

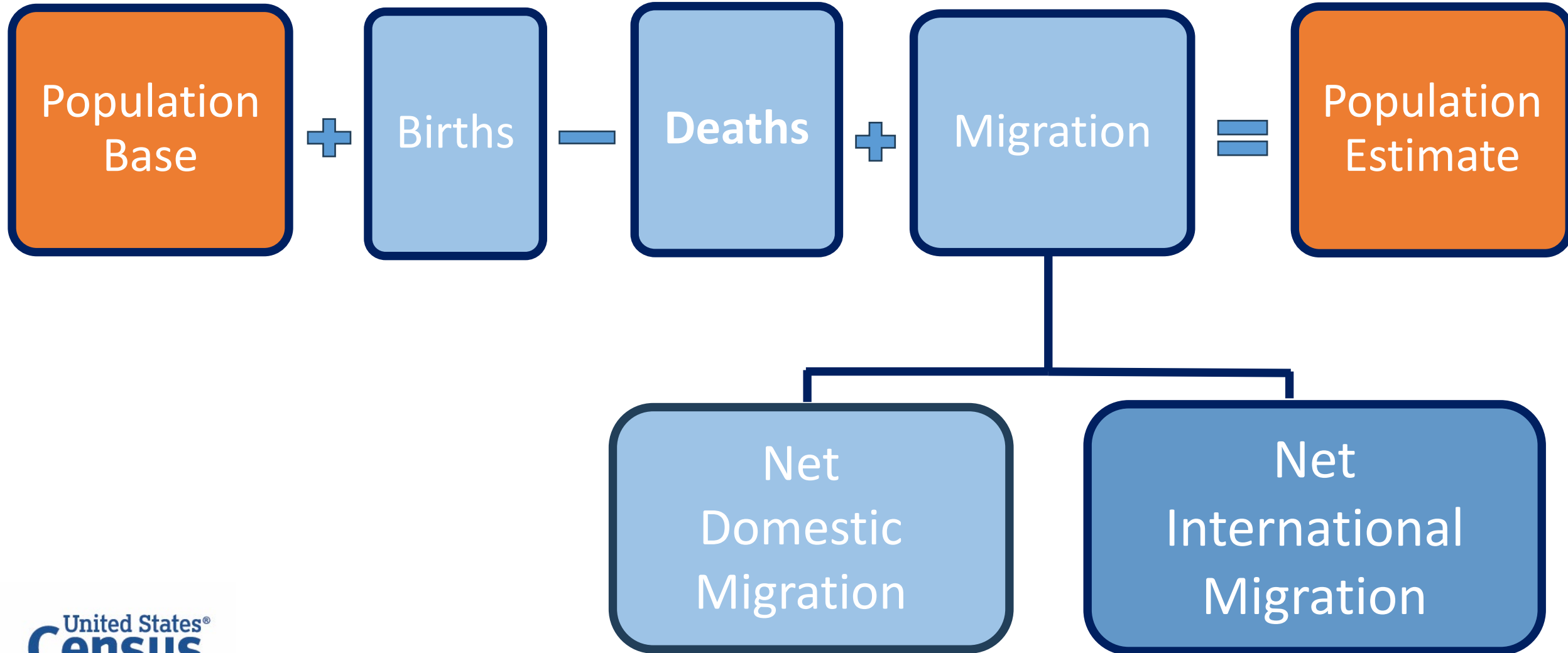
Measuring Emigration from the United States: Past, Present, and Future Approaches

