

SOME OBSERVATIONS ON MIGRATION AND ECONOMIC OPPORTUNITY

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In 1951, Simon Kuznets and I planned a series of estimates of population redistribution and of indicators of economic growth in the United States for the period 1870-1950, with the state as the spatial unit and the decade or multiples of decades as the temporal units. And, in 1957, our collaborators, Lee, Miller, Brainerd, and Easterlin published series of reference tables, based mainly on estimates and refinements of census data, accompanied with detailed discussions of the procedures by which these estimates were brought into reasonable conformity with our conceptual framework.¹

We conceived of economic growth and population redistribution as linked by a continuous chain of interdependent variables. On the one hand, the growth of population that accompanies economic growth might in itself stimulate migration from more densely to more thinly settled areas and, to the extent that the movement resulted in discovery and opening up of natural resources valuable to the settled area would provide an attraction to further migration. More important, in recent times, would be the effect of differential technological progress upon the distribution of economic opportunities through structural changes involved in industrialization and urbanization, which have proceeded so rapidly and so specifically that the vital processes of birth and death could play but a minor role in adjusting the distribution of population to economic opportunities in different parts of the country. In consequence, migration was conceived as the main mechanism by which adjustment to differential economic opportunities could be maximized. On the other hand, if migration were insufficient or proceeded at too slow a pace from areas of lesser toward those of greater economic opportunities, differential population growth might prove to be an impediment to economic growth. From this standpoint, also, migration becomes the main mechanism of adjustment in offsetting economic disparities.²

The present paper collates two of our series, as a first approximation to an approach that we hope to develop in detail in later publications. Easterlin's estimates³ of service income per worker, along with Leven's and Department of Commerce estimates are taken as indicators of the level of economic opportunity in each state as of three dates, namely 1900, 1920, and 1950, and from these estimates its position relative to every other state was determined crudely in six categories: positive differentials of 20 percent or more, 10-19 percent, and less than 10 percent; negative differentials of less than 10 percent, 10-19 percent, 20 percent or more.

Massachusetts, for example, had an average service income per worker (in 1929 prices) of \$1162 in 1900; Kentucky, an average of \$608; Minnesota, of \$983; Nebraska, of \$1076; Washington,

of \$1236; California, of \$1361; and Montana, of \$1630. Massachusetts was, therefore, classified as having a positive income differential of 20 percent or more in relation to Kentucky, of 10-19 percent in relation to Minnesota; of less than 10 percent in relation to Nebraska; and negative differentials of less than 10 percent, 10-19 percent, and 20 percent or more in relation to Washington, California, and Montana, respectively. A similar procedure was used for classifying the income differential of every state in relation to every other state in 1900; and again, for the two succeeding dates, 1920 and 1950.

The only migration series that could be utilized historically to determine migration streams, that is, the movement from specific states of origin to specific states of destination is that derived from data on state of birth of the residents of each state. Series for native whites and for native nonwhites, assembled by Lee from census sources,⁴ were therefore utilized as follows:

The change in the number of persons born in each state was computed for residents of each state from 1880 to 1900, from 1900 to 1920, and from 1920 to 1950. For the states cited above, in respect to Massachusetts, for example, the following computation was made for native whites living in Massachusetts in 1880 and 1900:

Born in:	Living in Massachusetts		
	1880	1900	Change 1800 to 1900
Kentucky	465	884	419
Minnesota	309	1474	1165
Nebraska	57	494	437
Washington	11	161	150
California	742	1810	1068
Montana	5	139	134

When, as in the above example, positive migration balances emerged,⁵ they were allocated to the appropriate income-differential class, that is 419 to the category in which the destination income was 20 or more percent higher than that of the origin 1165 to the category in which the destination income was between 10 and 19 percent higher than that of the origin, 437 to the category in which the destination income was less than 10 percent greater than that of the origin; and 150, 1068, and 134 to the appropriate negative income-differential categories.

