



Race and Ethnicity Research

Estimates of unauthorized immigrants: Methods, data and assumptions

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Berkeley Workshop on Formal Demography

(extended version of presentation)

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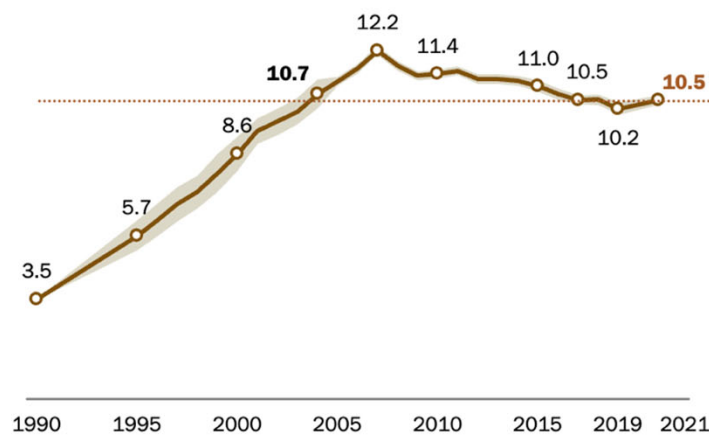
What we know about unauthorized immigrants living in the U.S.

BY JEFFREY S. PASSEL AND JENS MANUEL KROGSTAD

The unauthorized immigrant population in the United States reached 10.5 million in 2021, according to new Pew Research Center estimates. That was a modest increase over 2019 but nearly identical to 2017.

The number of unauthorized immigrants in the U.S. remained mostly stable from 2017 to 2021