Esther R. Miller

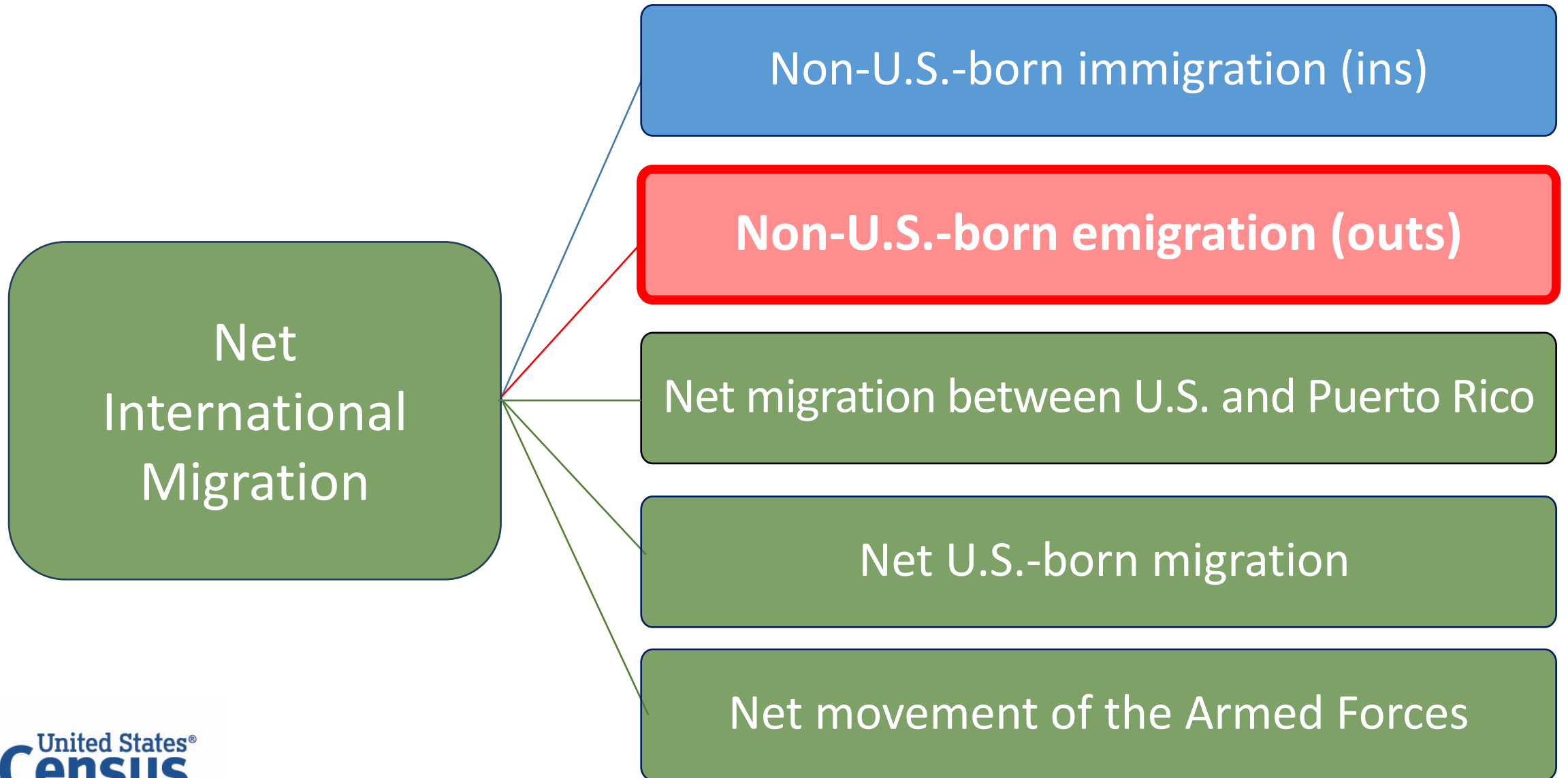
U.S. Census Bureau

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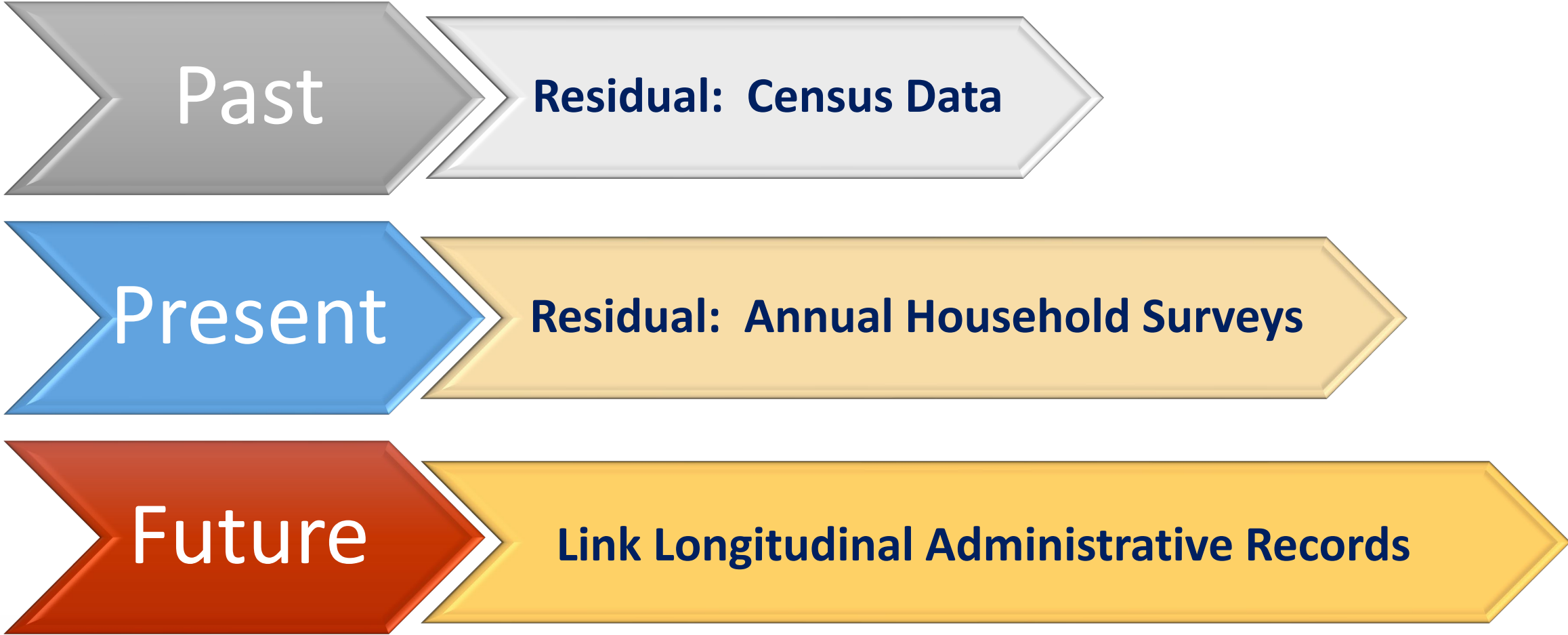
Demographic Balancing Equation for Population Estimates