Summation of positive migration balances for every state by color of migrants and contiguity of states yielded the following distribution in terms of thousands of migrants:

	1880-1900	1900-1920	1920-1950
NATIVE WHITES			
All states	4,264	6,927	11,046
Contiguous states	2,113	3,207	4,788
Noncontiguous states	2,151	3,720	9,257
NATIVE NONWHITES			
All states		859	2,533
Contiguous states		340	456
Noncontiguous states		518	2,077

In Table I are shown the percentage distributions in income-differential classes of these migrations, by color of migrants and contiguity of states, for three time intervals for native whites and two⁶ for native nonwhites; and these categories are graphed on the accompanying chart.

The chart shows clearly that the cumulative migration of native whites has, in general, proceeded from states of lower to states of higher average service income per worker, with such "economically-oriented" migration accounting for roughly 60-70 percent of the total. An upward trend from the late decades of the nineteenth century to the more recent period is apparent, the values for the three periods being, respectively, 58 percent, 64 percent, and 69 percent. For each period there is an observable tendency for longer-distance migrations (between noncontiguous states) to be more economically-oriented than for those from shorter distances (between contiguous states), with however a downward trend in the margin between the two. Thus the economically-oriented migrations between noncontiguous states exceeded those between contiguous states by 16.7 percentage points in the first period, but only by 5.7 percentage points in the second period, and 5.6 percentage points in the last period. The chart shows equally clearly that the proportions of economically-oriented migrations among native nonwhites greatly and significantly exceeded those among native whites for both time periods for which computations are available, amounting to no less than 90 percent in 1900-1920, contrasted with 64 percent for whites; and 94 percent in 1920-1950, again contrasted with 69 percent for whites. For nonwhites, as for whites, there is an increase over time and a distance differential, favoring the noncontiguous states.

In view of the fact that we are dealing with average state incomes and with aggregate measures of migration, the strength of the observed relationship is impressive. To test its persistence, a crude sort of variance analysis is carried through by successive subtractions of migration streams between specific origins and destinations where forces other than service-income differentials are known, or believed to have been important determinants of internal migration.

Examining first the specific income-differential classes for native whites in the first period, it will be noted that although for "all states" each positive income-differential class exceeds the corresponding negative class, there is a surprising piling up of migration to states with a markedly unfavorable differential, that is -20 or more, and that, for contiguous states, this negative class is appreciably larger than the

