

Estimating Multiple-Race Births for the 2010 Demographic Analysis Estimates

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Overview

- Estimates of the Black alone-or-in-combination population
- Estimating multiple-race births

Estimates of the Black alone-or-in-combination population

- For the 2010 DA, we undertook research to produce an estimate of people who are Black *in combination* with another race (or races).
- Adding estimates of the Black in combination and Black alone populations yields an estimate of the Black alone-or-in-combination population – a *maximum* number for the Black population.

Availability of components for the Black in combination population

Not Available	Available
Births, 1945-1979	Births, 1980-2010
Deaths, 1945-1979	Deaths, 1980-2010
Net International Migration, 1945-1999	Net International Migration, 2000-2010
Medicare-based estimates of the population 65 years and over on April 1, 2010	Armed Forces Overseas on April 1, 2010
Note: Year refers to the year that an event occurred.	

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Cohorts born before April 1, 1980	Cohorts born on or after April 1, 1980
<p style="text-align: center;">Black Not Black</p>	<p style="text-align: center;">Black alone Black in combination Not Black alone or in combination</p>

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Estimating Births

- Data
- Methodology
 - Converting race of the mother and father to multiple-race distribution
 - Assigning race to births
- Results

Birth Data

- Birth registration data collected by the National Center for Health Statistics (NCHS)
- Race data on birth certificates were historically collected as single-race responses
 - The U.S. Standard Certificate of Live Birth was revised in 2003 to allow the reporting of more than one race
 - Multiple-race data are not yet available for all states
- The Census Bureau uses race of the mother and father to assign a race category to each birth

Assigning Race to Each Birth: The Single-Race Approach

- If the race of the mother is the same as the father's race, the birth can be assumed to be the same single-race category of the parents.
- In all other instances, where the race of the mother is not the same as the father's race, the birth may be classified as belonging to two race categories.

Limitations to the Single-Race Approach

- Not all parents who report a single race on a birth certificate would report a single race when responding to the multiple-race question in the census.
- Not all parents of different races would identify the child as multiple race.

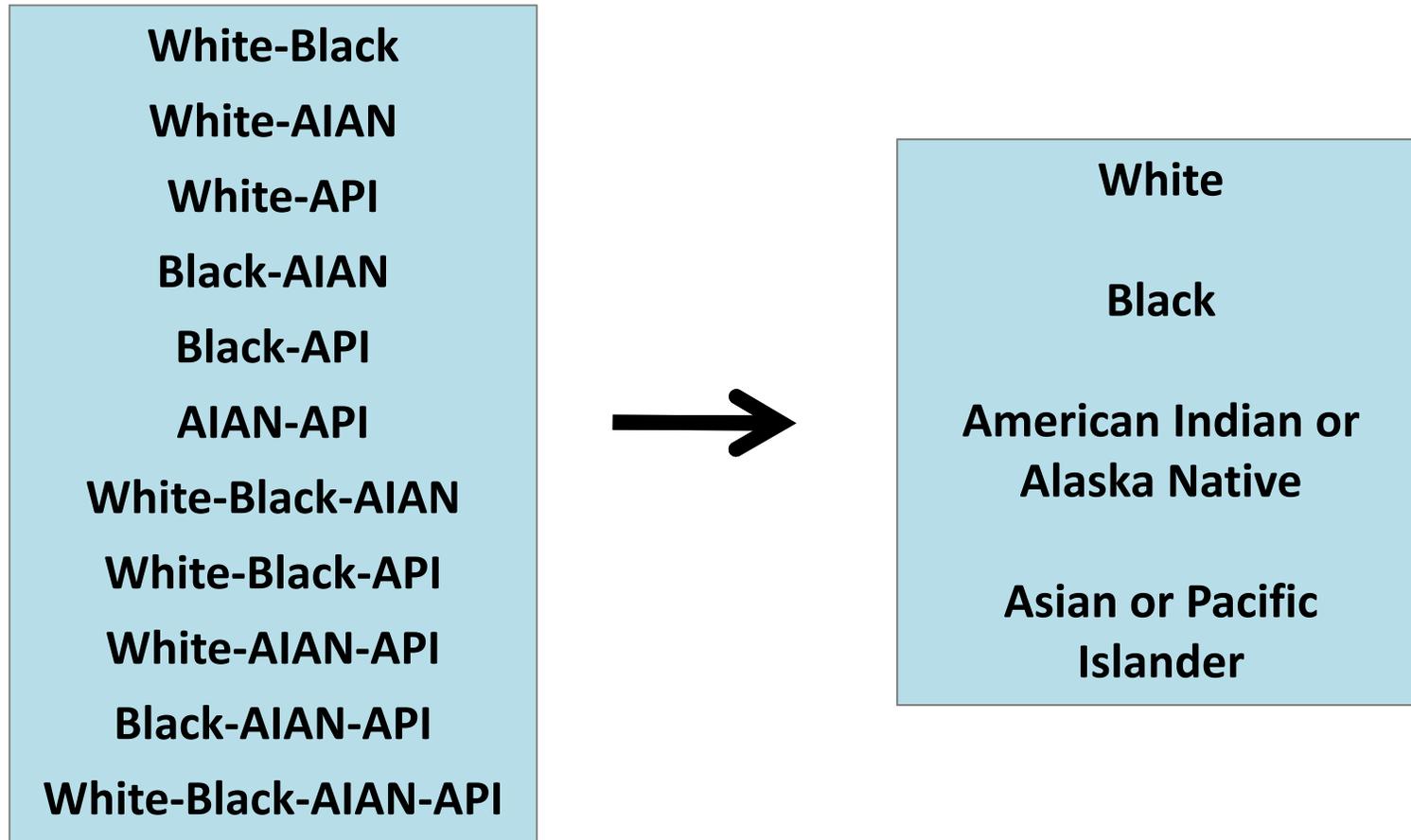
Assigning Race to Each Birth: The Reverse-Bridged Race Approach