Components of Net International Migration



Approaches to Estimate Emigration of the Non-U.S.-born Population



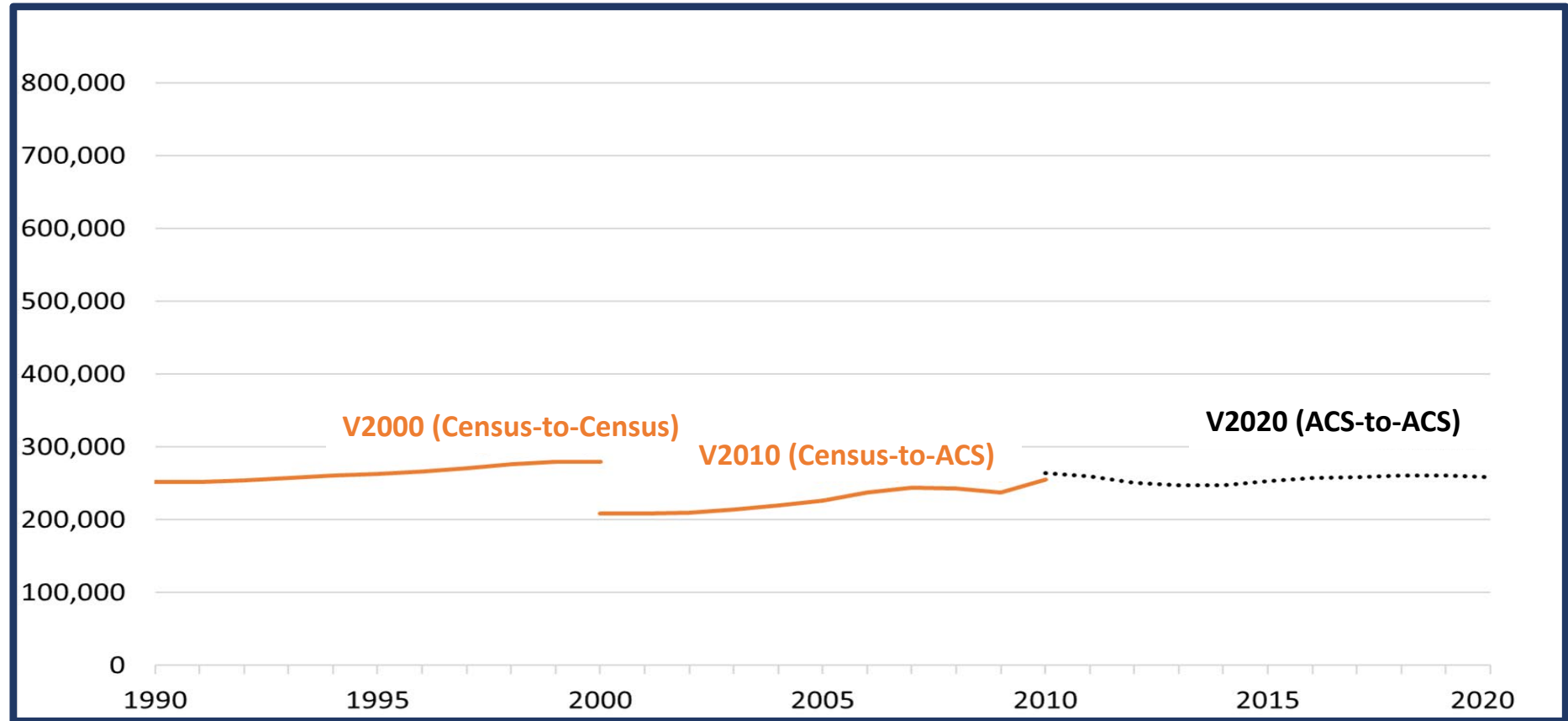


Past

Residual:
Census

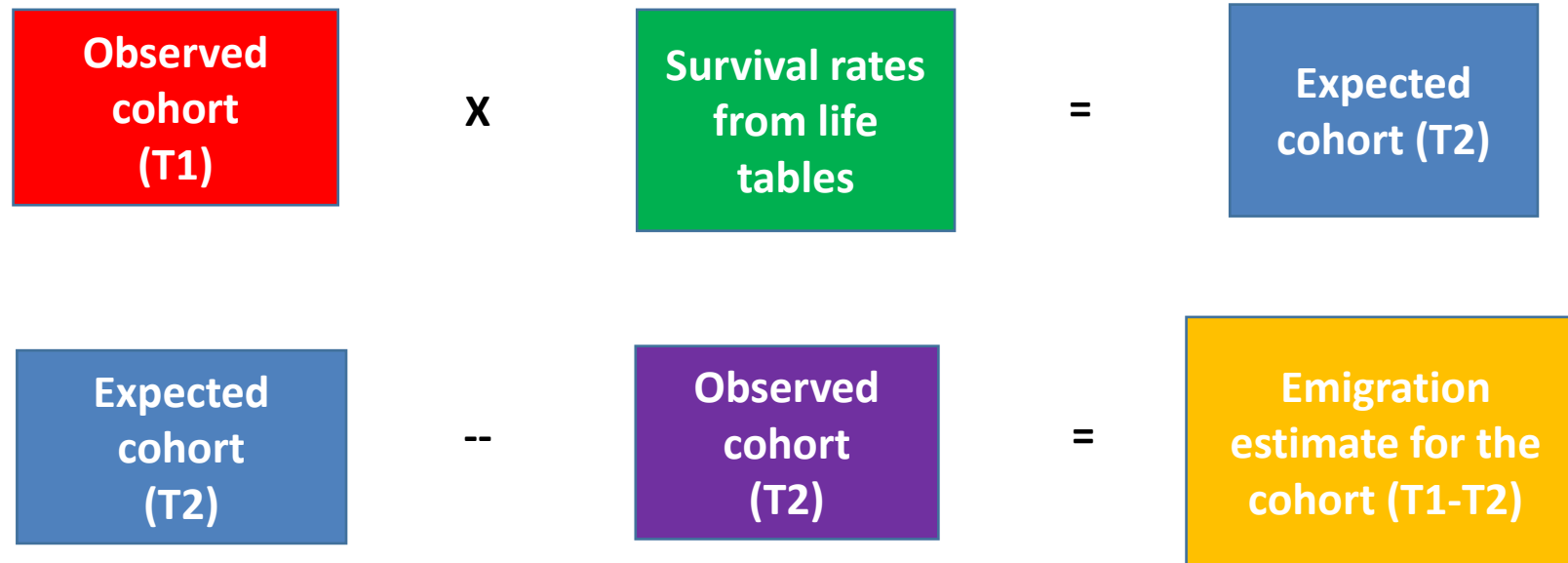
Estimates of Non-U.S.-born Emigration Using 10-Year Residuals: 1990 - 2020

- Rates held constant for V2000 and V2010
- Pattern expected given stability of responses to American Community Survey (ACS)



U.S. Census Bureau, Population Division, Internal Simulations

Explanation of Residual Emigration Estimates



ACS Questionnaire Changes Affect Estimate of Immigration

- Questionnaire changes led to higher numbers of *recent* immigrants measured in Time 2
- Increase in recent immigrants will increase emigration rates/estimates

Before 2015

9

When did this person come to live in the United States? *Print numbers in boxes.*

Year

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2015-present

9

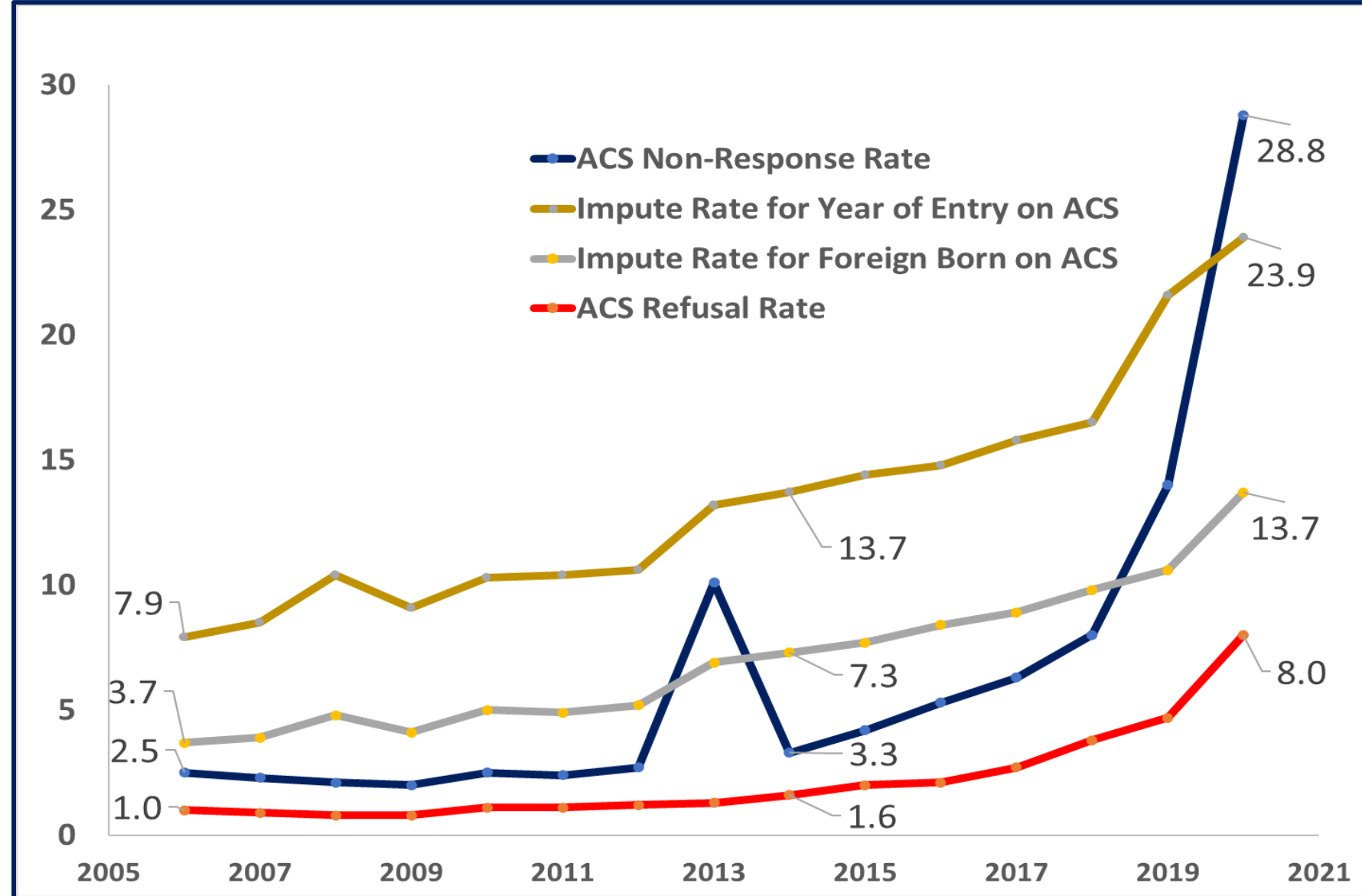
When did this person come to live in the United States? *If this person came to live in the United States more than once, print latest year.*

