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*Descriptive Finding*

### **The ‘New Great Migration’ of Blacks to the U.S. South: Estimating duration of residence in the absence of retrospective information**

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## Table of Contents

1	Introduction	886
2	Approach	888
2.1	Methods	888
2.2	Data	891
3	Results	892
4	Discussion	895
5	Acknowledgements	896
	References	897

## **The ‘New Great Migration’ of Blacks to the U.S. South: Estimating duration of residence in the absence of retrospective information**

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### **Abstract**

#### **BACKGROUND**

Prior research on the ‘New Great Migration’ of Blacks to the U.S. South from other U.S. regions has neglected the issue of how long Black migrants have lived or can be expected to live in the South. This is a critical omission because duration of residence is an important precondition for and an indicator of migrants’ integration in receiving areas. Unfortunately, data limitations prevent estimating Black migrants’ duration of residence in the South in the usual way, using information from retrospective questions and life histories.

#### **OBJECTIVE**

Taking an unconventional but familiar approach, this study develops the first estimates of Black migrants’ expected duration of residence in the South to shed light on the temporal characteristics of the New Great Migration.

#### **METHODS**

Microdata from four U.S. censuses and an adaptation to the accounting procedures in multiregional life tables are used to estimate Black migrants’ expected duration of residence in the South between 1965 and 2000 for four birth cohorts (those born in 1920, 1930, 1940, and 1950), with uncertainty. We further disaggregate our results by place of birth (South versus non-South).

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## **RESULTS**

Black migrants could expect to live about half of their remaining life between 1965 and 2000 in the South, with variation across cohorts and by place of birth.

## **CONCLUSIONS**

This study provides a needed point of reference for research on the New Great Migration of Blacks to the South, and shows how analyses of the age and origin-destination structure of migration flows can reveal their implied temporal dynamics.

## **1. Introduction**

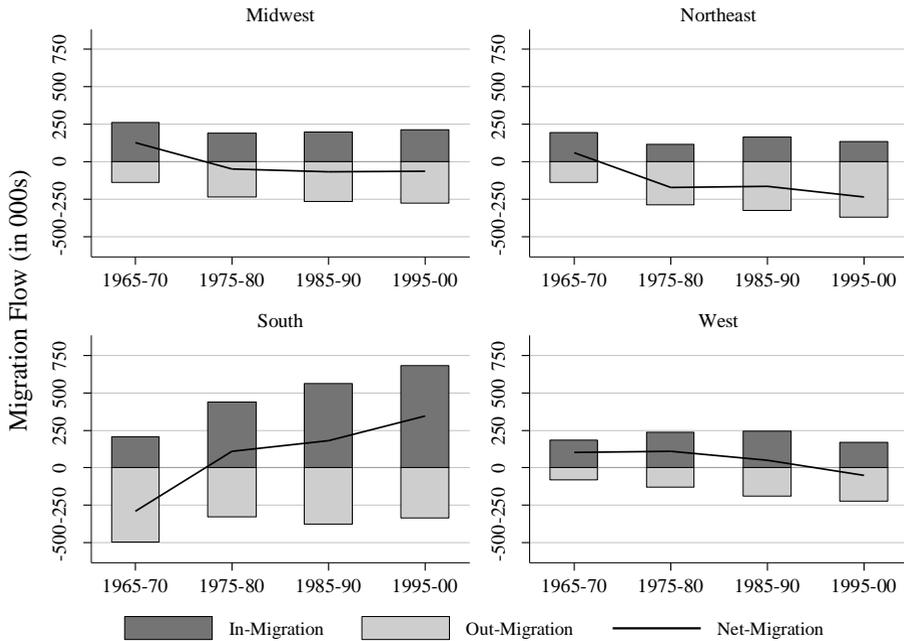
The ‘New Great Migration’ (hereafter, NGM) refers to a Black net-migration reversal in the U.S. South from negative to positive in the closing decades of the 20th century (Frey 2004:1), the first such reversal on record since the ‘Great Migration’ of Blacks out of the region in the early and middle parts of the century (Tolnay 2003:210). To date, while scholars have considered the causes and consequences of the NGM, as well as examined the characteristics of Blacks who migrated to the South (Adelman, Morett, and Tolnay 2000; Campbell, Johnson, and Stangler 1974; Cromartie and Stack 1989; Curtis 2011; Falk, Hunt, and Hunt 2004; Hunt, Hunt, and Falk 2013; Long and Hansen 1997; McHugh 1987; Robinson 1990; Stack 1996; Vigdor 2006), virtually no research exists on how long Black migrants have lived or can be expected to live in the region. This is a critical omission because duration of residence is an important precondition for and an indicator of migrants’ integration in receiving areas (Huddleston et al. 2011) and is a key factor in their subsequent migration patterns (Morrison 1967), which potentially includes future migration out of the South.