- **Bridge** the race distributions
 - Bridging: Convert multiple-race data to single-race categories
 - Reverse Bridging: Convert single-race data to multiple-race categories
- Use reverse bridging to convert the single-race data for parents to multiple-race categories

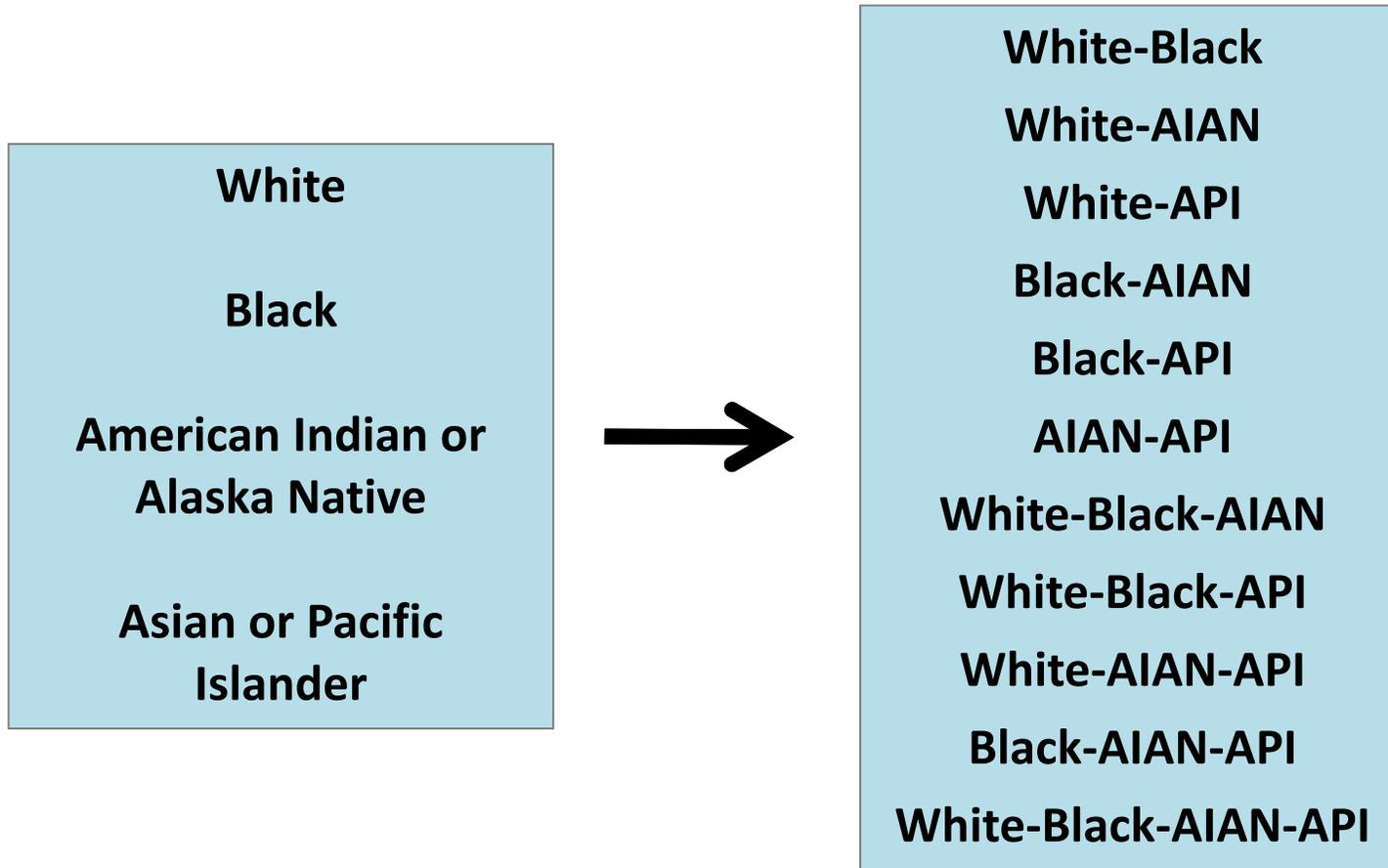
Race Bridging Proportions

- Created by NCHS to convert multiple-race data to a single-race distribution
- Developed using data from pooled 1997-2000 National Health Interview Surveys
- Produced using regression models that included personal and county-level covariates
- Represent the probability of selecting each possible primary race by respondents in the multiple-race groups

Multiple Race → Single Race (Bridged Race Estimates)



Single Race → Multiple Race (Reverse-Bridged Race Estimates)



Producing Reverse-Bridged Race Estimates

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Apply the bridging proportions to the 2000 and 2010 census counts by county, age, sex, and Hispanic origin.