Unauthorized immigrant population in the United States, in millions

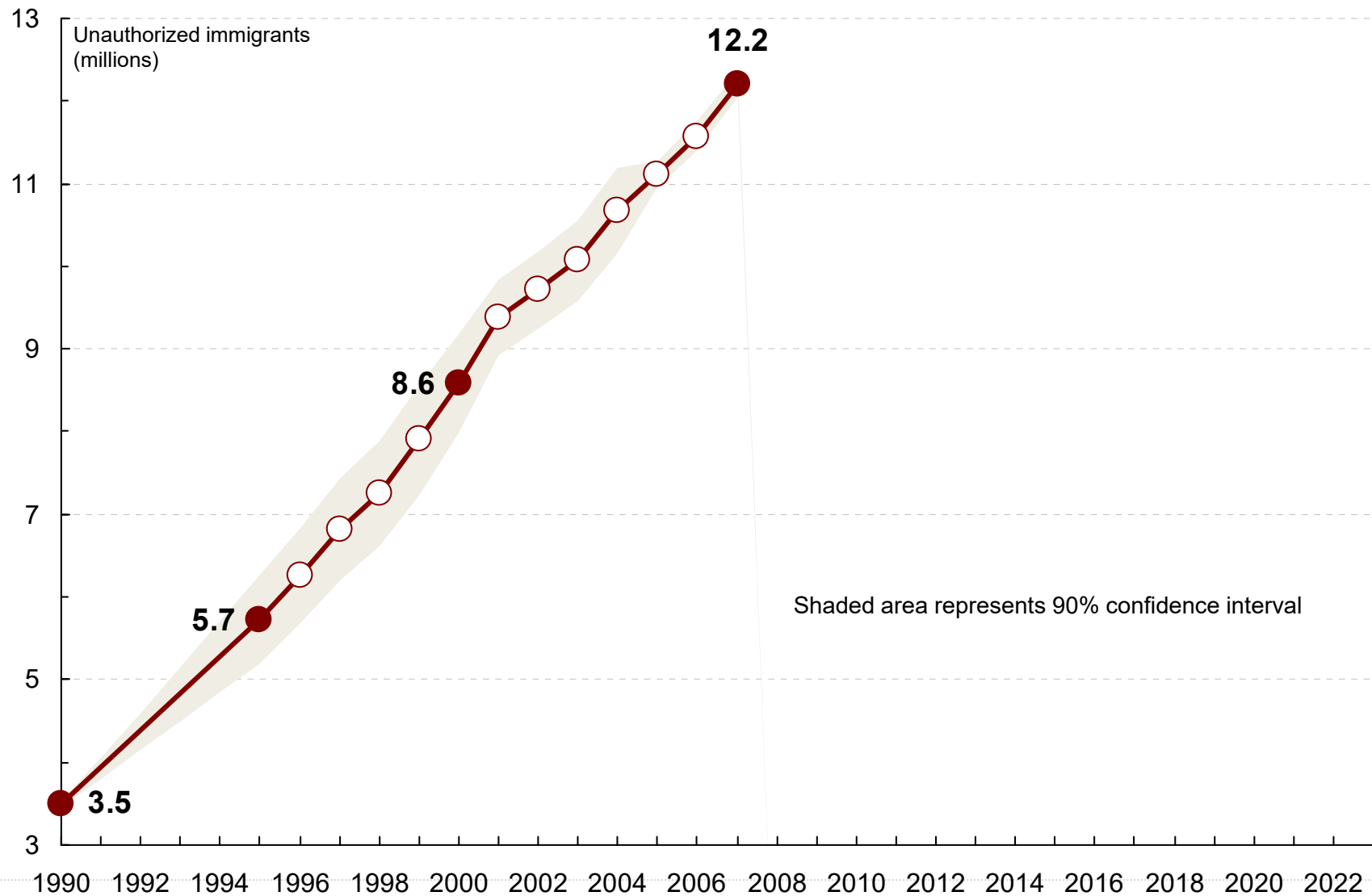


Today's presentation

- **Measurement methods**
 - Description of [Residual Method](#)
 - View from “30,000 feet” [more details in handout]
- **Who is “authorized” vs. “unauthorized”**
 - Who is a lawful immigrant
 - Significant number in recognized “unauthorized” statuses
 - DACA, TPS, asylum backlogs, CHNV
 - Rapid growth in last few years
- **Microdata status assignments**
 - Citizens, legal temporary, refugees, definite legals
 - Potential unauthorized → unauthorized
 - Approximations