Data limitations prevent estimating Black migrants’ duration of residence in the South in the usual way, using information from retrospective questions and life histories. Most candidate longitudinal surveys (e.g., the National Longitudinal Study of Youth, the Survey of Income and Program Participation, the Integrated Public Use Microdata Series’ Current Population Survey) begin too late to observe the onset of the NGM, which, as we show in Figure 1, began sometime in the 1970s (Frey 2004, 2001). And, among surveys that begin earlier (e.g., the Panel Study of Income Dynamics), inadequate sample sizes raise questions about the potential for “estimation errors and the generally high volatility observed in the time series” (Nowok, Kupiszewska, and Poulain 2006:212).

These issues warrant alternative approaches to estimating Black migrants’ duration of residence in the South during the NGM in the absence of retrospective information. In the current paper we detail one such approach that, following DeWaard (2013), uses

an adaptation to the accounting in multiregional life tables (see Rogers 1975, 1995) to generate variants of conditional expectations of life, or what we call in this paper, 'Black migrants' expected duration of residence in the South'. While our work provides a template for estimating these quantities for the South as a whole, our approach can be extended in future research to do so for finer-scale geographies (states, counties, etc.) and other groups (Whites; by sex or education, etc.) in the South. These quantities can subsequently be incorporated into explanatory models to examine the implications of Black migrants' extended temporal presence in the South for related outcomes (socioeconomic returns to migration, residential integration, inter-group relations, etc.).

**Figure 1: Black in-, out-, and net-migration flows (counts in 000s) by U.S. region: 1965–1970 to 1995–2000**



Source: Data taken from Frey (2004)

## 2. Approach

### 2.1 Methods

Our starting point is to consider the population of non-Southern Black residents at exact age  $x$ . Among the subset of these individuals who will eventually migrate to the South, we calculate the expected number of years lived in the South. Following DeWaard (2013) and adapting standard multiregional life table notation (see Rogers 1975, 1995), we write this quantity as  $e_x^{\sim S, S}$ , where the first superscript ( $\sim S$ ) denotes non-Southern residence at exact age  $x$  and the second superscript ( $S$ ) denotes Southern residence beyond age  $x$ . Formally:

$$e_x^{\sim S, S} = \frac{T_x^{\sim S, S}}{S_{t_x}^{\sim S}} \quad (1)$$

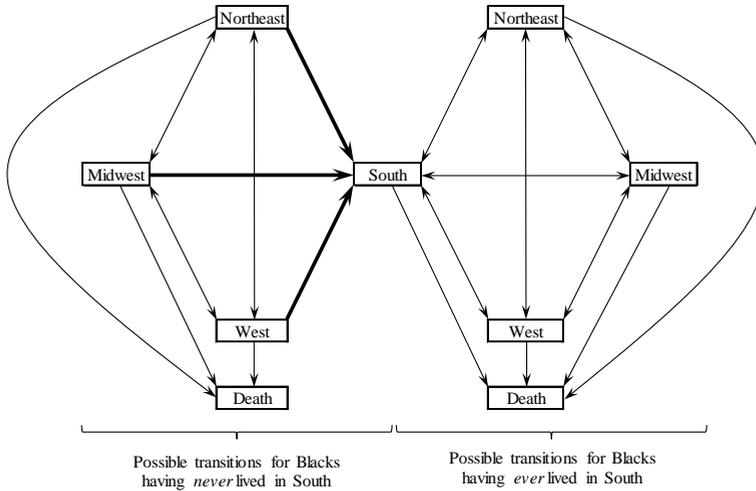
With respect to the numerator in (1), as in standard multiregional life tables, total person-years lived in the South beyond age  $x$  by those living in the non-South at exact age  $x$  are calculated by, first, averaging person-years lived in the South at consecutive ages, followed by summing these quantities across all age intervals. With respect to the denominator in (1), calculating the subset of Black persons living in the non-South at exact age  $x$  who migrate to the South beyond age  $x$  requires modifying the accounting procedures in standard multiregional life tables in order to distinguish, and thereby count, Black migrants from the non-South to the South.<sup>4</sup> As we show in Figure 2 for a single age interval, we distinguish in our accounting procedures between Blacks who have never lived in the South and Blacks who have ever lived in the region in the left- and right-hand sides of the transition diagram, respectively.