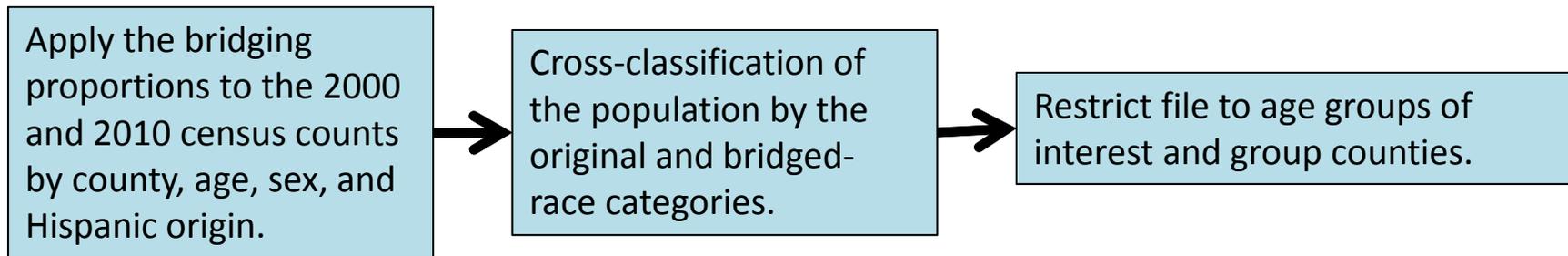
Producing Reverse-Bridged Race Estimates

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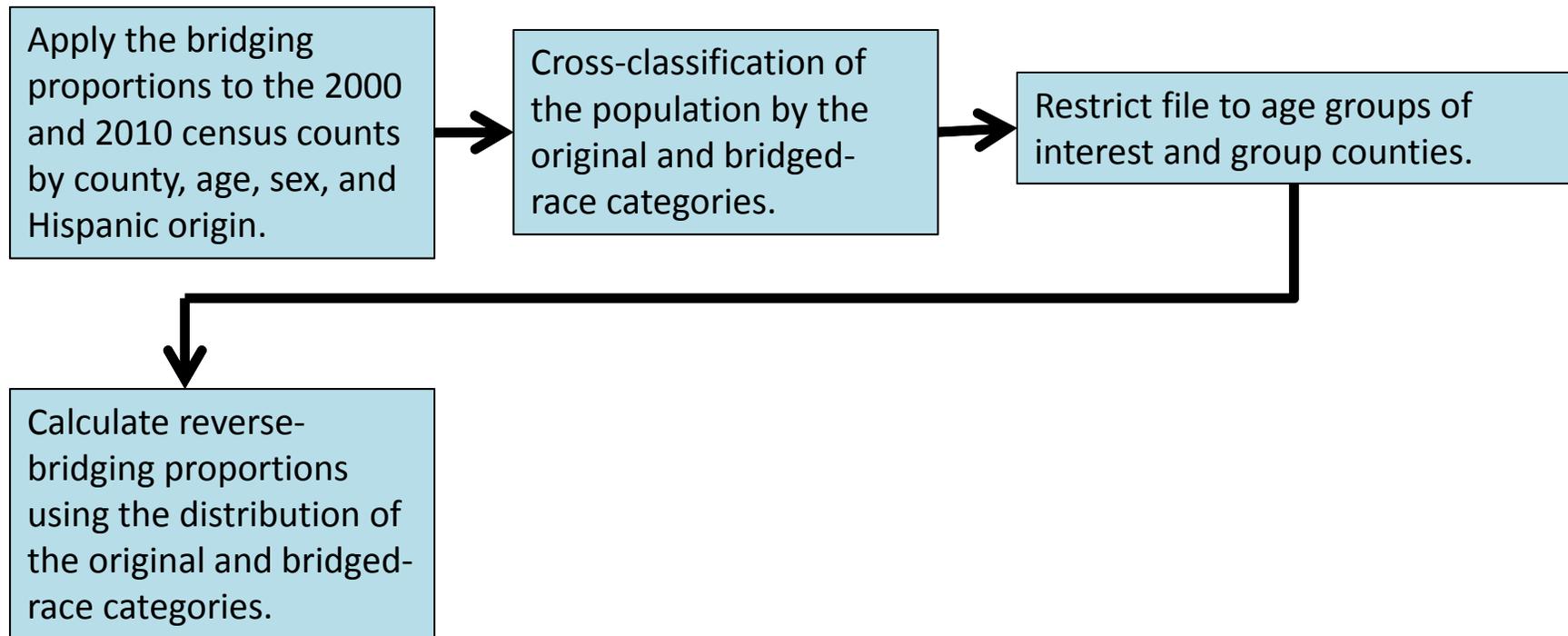


Cross-classification of the population by the original and bridged-race categories.