Year

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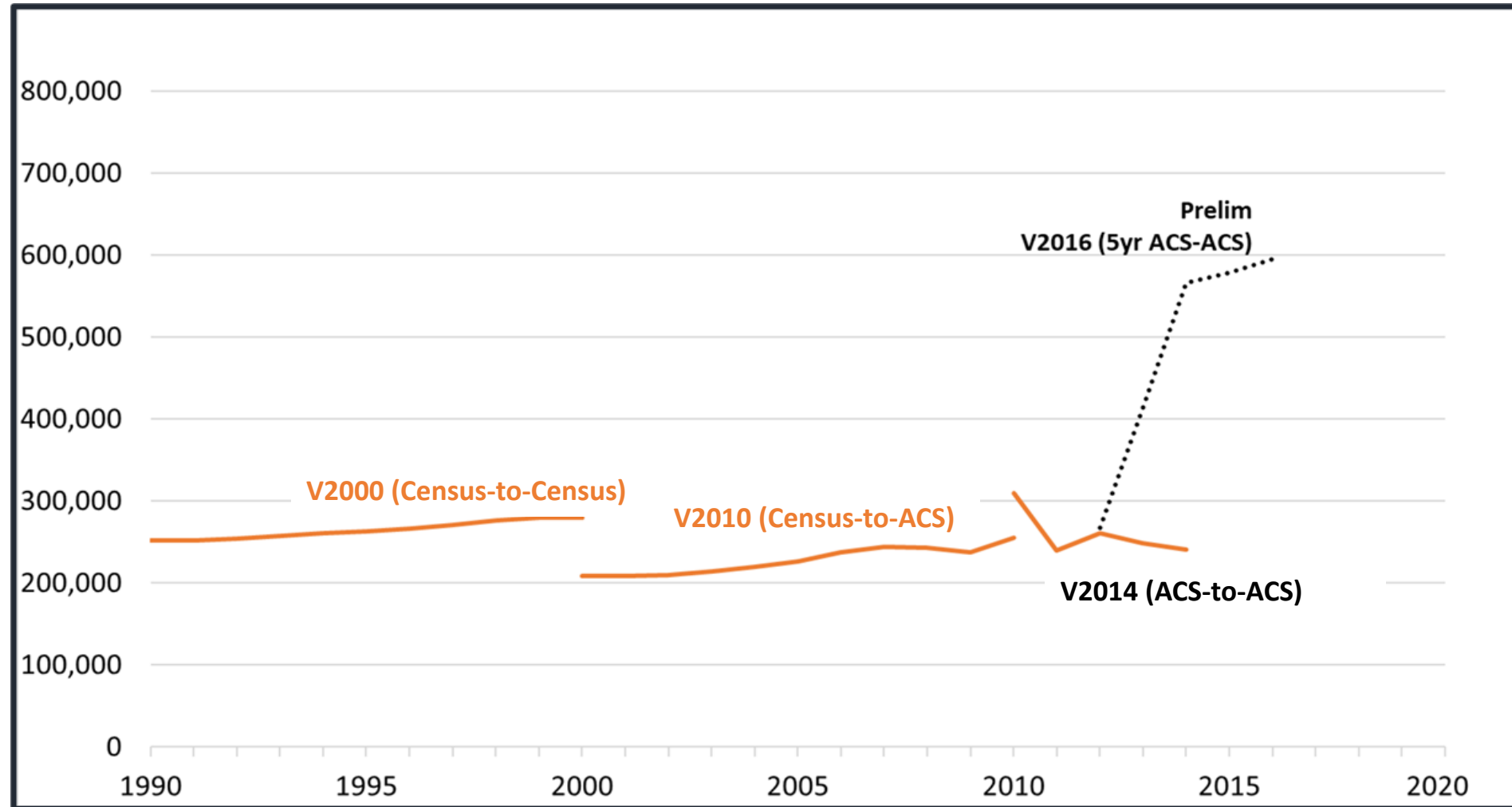
Data Quality Measures in the ACS Survey: 2005-2021

- Increases in non-response, refusal, and imputation rates lead to lower quality data
- Lower quality of data affects estimates of the population and immigration
- Ultimately affects estimates of emigration (residual)



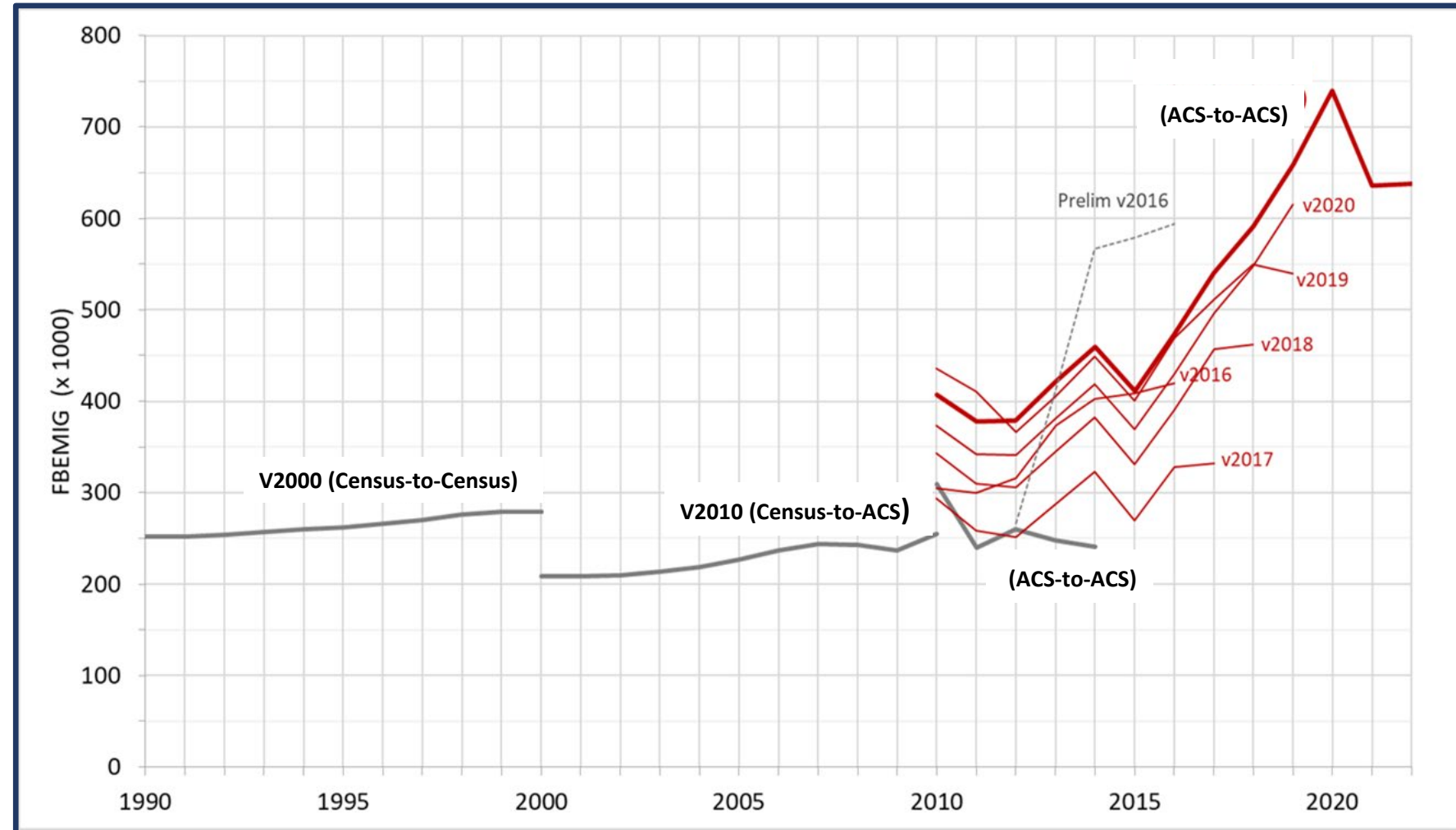
Estimates of Non-U.S.-born Emigration: 1990-2020