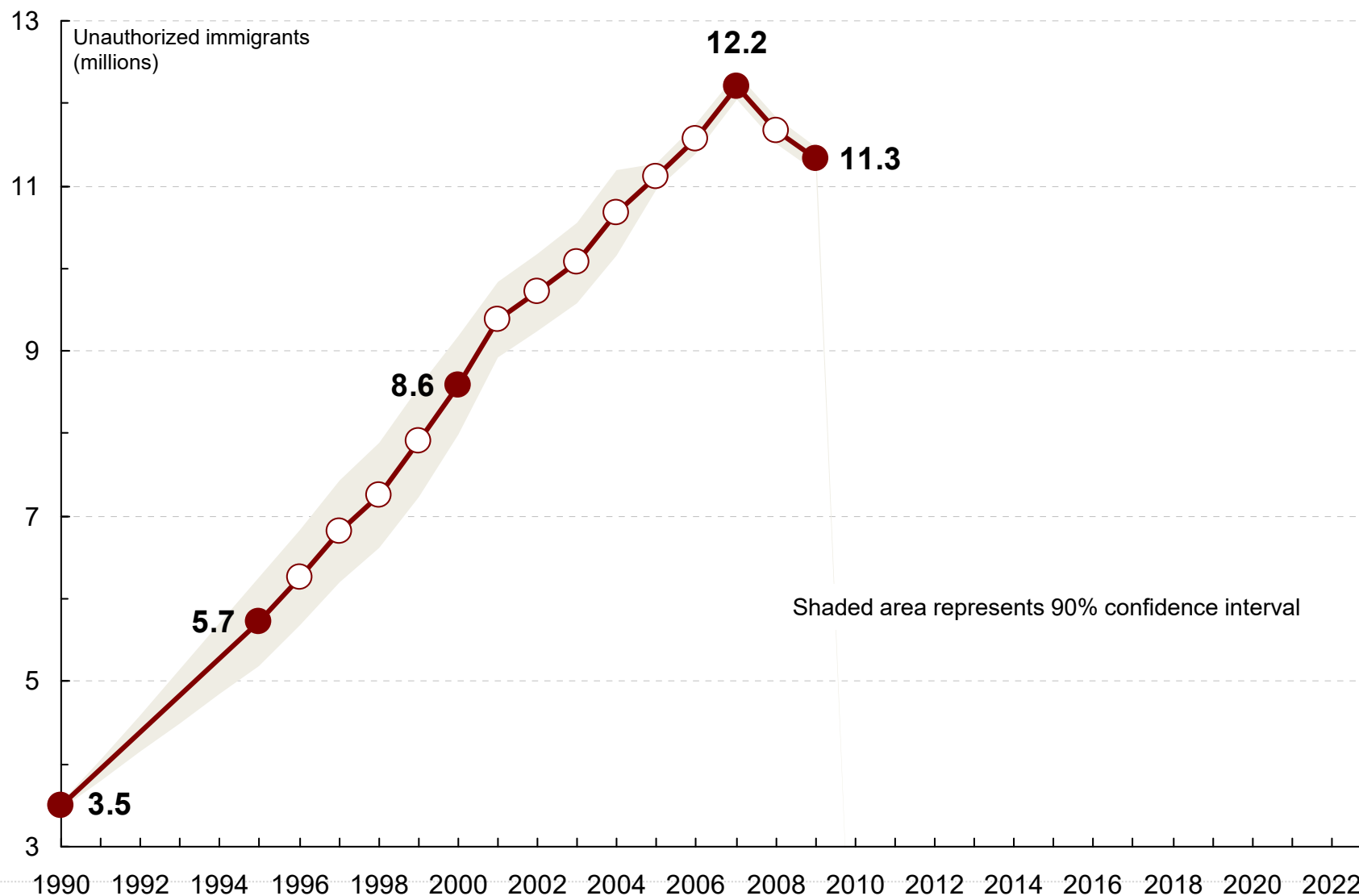
***But, first...
some context***

Unauthorized immigrants reached 12+ million in '07 – NET growth of 500,000 per year for 17 years



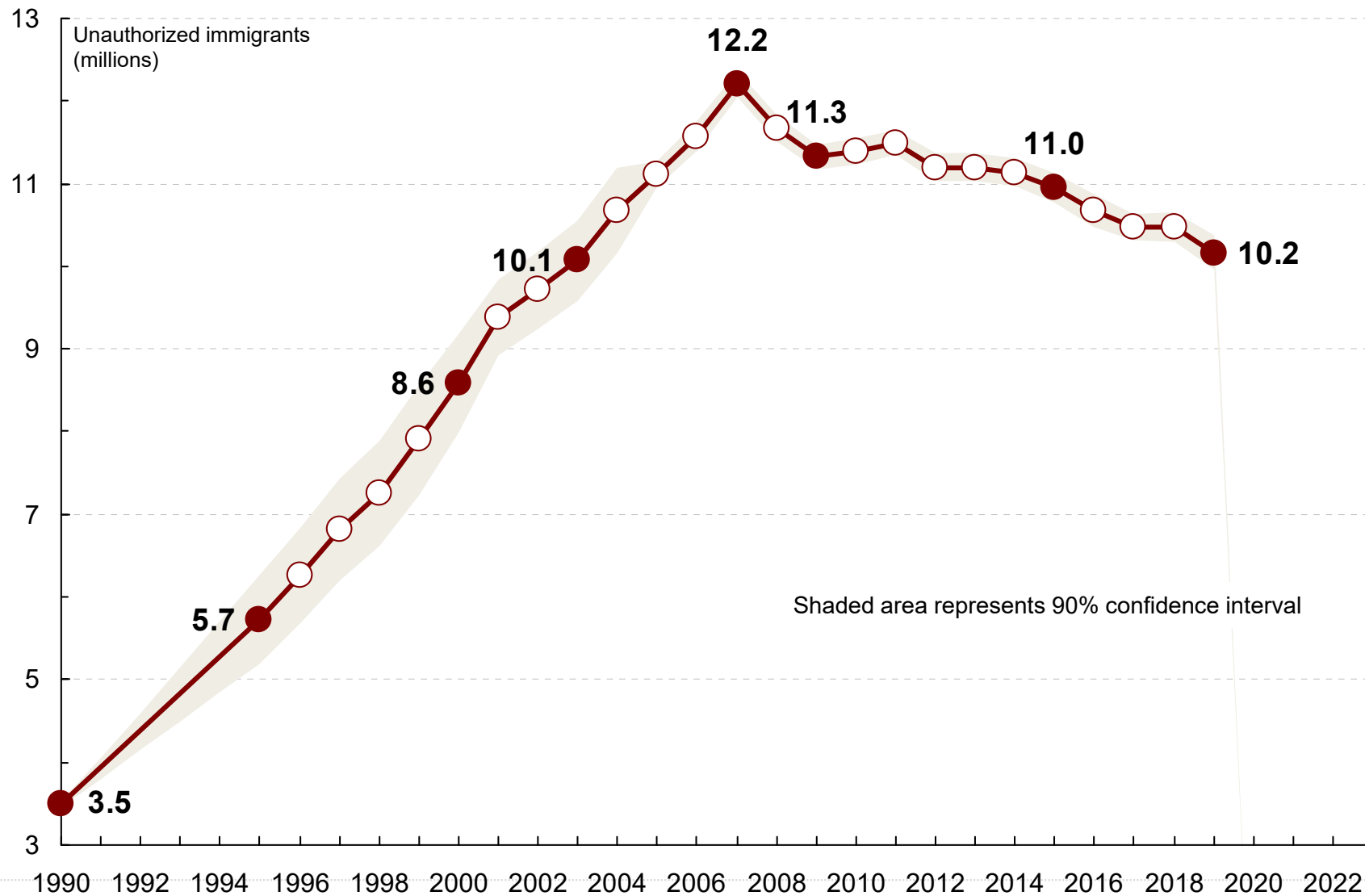
Source: Pew Research Center estimates based on residual methodology, Passel & Krogstad (2024, forthcoming).