In Figure 2, as Blacks living in the non-South – i.e., the Midwest ( $M$ ), Northeast ( $N$ ), and West ( $W$ ) on the left-hand side of the transition diagram – migrate to the South (denoted by bolded transition arrows in Figure 2), they are separately tracked in a parallel system of region-to-region migration flows and death on the right-hand side of the transition diagram. The denominator in (1) is then calculated by adding up the number of persons on the right-hand side of the transition diagram living in the South, Midwest, Northeast, and West, as well as those who have died ( $D$ ), at the closing age in the life table.

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<sup>4</sup> Absent this adjustment to the denominator, the quantity in (1) would express non-Southern Blacks' expected duration or residence in the South, regardless of whether they migrated to the region.

**Figure 2: Age-specific transition diagram of region-to-region migration and death**



Like in conventional multiregional life tables, the underlying process can be written as:

$$\mathbf{l}(x + n) = \mathbf{l}(x)\mathbf{P}(x) \quad (2)$$

where  $\mathbf{l}(x)$  and  $\mathbf{l}(x + n)$  are population row vectors containing counts of Blacks in each region at exact ages  $x$  and  $x+n$ , respectively; these vectors also include elements denoting Blacks who have died by ages  $x$  and  $x+n$ .  $\mathbf{P}(x)$  is a matrix containing age-specific probabilities of region-to-region migration and death between the ages of  $x$  and  $x+n$ .

Unlike in standard multiregional life tables, the components in (2) must be specified to reflect the modified accounting procedures shown earlier in Figure 2. In the age-specific population vectors it is necessary to distinguish between Blacks living in each U.S. region who have migrated to the South from those who have not migrated to the South. We use an asterisk (\*) to denote the former (e.g.,  ${}^*l_x^M$ ). The age-specific

transition matrices likewise reflect the modified accounting procedures shown in Figure 2.<sup>5</sup>

$$\mathbf{I}(\mathbf{x}) = \begin{bmatrix} l_x^D & l_x^W & l_x^N & l_x^M & *l_x^S & *l_x^M & *l_x^N & *l_x^W & *l_x^D \end{bmatrix} \quad (3)$$

To

	<i>D</i>	<i>D</i>	<i>W</i>	<i>N</i>	<i>M</i>	<i>*S</i>	<i>*M</i>	<i>*N</i>	<i>*W</i>	<i>*D</i>	
<i>D</i>	1	0	0	0	0	0	0	...	0	0	
<i>W</i>	$p_x^{W,D}$	$p_x^{W,W}$	$p_x^{W,N}$	$p_x^{W,M}$	$p_x^{W,S}$	0	...	0	0	0	
<i>N</i>	$p_x^{N,D}$	$p_x^{N,W}$	$p_x^{N,N}$	$p_x^{N,M}$	$p_x^{N,S}$	⋮	⋮	⋮	⋮	⋮	
<i>M</i>	$p_x^{M,D}$	$p_x^{M,W}$	$p_x^{M,N}$	$p_x^{M,M}$	$p_x^{M,S}$	0	...	0	0	0	
<i>*S</i>	0	0	...	0	$p_x^{S,S}$	$p_x^{S,M}$	$p_x^{S,N}$	$p_x^{S,W}$	$p_x^{S,D}$	$p_x^{S,D}$	(4)
<i>*M</i>	0	0	...	⋮	$p_x^{M,S}$	$p_x^{M,M}$	$p_x^{M,N}$	$p_x^{M,W}$	$p_x^{M,D}$	$p_x^{M,D}$	
<i>*N</i>	⋮	⋮	⋮	0	$p_x^{N,S}$	$p_x^{N,M}$	$p_x^{N,N}$	$p_x^{N,W}$	$p_x^{N,D}$	$p_x^{N,D}$	
<i>*W</i>	0	0	...	0	$p_x^{W,S}$	$p_x^{W,M}$	$p_x^{W,N}$	$p_x^{W,W}$	$p_x^{W,D}$	$p_x^{W,D}$	
<i>*D</i>	0	0	...	0	0	0	0	0	0	1	