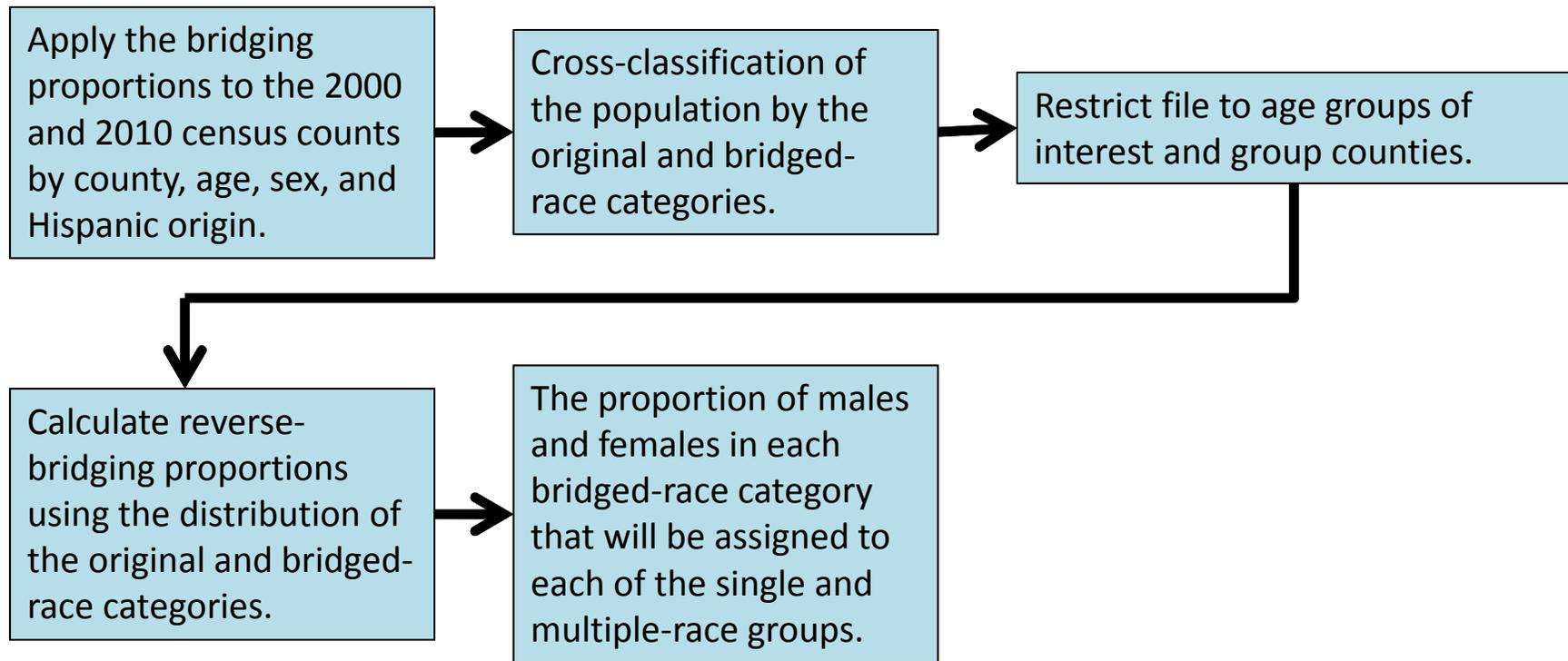
Producing Reverse-Bridged Race Estimates