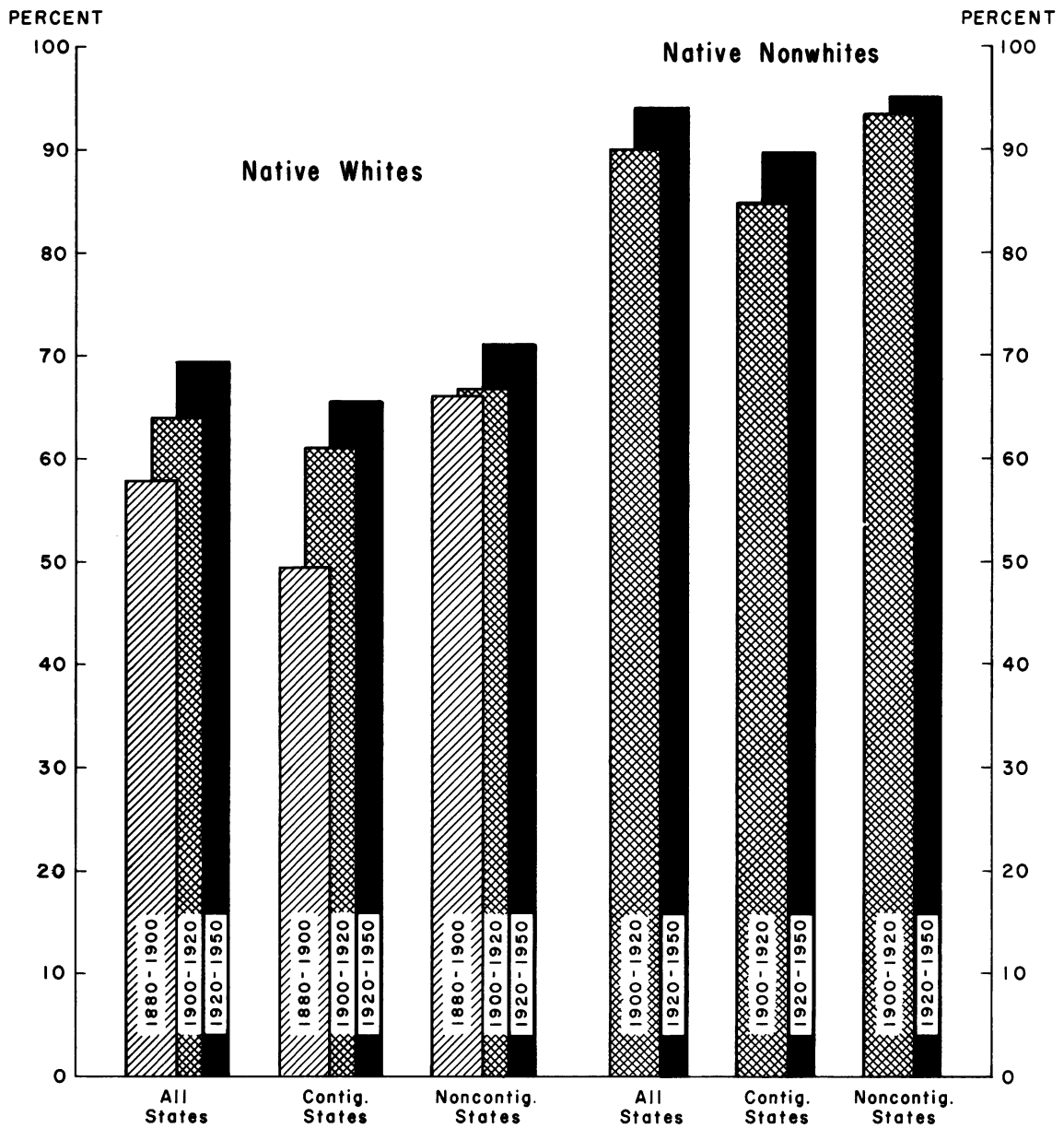
corresponding positive class. That this distortion was caused largely by migration to newly opened states, is suggested by the second line in the 1880-1900 panel where migration gains of Oklahoma, the Dakotas, and Arkansas are excluded. The "opportunities" sought by migrants to these states were at this time probably represented less by the level of current state service income per worker than by anticipations of higher income in the course of the state's economic development that followed the exploitation of new resources.

By the turn of the century, apparently "non-economic" migration to new lands had played out, and other distorting factors were operating. Among these has been movement to Florida of persons attracted by other than purely economic conditions, at least to the extent that these are measured by service income-per-worker differentials. Among these also is the expansion of metropolitan areas across boundaries into states having lower levels of service income per worker, with the result that migrants may not be allocated properly to the state where they actually receive their income. This misallocation has been especially important in recent years in connection with Maryland and Virginia migrants, many of whom work in the District of Columbia;⁷ and it is probably also a factor in the migration of the New York born to New Jersey and Connecticut. To remove the distortion caused by primarily climatic and suburban migration, migration to Florida, Maryland and Virginia from all states and the net migration to New Jersey and Connecticut of the New York born was subtracted from corresponding totals and percentage distributions recomputed, as shown in the second lines on the panels for 1900-1920 and 1920-1950. These exclusions tend to raise the proportions of "economically-oriented" migrations, in general, and among noncontiguous states, but, contrary to expectation, have little or no effect on the birthplace-residence movement among contiguous units. The net effect of the exclusion of migration to the new-resource states during the first period was to increase the proportion of economically-oriented migration to all other states by 5 percentage points on the average, 4 for contiguous and 6 for noncontiguous states. During the second period, the exclusion of essentially suburban migration, along with that to Florida, had an average effect only about half as great, that is, by about 2 percentage points for contiguous and 3 for noncontiguous states; and in the last period these exclusions had no observable effect on economically-oriented migration to contiguous states after the adjustment was made, but a very marked effect on migration to noncontiguous states where a seven-point increase in economically-oriented migration raised the overall proportion to 78 percent.