Sudden reversal after '07 (Great Recession) – DROP of 500,000 per year for two years



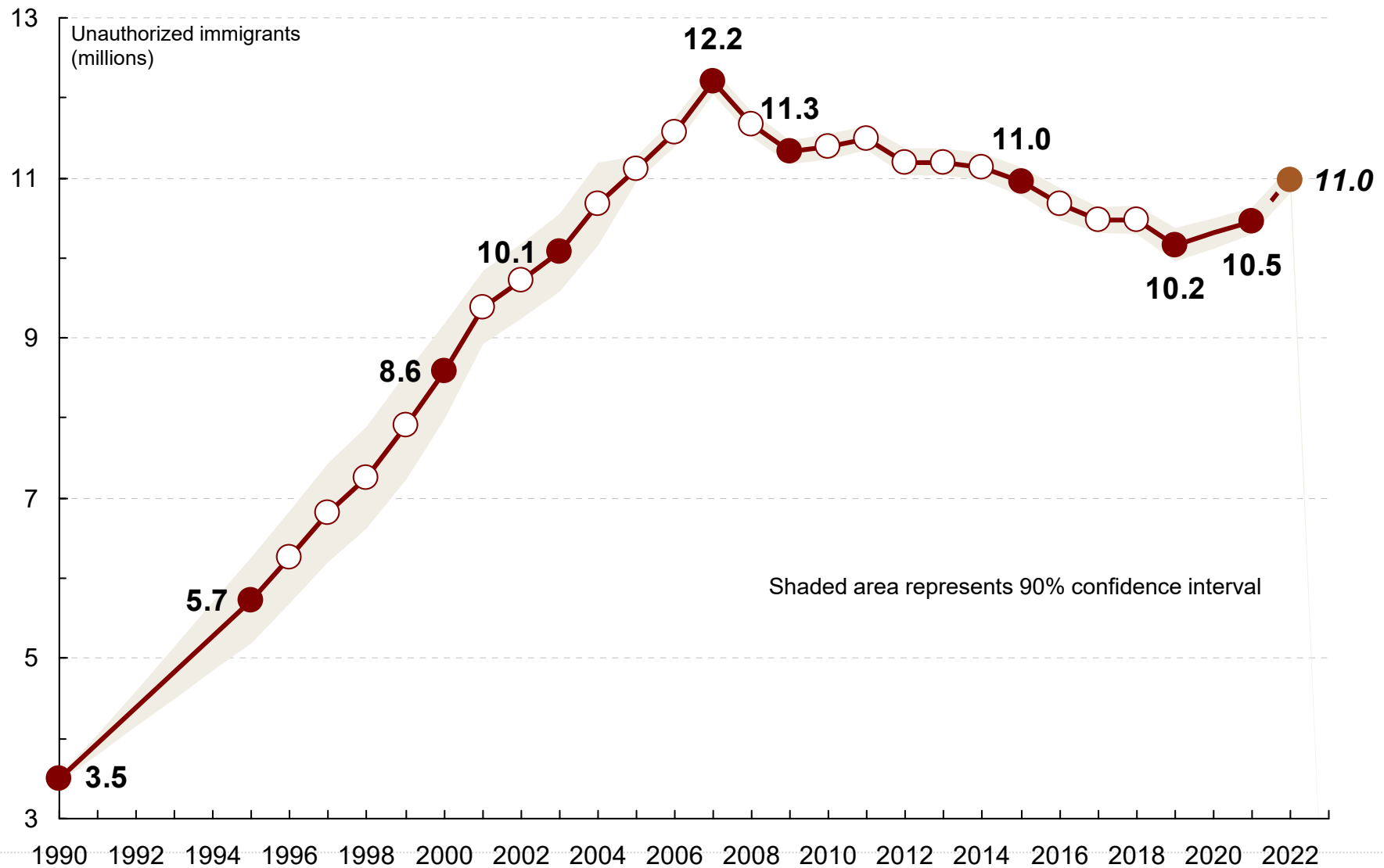
Source: Pew Research Center estimates based on residual methodology, Passel & Krogstad (2024, forthcoming).