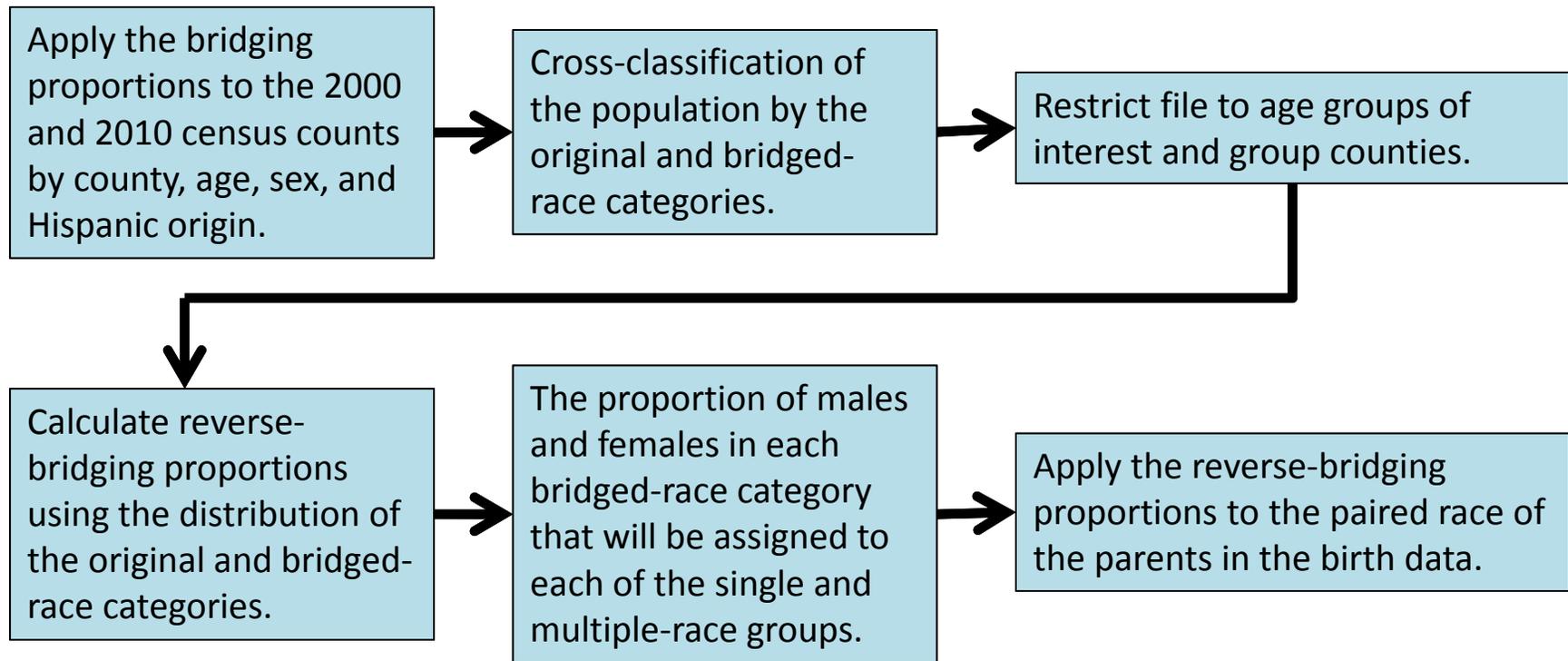
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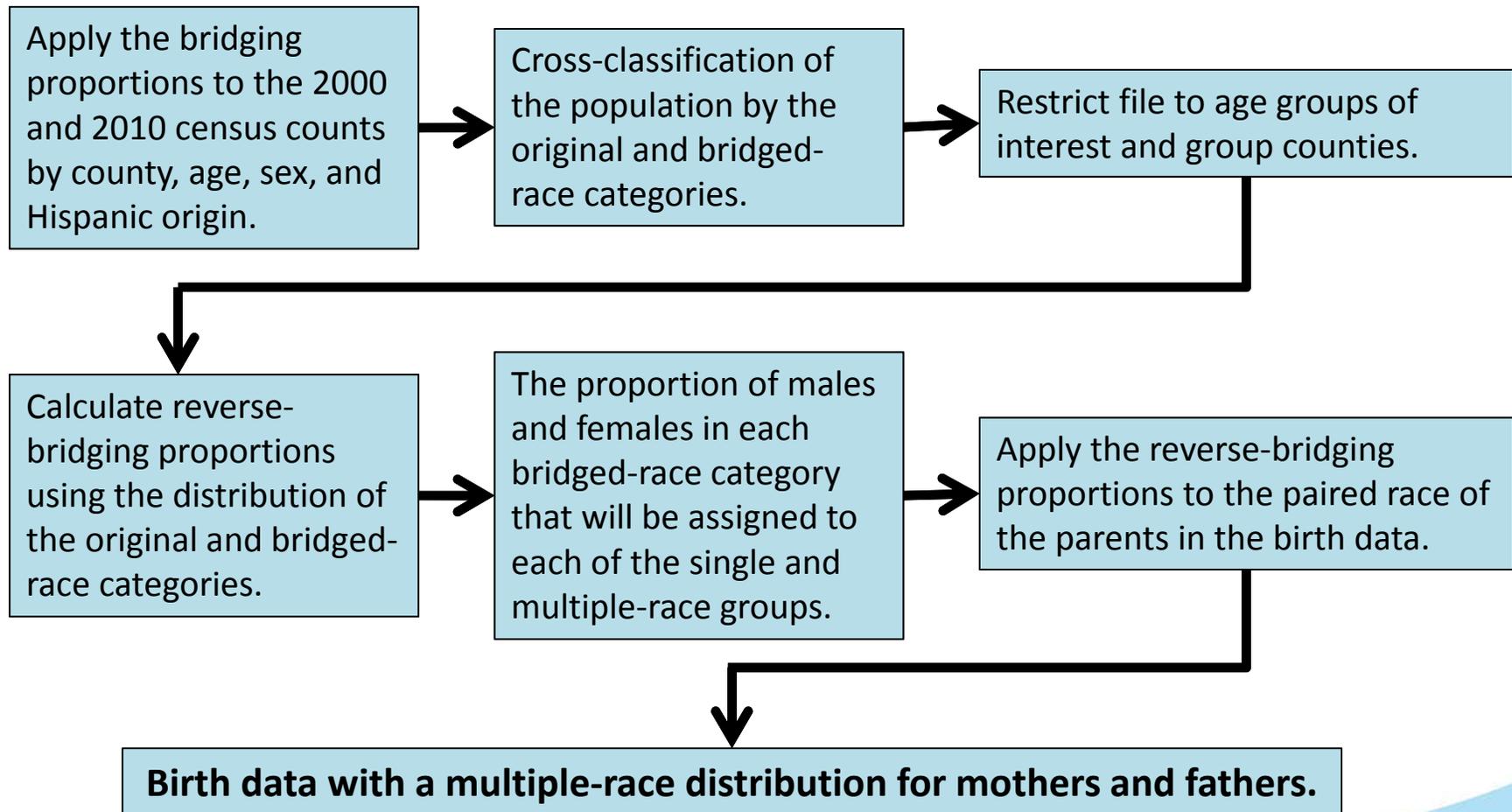
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Producing Reverse-Bridged Race Estimates



Producing Reverse-Bridged Race Estimates



Example of Reverse-Bridging Proportions

Father (Bridged Race = Black)	Mother (Bridged Race = White)	Reverse- Bridging Proportion
Black	White	0.981
Black	White-Black	0.001
Black	White-AIAN	0.002
Black	White-Asian	0.004
White-Black	White	0.004
Black-AIAN	White	0.004
Black-Asian	White	0.001
White-Black-AIAN	White	0.001
All others	All others	0.002

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Assigning Race to Births

- Race is assigned to *each* birth based on distributions of race reporting by parents of children age 0 from the 2000 and 2010 censuses
 - Produce a series of cross-tabulations of the reported race of the child for every race combination of parents.
 - These tabulations are used to produce a series of proportions for the categories defined by every combination of parents' race.
 - Race is assigned to births by multiplying the births by the proportions for that parental race combination.