A well-known assumption of the model in (2) is that the dynamics follow a first-order Markov process (Rogers 1975, 1995), meaning that all age-specific transitions are governed by the transition probabilities shown in (4) and are not informed by transitions at earlier ages. This assumption, sometimes referred to as history-independence, is potentially problematic in our case because previous research documents the importance of being born in the South in decisions to migrate to the region (Cromartie and Stack 1996; Falk, Hunt, and Hunt 2004; Hunt, Hunt, and Falk 2013; Stack 1996;

<sup>5</sup> Clearly, there are many ways to order these elements. Our rationale for the ordering used in (3) and (4) is as follows: First, given the focus of this paper, we put the South at the center. Second, flows from/to death are confined to the exterior. Finally, the remaining regions (Midwest, Northeast, and West) are organized alphabetically.

Tolnay 2003). Accordingly, following Rogers' (1995) suggestion, after estimating the quantities in (1) for Black migrants to the South as a whole, we do so separately for Black migrants to the South who were born in and outside of the region using probability matrices in (4) further cross-classified by region (South versus non-South) of birth.

## **2.2 Data**

Given the data limitations discussed in Section 1, we use microdata from four decennial censuses provided by the Integrated Public Use Microdata Series USA (IPUMS-USA) Project (see Ruggles et al. 2010) to estimate the quantities in (1) for each of four birth cohorts: Blacks born in 1920, 1930, 1940, and 1950 who were living outside of the South in 1965. The IPUMS data contain information on region of residence at the time of the census and five years prior to each census for five-year age groups. A 1% sample is available for 1970; 5% samples are available for 1980, 1990, and 2000. Following Frey et al. (2004, 2001) and in recognition of the fact that, after the year 2000, the definitions and procedures used by the U.S. Census Bureau to collect information on internal migration within the United States changed substantially in such a way that comparisons with previous decades are tenuous at best (Rogers et al. 2003), we restrict the observation window to a 35-year period between 1965 and 2000. Samples are restricted to non-institutionalized persons who were born in the United States and who, per the documentation provided by the IPUMS-USA, are listed as "black/negro". After selecting on these criteria, our starting unweighted sample sizes range from 197,445 persons in 1970 to 1,381,692 persons in 2000. Person weights provided by the IPUMS-USA are applied to all analyses. Data on age-specific mortality are taken from U.S. life tables provided by the Centers for Disease Control and Prevention for the Black population in each census period.

Our estimates of Black migrants' expected duration of residence in the South are accompanied by a corresponding standard error to reflect sampling variability, calculated using the following procedure. First, for each age-specific region-to-region migration flow in each census period we estimate a transition probability and a corresponding standard error. Second, using this information, we take a random draw from an underlying normal distribution. We then assemble these randomly drawn probabilities for each age-specific region-to-region migration flow and calculate Black migrants' expected duration of residence in the South for each of the four cohorts noted above. Finally, we repeat the above steps 100 times. In so doing we effectively simulate 100 different cohort migration histories from 100 realizations of age-specific region-to-region migration probabilities to generate distributions (versus point estimates) of Black

migrants' expected duration of residence in the South so as to take into account sampling variability in our data.

### 3. Results

In Table 1 we display estimates of Black migrants' expected duration of residence in the South. To interpret, Blacks born in 1950 and living in the non-South in 1965 who migrated to the South between the ages of 15 (in 1965) and 50 (in 2000) could expect to live an average of 15.52 years, or 46.46% of their lives between 1965 and 2000, in the South. By contrast, Blacks born in 1920 and living outside of the South in 1965 could expect to live an average of 14.24 years in the South during this period.

