129	753	486	51	233	4,418
Mid. Atlantic	273	.	849	383	8,581	4,057	1,525	123	443	16,234
E.N. Central	166	1,111	.	1,655	5,960	13,123	5,752	304	793	28,864
W.N. Central	32	291	690	.	1,065	4,842	4,883	202	351	12,356
S. Atlantic	346	1,479	1,080	546	.	6,737	2,390	138	546	13,262
E.S. Central	53	519	830	535	3,371	.	2,643	43	188	8,182
W.S. Central	87	488	658	674	2,102	5,944	.	263	314	10,530
Mountain	40	296	442	734	1,116	1,354	3,598	.	262	7,842
Pacific	163	643	702	844	2,106	2,460	4,406	354	.	11,678
Total: Out-mig.	1,160	5,208	5,486	5,521	26,430	39,270	25,683	1,478	3,130	113,366

Source: See Table B-1.

TABLE B-12. SECONDARY MIGRANTS, 1955-1960, BY DIVISION OF RESIDENCE IN 1955 AND DIVISION OF BIRTH,
NATIVE WHITE MALES 15-19 AND 20-29 YEARS OLD IN 1960, UNITED STATES

Division of 1955 Residence	Division of Birth									Total: In-migration
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
AGE: 15-19										
New England	.	1,252	340	180	424	152	141	85	275	2,849
Mid. Atlantic	1,142	.	1,417	502	1,502	472	497	188	594	6,314
E.N. Central	410	2,191	.	2,192	1,789	2,868	1,275	463	723	11,911
W.N. Central	258	598	2,066	.	689	571	1,574	727	980	7,463
S. Atlantic	742	2,404	1,759	814	.	1,639	976	346	757	9,437
E.S. Central	184	458	1,179	486	1,137	.	829	119	282	4,674
W.S. Central	265	601	1,226	1,319	915	1,110	.	765	944	7,145
Mountain	241	656	1,710	1,989	532	400	1,671	.	913	8,112
Pacific	502	998	1,887	2,031	859	526	1,822	1,115	.	9,740
Total: Out-mig.	3,744	9,158	11,584	9,513	7,847	7,738	8,785	3,808	5,468	67,645
AGE: 20-29										
New England	.	5,724	2,860	1,452	1,401	917	753	473	514	14,094
Mid. Atlantic	3,214	.	4,975	1,963	3,304	1,611	1,259	529	732	17,587
E.N. Central	1,842	7,833	.	7,086	4,664	8,832	3,448	1,160	1,049	35,914
W.N. Central	842	2,354	6,260	.	1,480	2,179	4,842	1,975	1,028	20,960
S. Atlantic	3,932	11,674	9,400	6,049	.	8,022	4,151	1,676	1,449	46,353
E.S. Central	985	2,778	3,837	2,453	3,624	.	2,815	789	497	17,778
W.S. Central	1,791	4,558	6,586	6,902	3,345	5,492	.	2,383	1,413	32,470
Mountain	1,154	3,474	5,654	8,090	2,161	1,986	5,791	.	1,355	29,665
Pacific	2,017	5,647	7,702	10,069	2,978	4,234	7,577	3,699	.	43,923
Total: Out-mig.	15,777	44,042	47,274	44,064	22,957	33,273	30,636	12,684	8,037	258,744

Source: See Table B-2.