Stable or downward drift for a decade '09-'19; unauthorized immigrants drop to '03 (!) level



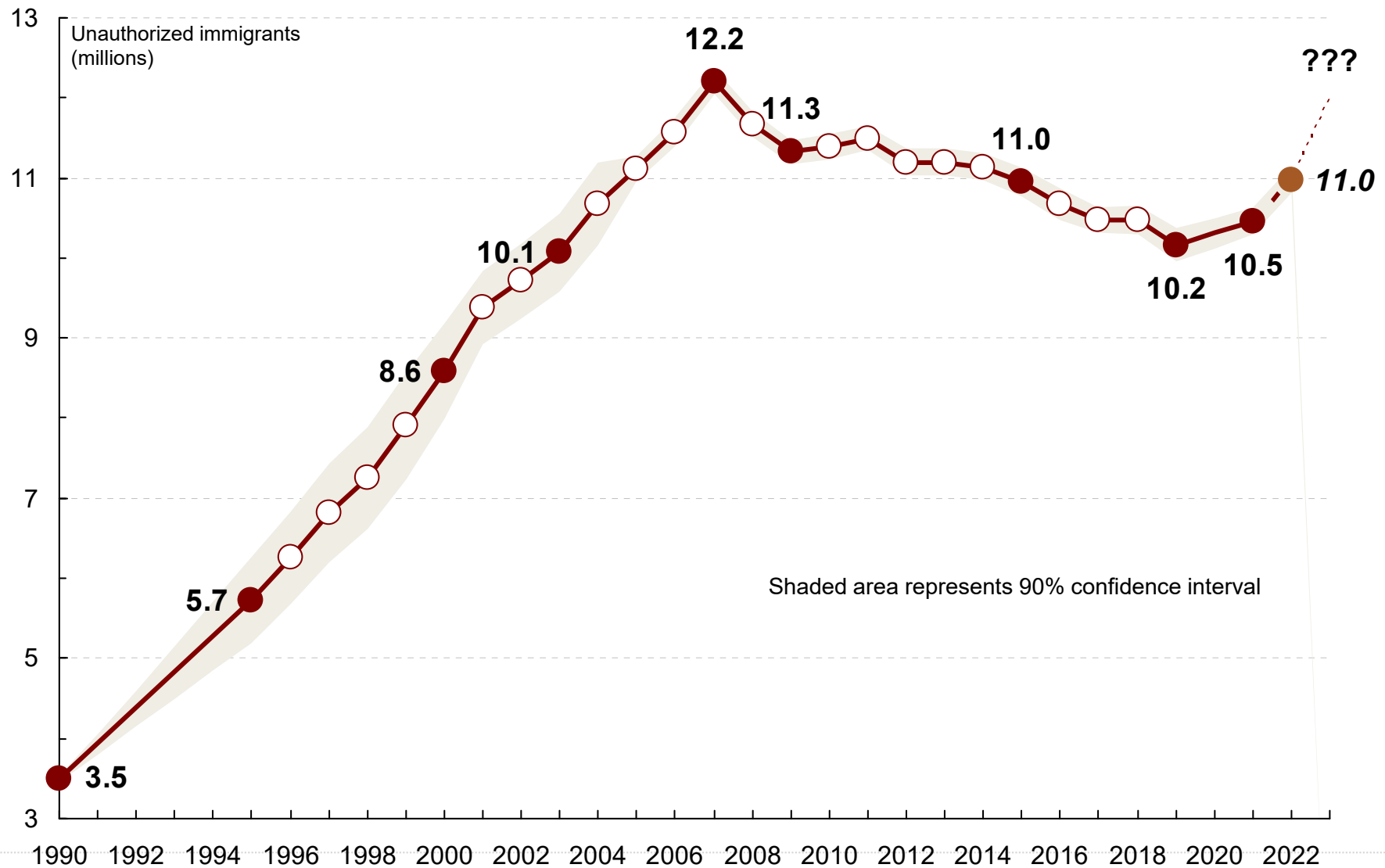
Source: Pew Research Center estimates based on residual methodology, Passel & Krogstad (2024, forthcoming).