- Estimate tripled between V2014 and V2016
- Due to declines in data quality and questionnaire changes in 2015 ACS



Estimates of Non-U.S.-born Emigration Using Shortened Residual Periods: 2010-2020

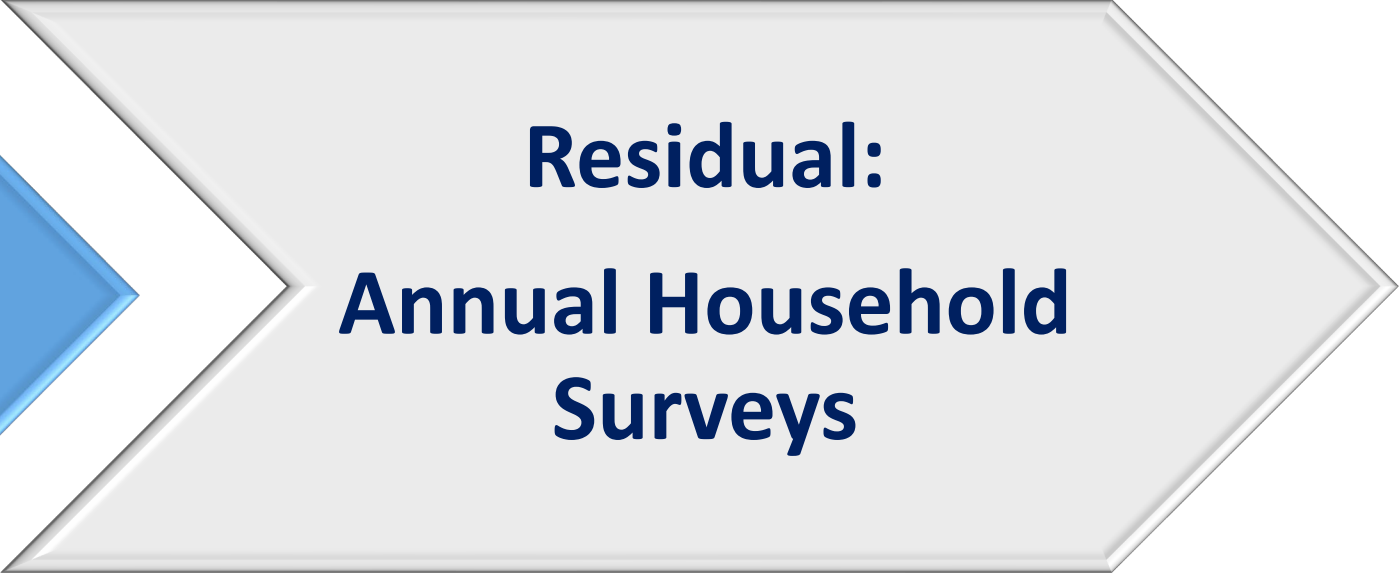
- Estimates of emigration rise dramatically in recent years from one vintage to the next
- Ultimately, produces negative net-migration