Results

- Births by year of birth: 1980-2010
 - Black alone
 - Black in combination with other races
 - Black alone + Black in combination with other races

Figure 1. Births classified as Black alone by year of birth: 1980-2010.
(In thousands)

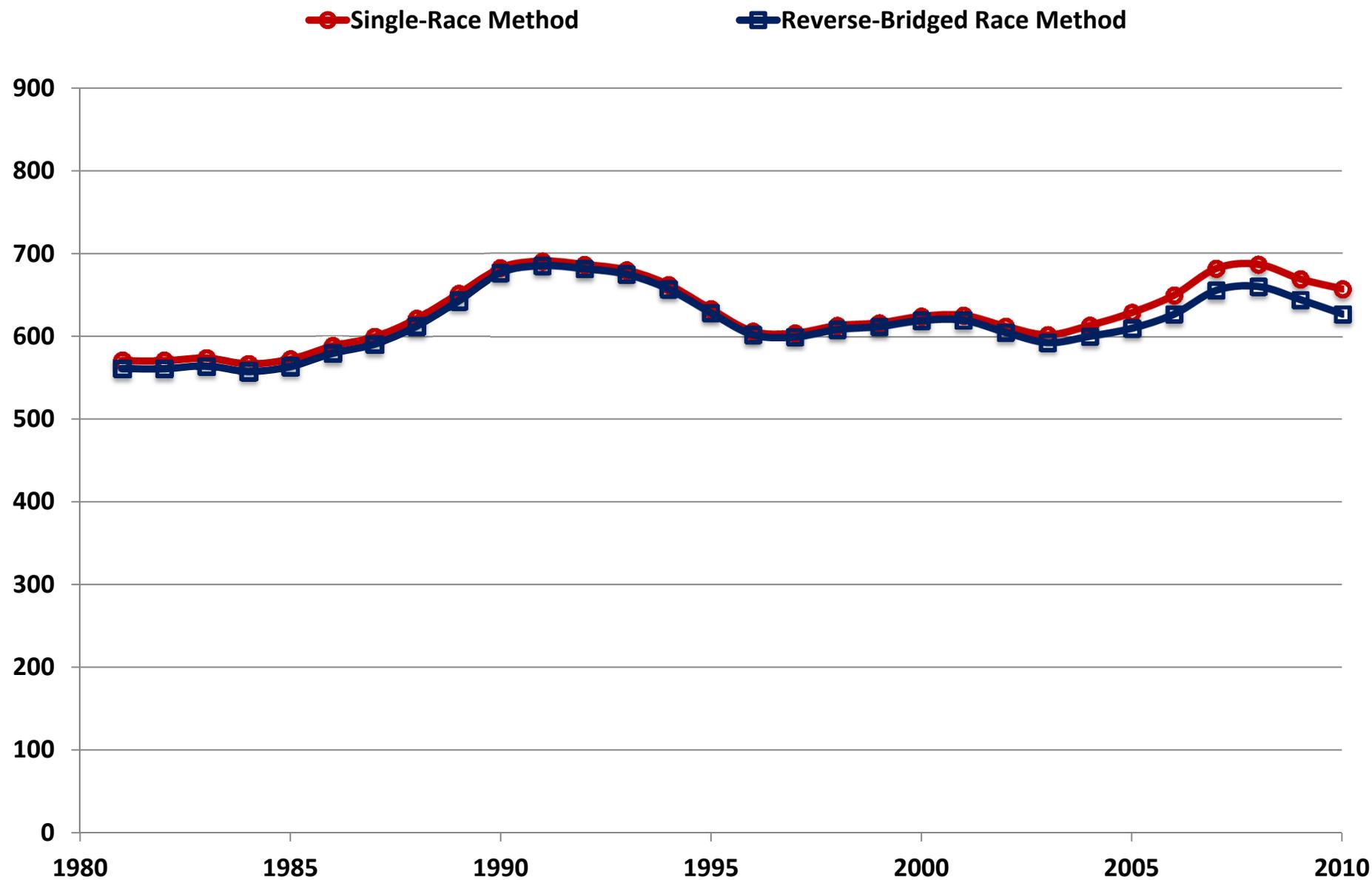


Figure 2. Births classified as Black in combination by year of birth: 1980-2010.
(In thousands)