TABLE B-13. NET MIGRATION OF THE OUT-BORN BY DIVISION OF BIRTH, NATIVE POPULATION 5 YEARS OLD AND OVER IN 1960, BY COLOR, FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of Net Change	Division of Birth									Total: Net Mig. of Out-born
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
NATIVE WHITE										
New England	.	74,325	21,517	8,268	15,347	5,017	6,319	2,882	5,896	139,571
Mid. Atlantic	27,193	.	36,376	9,579	26,437	6,316	7,772	3,251	5,776	122,700
E.N. Central	13,281	71,469	.	48,823	56,100	55,119	12,216	4,201	5,732	266,941
W.N. Central	4,611	12,216	48,360	.	7,460	5,778	7,941	1,699	2,674	90,739
S. Atlantic	78,836	284,992	211,863	49,129	.	116,193	37,407	9,816	14,848	803,084
E.S. Central	3,991	14,994	26,358	7,909	19,562	.	14,607	1,426	2,822	91,669
W.S. Central	7,243	24,604	33,124	32,254	24,093	27,462	.	7,882	8,441	165,103
Mountain	11,701	39,626	83,511	104,299	20,685	14,844	55,280	.	36,848	366,794
Pacific	65,992	167,103	262,012	228,134	70,015	49,044	124,653	94,552	.	1,061,505
Total: Net Mig. of In-born	212,848	689,329	723,121	488,395	239,699	279,773	266,195	125,709	83,037	3,108,106
NATIVE NONWHITE										
New England	.	2,125	763	152	11,921	2,545	927	70	38	18,541
Mid. Atlantic	537	.	2,479	597	74,276	11,437	1,988	71	53	91,438
E.N. Central	167	2,356	.	2,007	14,753	54,143	10,963	163	-935	83,617
W.N. Central	49	577	1,943	.	1,603	5,821	5,785	691	265	16,734
S. Atlantic	219	3,689	2,823	856	.	13,441	2,935	250	535	24,748
E.S. Central	-33	287	445	-271	1,537	.	-462	64	70	1,637
W.S. Central	81	1,263	1,340	328	2,813	5,908	.	244	396	12,373
Mountain	98	402	693	976	1,220	1,835	5,953	.	547	11,724
Pacific	779	4,870	9,725	5,468	12,648	21,560	43,780	3,630	.	102,460
Total: Net Mig. of In-born	1,897	15,569	20,211	10,113	120,771	116,690	71,869	5,183	969	363,272

Source: Primary migration minus return migration in the opposite direction (i.e., the line entries of Table B-3 minus the column entries of Table B-5) plus secondary in-migration (Table B-9) minus secondary out-migration (Table B-11).

TABLE B-14. NET MIGRATION OF THE OUT-BORN BY DIVISION OF BIRTH, NATIVE WHITE MALES 15-19
AND 20-29 YEARS IN 1960, FOR GEOGRAPHIC DIVISIONS OF THE UNITED STATES, 1955-1960.

Division of Net Change	Division of Birth									Total: Net Mig. of Out-born
	NE	MA	ENC	WNC	SA	ESC	WSC	MT	PAC	
AGE: 15-19										
New England	.	10,408	4,359	1,431	1,880	635	737	426	702	20,578
Mid. Atlantic	3,463	.	2,986	1,107	1,836	691	688	349	263	11,383
E.N. Central	2,301	9,428	.	3,042	4,677	4,287	808	214	577	25,334
W.N. Central	578	1,803	6,877	.	531	723	1,567	189	-312	11,956
S. Atlantic	7,998	27,316	17,913	5,076	.	9,378	4,296	1,167	2,012	75,156
E.S. Central	1,222	4,435	5,209	1,874	3,379	.	2,175	624	1,284	20,202
W.S. Central	1,962	5,727	6,855	4,161	4,466	3,363	.	954	1,336	28,824
Mountain	936	3,187	4,509	4,157	1,504	887	2,665	.	1,981	19,826
Pacific	3,538	9,498	20,451	15,970	6,430	5,378	14,149	8,282	.	83,696
Total: Net Mig. of In-born	21,998	71,802	69,159	36,818	24,703	25,342	27,085	12,205	7,843	296,955
AGE: 20-29										
New England	.	14,671	4,726	2,555	3,798	1,800	1,524	564	1,056	30,694
Mid. Atlantic	9,373	.	7,605	3,028	6,257	2,190	2,012	863	1,265	32,593
E.N. Central	3,304	16,816	.	11,326	12,344	17,875	3,561	826	478	66,530
W.N. Central	909	3,616	14,179	.	2,164	1,604	4,251	606	188	27,517
S. Atlantic	9,452	35,889	20,382	6,237	.	18,810	8,073	1,641	2,515	102,999
E.S. Central	656	4,359	3,744	1,027	4,011	.	2,526	89	317	16,729
W.S. Central	1,799	6,338	4,393	3,097	4,389	4,982	.	938	553	26,489
Mountain	1,315	4,429	6,764	9,847	2,018	1,409	6,675	.	2,184	34,641
Pacific	9,084	25,248	35,623	29,987	10,964	8,315	20,259	14,372	.	153,852
Total: Net Mig. of In-born	35,892	111,366	97,416	67,104	45,945	56,985	48,881	19,899	8,556	492,044

Source: Primary migration minus return migration in the opposite direction (i.e., the lines of Table B-4 minus the columns of Table B-6) plus secondary in-migration (Table B-10) minus secondary out-migration (Table B-12).

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