Source: U.S. Census Bureau, Population Division, Internal Simulations



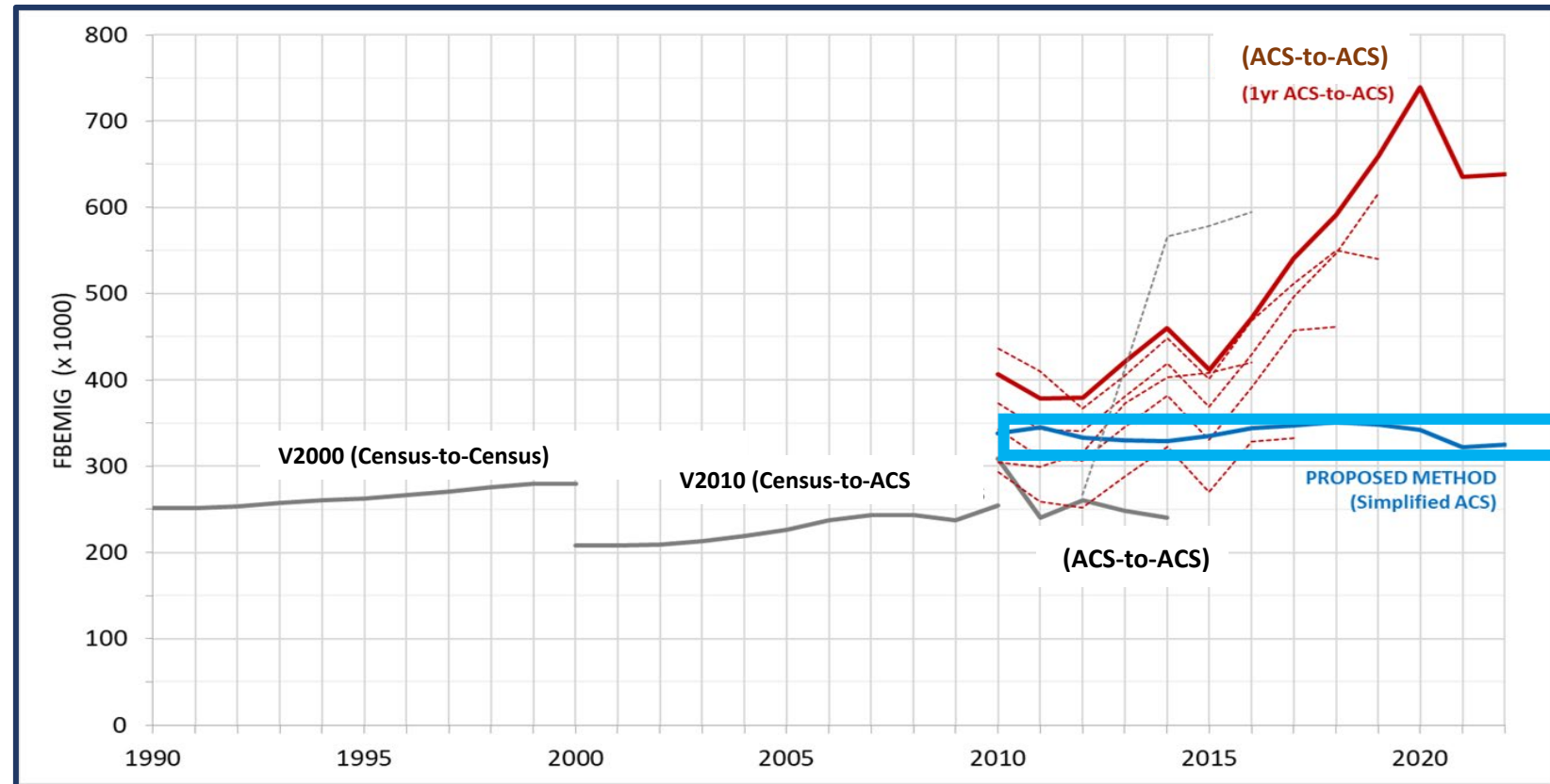
Present



**Residual:
Annual Household
Surveys**

Hold Rates Constant: Average of Three Rates Calculated in Beginning of Decade

- Solution: Hold residual rate constant across decade using average of early-decade residuals
- Net-migration will be positive (or zero)



Source: U.S. Census Bureau, Population Division, Internal Simulations



“Signs of Life” Emigration Framework

Link individual records using Protected Identification Keys (PIKs)

Construct starting population estimate

Track resident non-U.S.-born population over time

Look for evidence non-U.S.-born person exited the U.S. (Confirmed Emigrant)

Linked Administrative Records Datasets

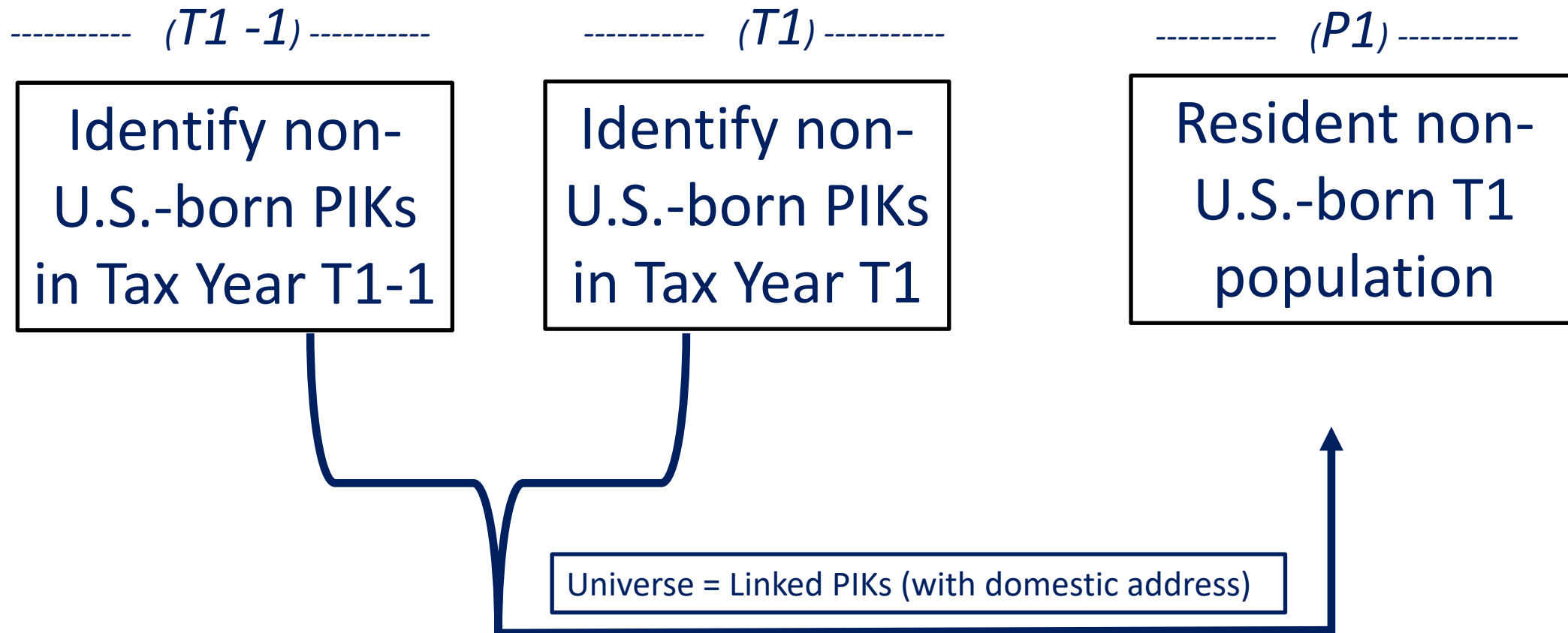
NUMIDENT

- Social Security Number (SSN)
- Place of Birth
- Citizenship status
 - Native Born
 - Naturalized Citizen
 - Non-citizen
- Year SSN assigned

Tax Forms (IRS)

- Tax Identifier ID
 - TIN (SSN)
 - ITIN (Assigned by IRS – no link to Numident)
- Address
 - Domestic
 - Abroad