**Table 1: Cohort estimates of non-Southern Black migrants' expected duration of residence in the South, 1965–2000**

Cohort	Expected years lived in South	Percentage of remaining years lived in South
1950	15.52 (0.01)	46.46 (0.03)
1940	17.06 (0.01)	53.20 (0.04)
1930	15.67 (0.02)	53.45 (0.06)
1920	14.24 (0.02)	57.65 (0.07)

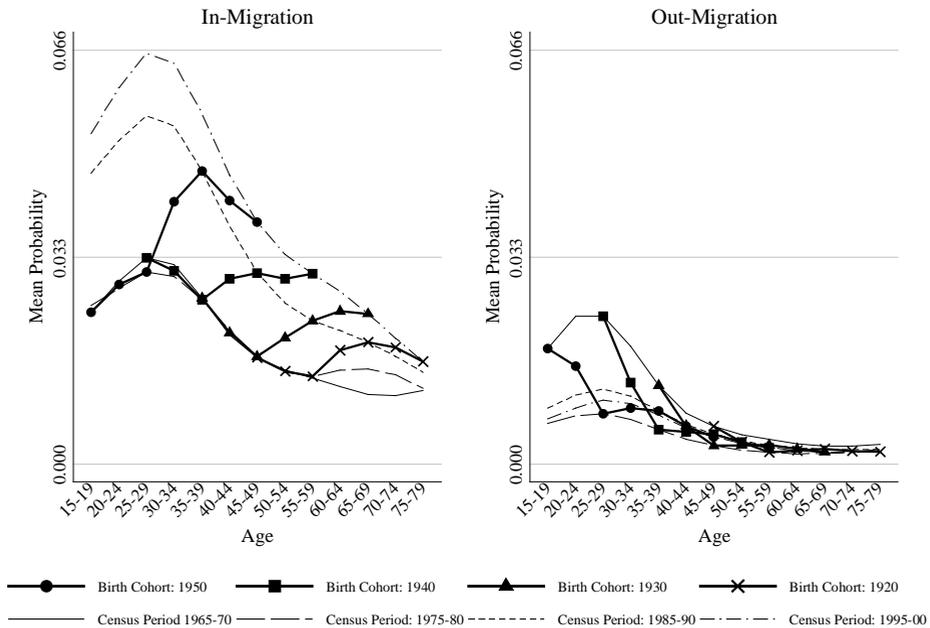
*Notes:* Standard errors in parentheses summarize uncertainty due to sampling variability.

*Source:* Authors' calculations using data from IPUMS-USA 1970, 1980, 1990, 2000

Black migrants born in 1940 could expect to live the most time (17.06 years) in the South between 1965 and 2000. Substantively, this result is consistent with previous research documenting that the NGM was produced, in part, by labor market contractions and expansions in the non-South and South, respectively (Kasarda 1995; Adelman et al. 2000), which had a disproportionate impact on the risks of migration to

the South among Blacks at working ages. In the current paper this is reflected in the age-specific probabilities of region-to-region migration, which underlie our estimates of Black migrants' expected duration of residence in the South. For example, as we show in Figure 3, averaging across each of the three regions in the non-South (i.e., Midwest, Northeast, and West), between 1965 and 1970 the age-specific probability of migration to the South was 0.033 for Blacks born in 1940. The corresponding probabilities for those born in 1950, 1930, and 1920 were 0.024, 0.026, and 0.017, respectively.

**Figure 3: Age patterns of in- and out-migration to/from U.S. South by birth cohort and census period**



Source: Authors' calculations using data from IPUMS-USA 1970, 1980, 1990, 2000

Cohorts vary with respect to the amount of time lived overall between 1965 and 2000 on account of differences in mortality (Yang and Waliji 2010). Accordingly, in Table 1 we also present estimates of the percentage of years lived between 1965 and 2000 that Black migrants could expect to live in the South. These estimates increase across cohorts, as should be anticipated given that members of older cohorts could

expect to live relatively fewer years between 1965 and 2000, relative to members of younger cohorts. For example, although Black migrants born in 1940 could expect to live 17.06 years in the South, they could expect to live slightly more than 32 years between the ages of 25 (in 1965) and 60 (in 2000), resulting in 53.20% of remaining years lived in the South. By contrast, Black migrants born in 1920 could expect to live slightly less than 25 years between the ages of 45 (in 1965) and 80 (in 2000), of which 14.24 years, or 57.65%, of remaining life could be expected to be lived in the South.