New reversal after 2019; first sustained increase since 2005-07



Source: Pew Research Center estimates based on residual methodology, Passel & Krogstad (2024, forthcoming); cite with permission only.

Continued increase likely – Other data (discussed later) points to this



Outline of Pew methodology

- **Estimate unauthorized in survey**
 - **Residual** = survey “immigrants” *minus* lawful (LPRs)
 - Demographic estimate of LPRs from admin records
- **Adjust for omissions**
 - Based on several external data sources
- **Assign legal status in microdata**
 - Create status variable for individuals, families, h’holds
 - Deterministic for legal temps, refugees, naturalized
 - Probabilistic “multiple imputations” for lawful and unauthorized immigrants
- **Tabulate microdata**

Estimating the population

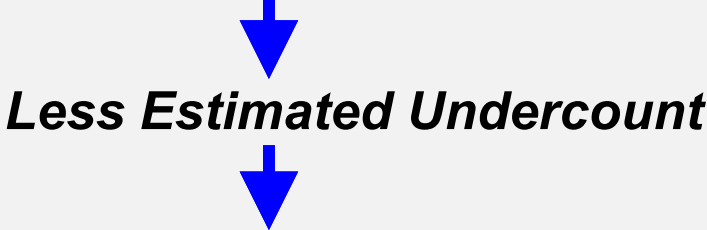
Residual estimates of unauthorized immigrants

$$\begin{aligned} & \textit{Unauthorized immigrants} = \\ & \textit{Total immigrants (Survey)} \\ & \text{minus} \\ & \textit{Lawful immigrants (Estimate)} \end{aligned}$$

- ***Widely used:***
 - Passel (et al.) '80–present
 - Van Hook-Bachmeier
 - DHS-OIS '05–'22; Warren '80–'00
 - CMS (Warren-Warren, variant)
 - Binational Study '96