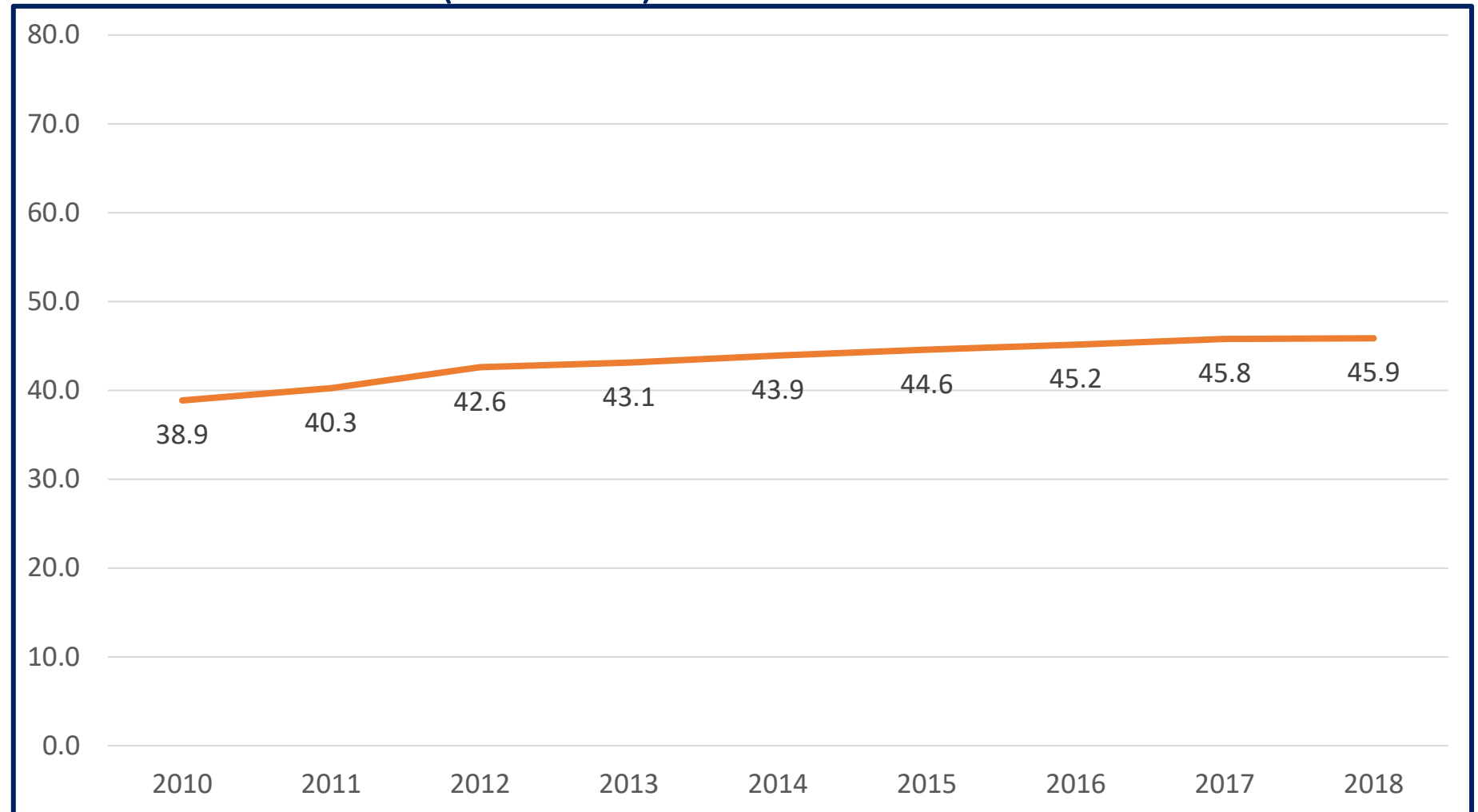
Derive Starting Population of Non-U.S. Born from Two Consecutive Years of IRS Data



Starting Population Derived from Administrative Records: Tax Years 2010 - 2018

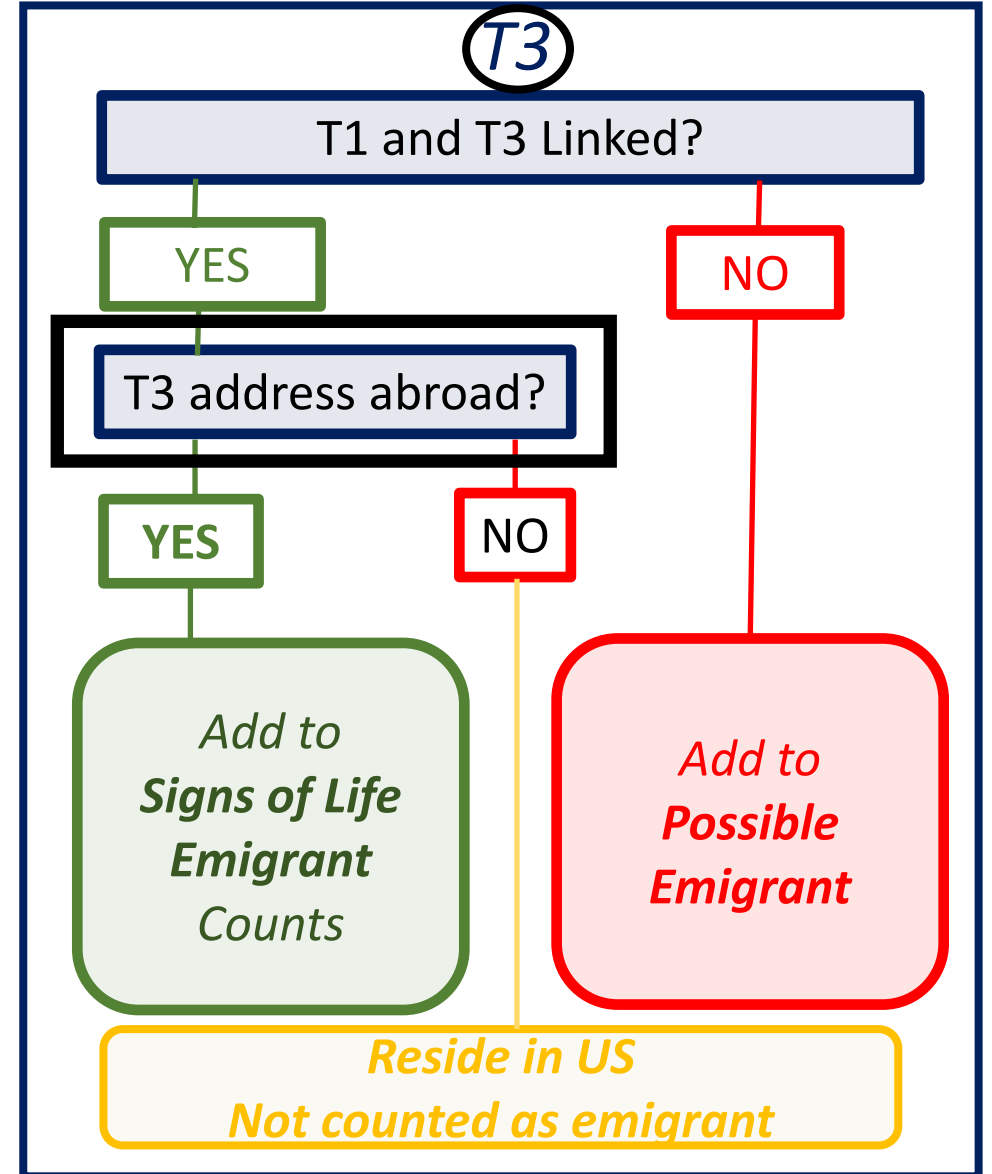
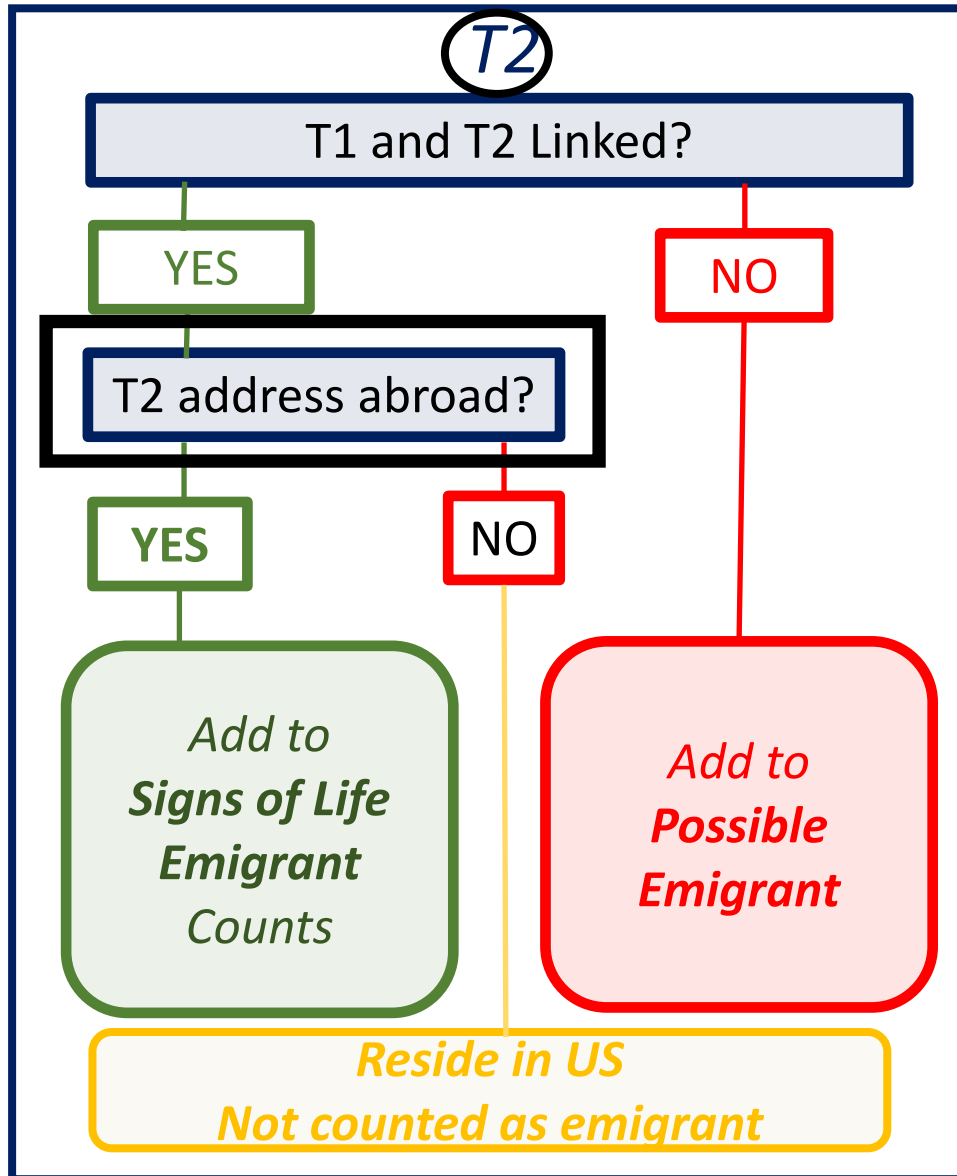
(in millions)