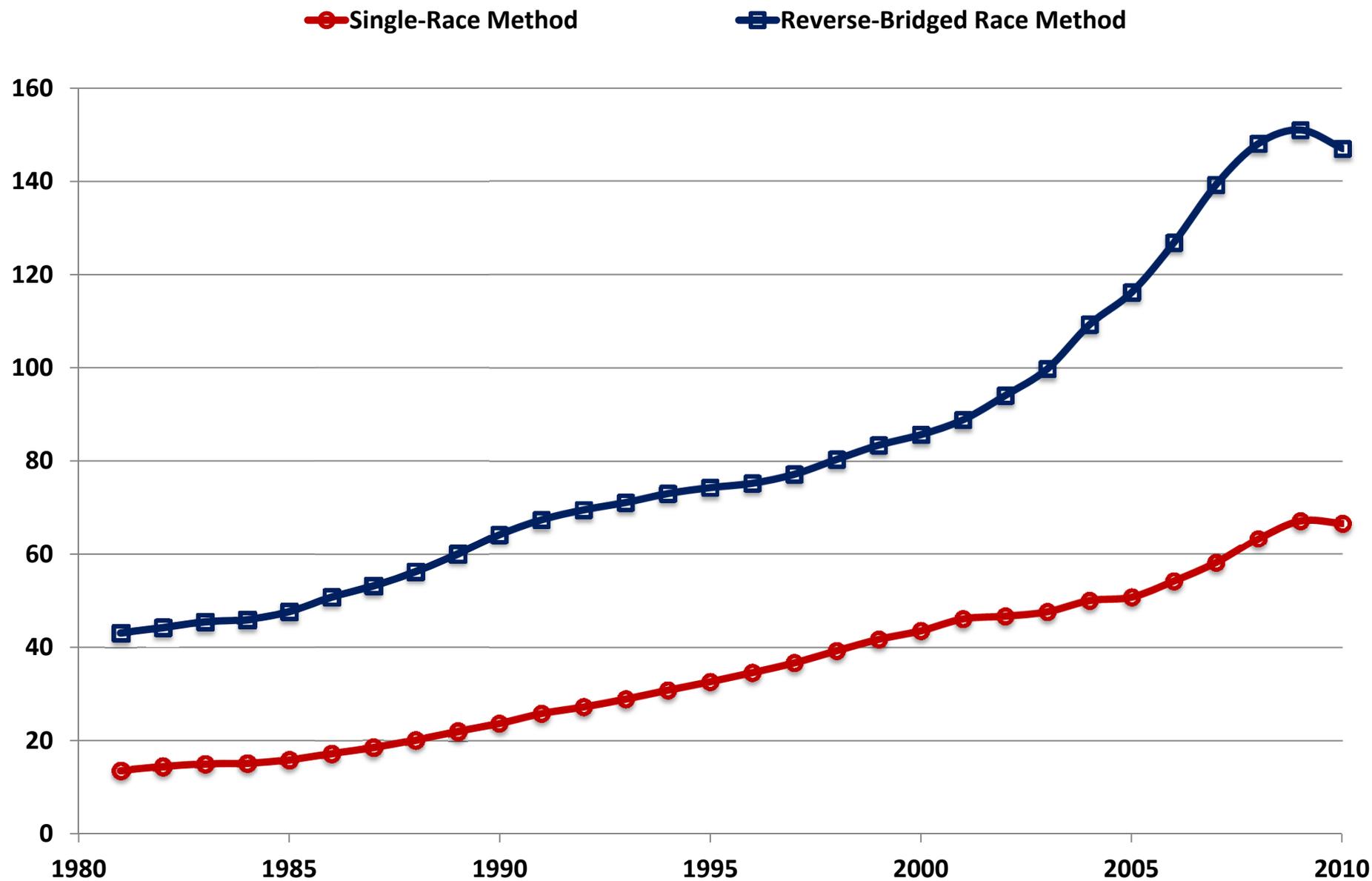


Figure 3. Births classified as Black alone or Black in combination by year of birth: 1980-2010.
(In thousands)