The question now arises as to possible biases in the opposite direction with especial reference to the dominant position of California which, unlike Florida, ranked very high in the service-income-per-worker series at all three periods,⁸ but like Florida undoubtedly attracted migrants for climatic and other hedonistic

MIGRATION GAINS OF STATES WITH HIGHER SERVICE INCOME PER WORKER THAN STATES OF BIRTH OF RESIDENTS

as Percentage of Total Interstate Birth-Residence Gains by Contiguity and Color
 United States: 1880-1900, 1900-1920, 1920-1950



reasons. In fact, California's share in all interstate migration gains⁹ of native whites rose spectacularly during the period under consideration from less than 5% in 1880-1900, to 13% in 1900-1920, to 26% in 1920-1950; and in gains among noncontiguous states from 8% at the earliest period to 23% in the middle years to 38% during the last three decades. Without implying that the extensive movement to this state is predominantly noneconomically determined, it seems appropriate to evaluate migration among other states when this dominant influence is removed. The resulting calculation, shown in the third line of each panel has no appreciable effect in the first period but reduces the proportions of economically oriented migration by 4 percentage points in the second and by about 9 in the last period. Correspondingly, economically-oriented migration among noncontiguous states was reduced by 8 percentage points in 1900-1920 and by 14 in 1920-1950. All vestiges of a distance differential disappeared, and the slope of the upward trend during the twentieth century was greatly diminished.

Adjustments of the nonwhite series for migration gains of California as well as of Florida, Maryland, and Virginia are shown, on the second page of Table I, to be comparatively small and to have no marked effect upon either the level or the trend or the distance differential in the very high overall proportions of economically-oriented migration.

Implicit in the preceding discussion is the assumption that state-of-birth data adequately represent streams of migration from specific origins to specific destinations during specified periods of time. To the extent that interstate migration has proceeded in stages rather than directly from state of birth at the initial to state of residence at the terminal year of each time interval, this assumption is patently untenable. It is hoped, however, that further light will be thrown on this process by analyses that are now under way of net intercensal interstate gains and losses in comparison with the present series.

Footnotes

1. Everett S. Lee, Ann Ratner Miller, Carol P. Brainerd and Richard A. Easterlin. Population Redistribution and Economic Growth, 1870-1950. Volume I. Methodological Considerations and Reference Tables, (directed by Simon Kuznets and Dorothy S. Thomas) American Philosophical Society, Philadelphia, 1957. pp. XIX +759
2. Simon Kuznets and Dorothy S. Thomas. "Internal migration and Economic Growth" in Proceedings of the 1957 Annual Conference of the Milbank Memorial Fund, New York, 1958. Pt.III. pp 196-211.

Dorothy Swaine Thomas. "Age and Economic Differentials in Interstate Migration" Population Index, Princeton, October, 1958. pp. 313-325
3. Easterlin's series on "Service income per Worker" are shown, in current prices, on p. 754 of the work cited in Footnote 1. They have since been expressed in terms of constant (1929) prices for use in the forthcoming Volume II of Population Redistribution and Economic Growth, and the figures quoted in the present paper are from the "constant prices" series. His definition of service income is "the sum of wages and salaries (excluding employee contributions to social insurance and 'other labor income' such as cash sickness compensation, etc.) and proprietors' income with imputed rents of farm dwellings included in the agricultural component of service income." Ibid p. 703
4. Everett S. Lee, State of Birth of the Native Population, 1870-1950, three dittographed volumes. University of Pennsylvania, Philadelphia, 1953, pp 687
5. Negative balances are not susceptible to analysis of migration streams, inasmuch as the destination of the migrants cannot be determined.
6. Because of small numbers and questionable reliability of the data, computations were not carried through for nonwhites for 1880-1900.
7. Easterlin, op. cit., omitted the District of Columbia from his state-income estimates. The present paper, therefore, excludes D.C. from all calculations.
8. Easterlin's concept of service income conforms to an "income originating" rather than an "income received" basis.
9. California ranked 4th from the top among the states on service income per worker in 1900; 3rd in 1920; and 4th in 1950, whereas Florida ranked 8th from the bottom in the first subperiod; 6th from the bottom in the second; 10th from the bottom in the last subperiod.