- Linking two consecutive years of files is stable across time
- Eight years later, increase of 6 million people

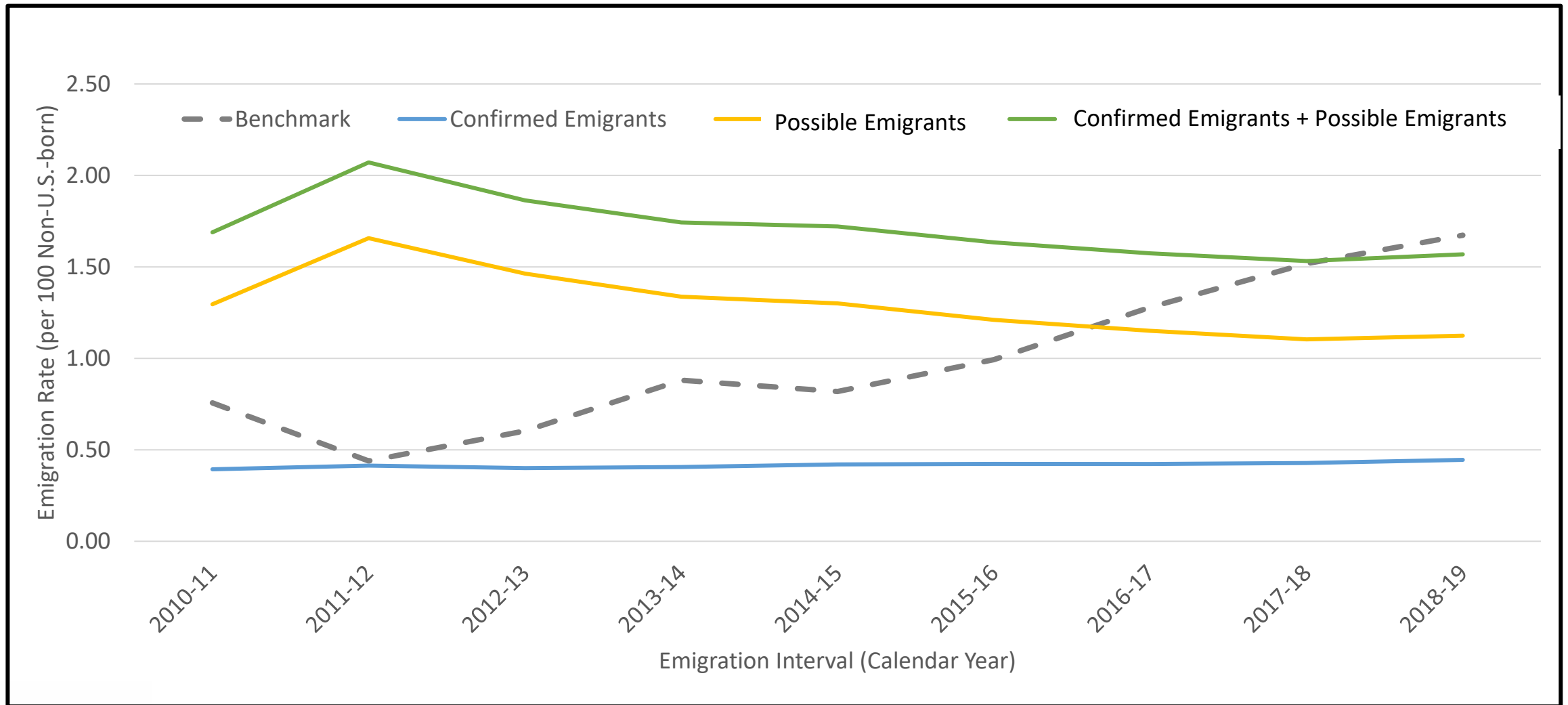


Track Individuals Over Time to Look for “Signs of Life”

T1
Annual starting non-U.S.-born population estimate



Non-U.S.-born Emigration Rates: 2010-2019



Summary

Residual

- Survey data are affected by declining quality and changes to questionnaire
- Mirror statistics do not support past residual computations

Linking administrative Records

- “Signs of Life” framework produces consistent emigration rates
- Possible migrants difficult to determine
- Under-coverage, especially children
- Geographic assignment may be difficult
- Other



Conclusion



**“Signs of Life” Method is
Promising
and as always,
Needs Further Research**

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