In Table 2 we disaggregate our estimates by place of birth, both in an attempt to address the underlying Markov assumption per Rogers' (1995) suggestion of splitting our samples into more homogenous subgroups, discussed earlier in Section 2.1, and, substantively, to account for the fact that the NGM was, to some extent, influenced by prior ties to the South, e.g., being born in the region (Cromartie and Stack 1996; Falk, Hunt, and Hunt 2004; Hunt et al. 2013; Stack 1996; Tolnay 2003).

**Table 2: Cohort estimates of non-Southern Black migrants' expected duration of residence in the South by place of birth, 1965–2000**

Birth cohort	Birthplace: South		Birthplace: Non-South	
	Expected years lived in South	Percentage of remaining years lived in South	Expected years lived in South	Percentage of remaining years lived in South
1950	17.33 (0.01)	51.92 (0.04)	13.00 (0.01)	38.92 (0.03)
1940	18.04 (0.02)	56.27 (0.05)	14.37 (0.02)	44.83 (0.07)
1930	16.36 (0.02)	55.81 (0.07)	13.53 (0.04)	46.18 (0.12)
1920	14.65 (0.02)	59.30 (0.08)	12.93 (0.05)	52.38 (0.19)

Notes: Standard errors in parentheses summarize uncertainty due to sampling variability.

Source: Authors' calculations using data from IPUMS-USA 1970, 1980, 1990, 2000

The results in Table 2 confirm that place of birth matters. Black migrants' expected duration of residence in the South is higher for migrants born within (versus outside of) the region. Differences by birthplace range from 1.72 years and 6.92

percentage points for Black migrants born in 1920 to 4.33 years and 13.00 percentage points for those born in 1950. Despite these differences, as also seen in Table 1, Blacks born in 1940 could expect to live the most time (18.04 years and 14.37 years, respectively) in the South between 1965 and 2000.

#### **4. Discussion**

In this paper we detailed an approach to estimate Black migrants' expected duration of residence in the South during the NGM in the absence of data that would permit doing so in the usual way, using information from retrospective questions and life histories. We found that Black migrants could be expected to live about half of their remaining years between 1965 and 2000 in the South, with differences across cohorts and by region of birth. Persons born in the South could be expected to live slightly more than half of their remaining years between 1965 and 2000 in the South. By contrast, with the exception of Blacks born in 1920, those born outside the South could expect to live slightly less than half of their remaining life in the South.

Like any estimate derived from multiregional life tables, in interpreting these estimates it is important to remember that they are averages and thus potentially mask important variation that could be deciphered if suitable retrospective data were available. They are also based on the assumption of history-independence. With respect to additional limitations, although we accounted for heterogeneity by place of birth, we did not account for other sources of heterogeneity (e.g., by education). It is also important to note that, given the procedure described earlier in Section 2.2, the standard errors that accompany our estimates of Black migrants' expected duration of residence in the South only summarize sampling variability and not, for example, measurement error, etc.

Despite these limitations, our estimates of Black migrants' expected duration of residence in the South are the first of their kind to date, and they can be refined and used in future research to generate new knowledge about the NGM and other migration processes. First, because places in the South are not homogenous with respect to receiving Black migrants during the NGM, Black migrants' expected duration of residence can be calculated for finer-scale geographies (states, counties, etc.) within the region. Second, the summary measures developed in this paper can be calculated for groups other than Blacks, including other race groups (e.g., Whites), by sex, education, etc. Third, these summary measures can be incorporated into explanatory models to examine, for example, the effects of Black migrants' extended temporal presence in the South for related outcomes (socioeconomic returns to migration, residential integration,

inter-group relations, etc.). Ultimately, our approach offers promise for research on the nature and potential impacts of the temporal characteristics of migration flows.

## **5. Acknowledgements**

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