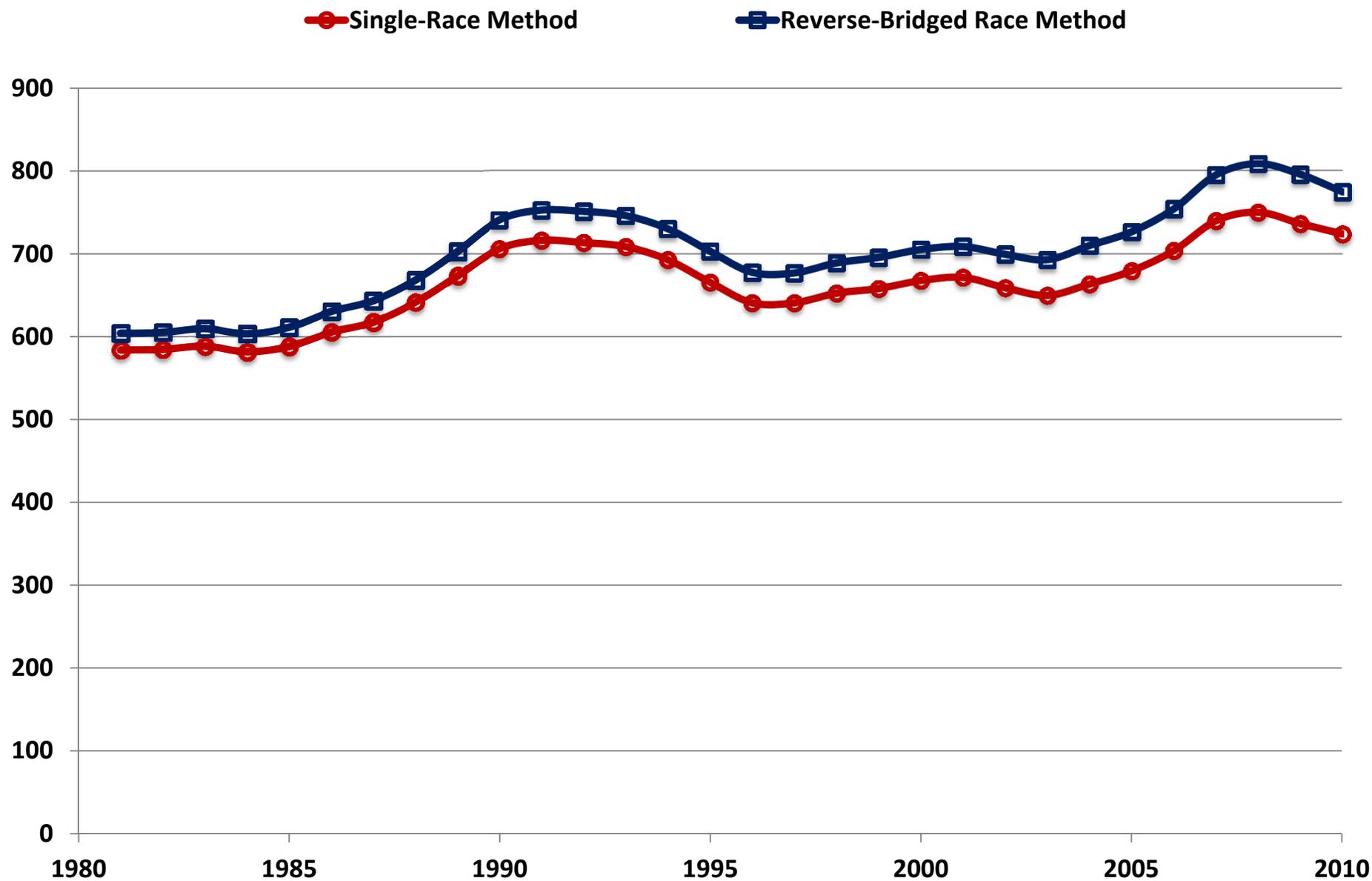
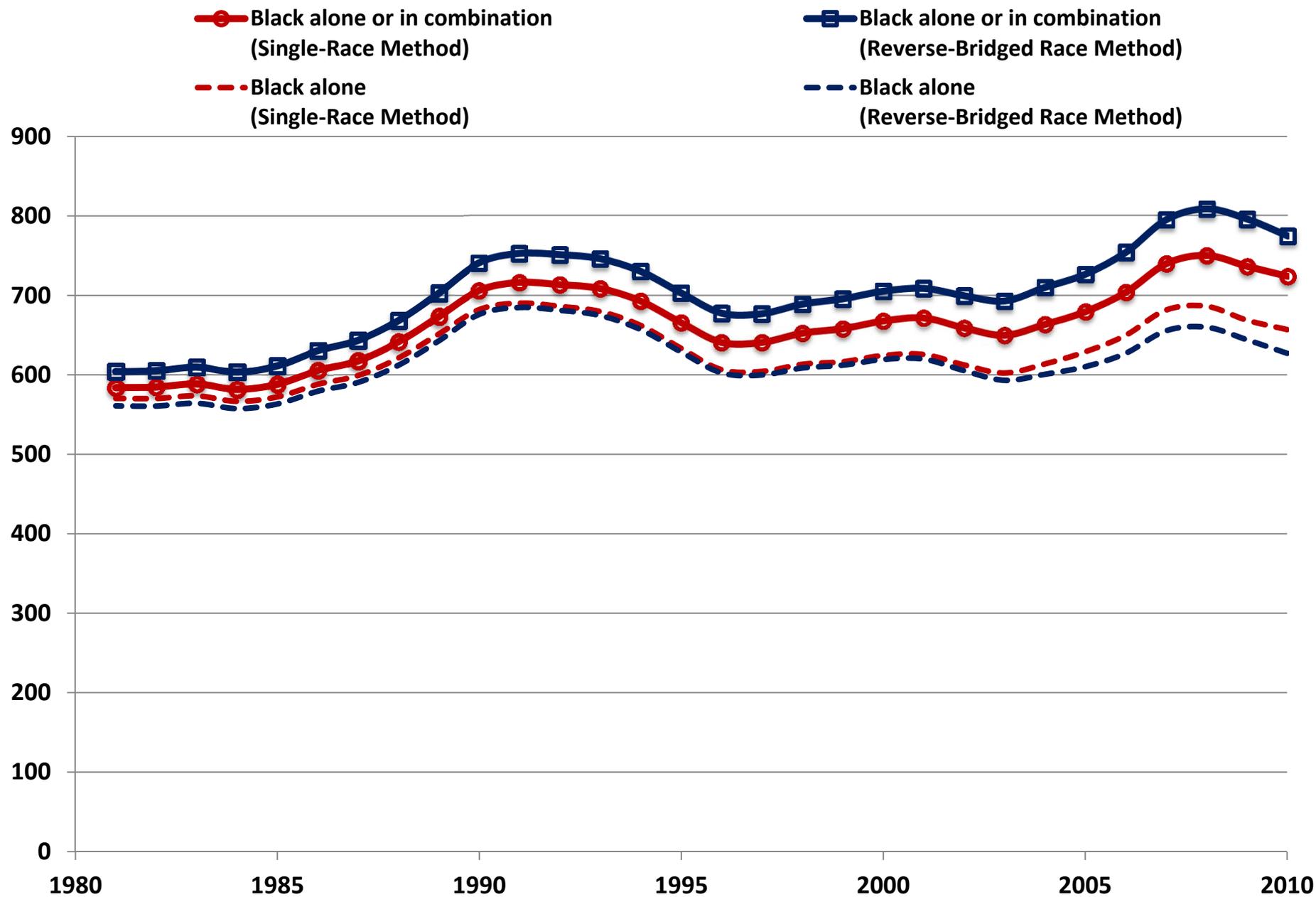


Figure 4. Births classified as Black alone or Black in combination by year of birth: 1980-2010.
 (In thousands)



Summary

- Single category distributions of parents' races were converted into multiple-race categories using the reverse-bridging procedure.
- Race was assigned to births based on patterns of race reporting in census data.
- The number of births classified as Black in combination was increased substantially.
- The number of births classified as Black alone decreased slightly.

Future Research

- Investigate alternatives to the assumption that the race of the mother and father are independent.
- Assess the feasibility of producing estimates of the Black alone or in combination population for cohorts born before 1980.

Contact Information

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