Equations for Pew estimate of unauthorized immigrants

Unauthorized Immigrants = Total Immigrants minus Lawful Immigrants



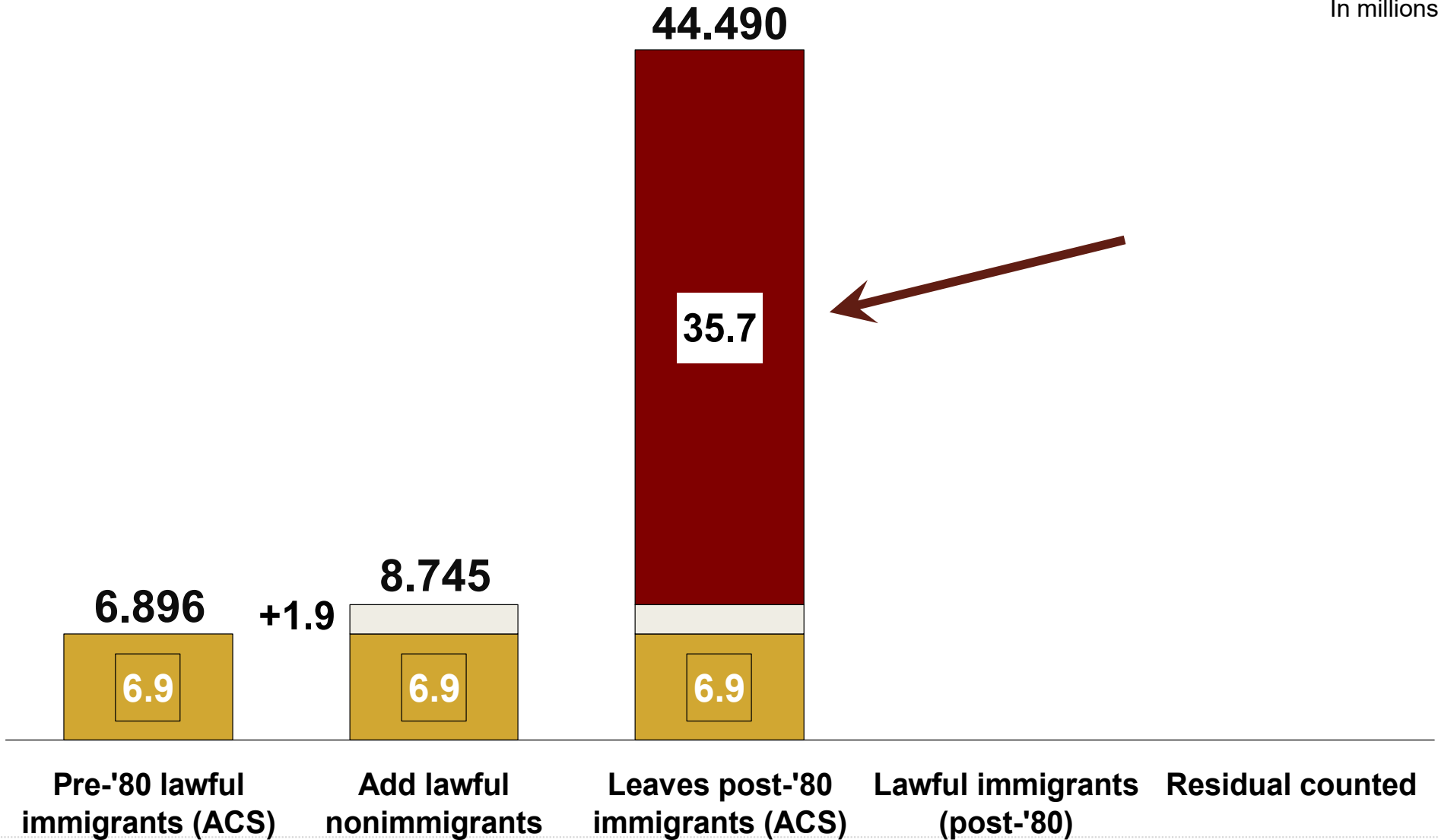
Unauthorized Counted = Counted Immigrants minus Counted Lawful Immigrants

Counted Immigrants = *Survey Foreign-Born* minus Counted Lawful Non-Immigrants

Note: All populations are for post-1980/1982 entrants.

Residual estimate using 2017 American Community Survey

In millions



Residual estimate of unauthorized immigrants

Total unauthorized immigrants = **Counted unauthorized immigrants** plus **Missed unauthorized immigrants**

Some assumptions:

a. *Estimated undercount*

% Undercount for lawful immigrants – based on Census coverage studies – *age-sex-race* * 1.75 for recent arrivals

% Undercount for unauthorized immigrants – 1.83 * specific rates for lawful immigrants

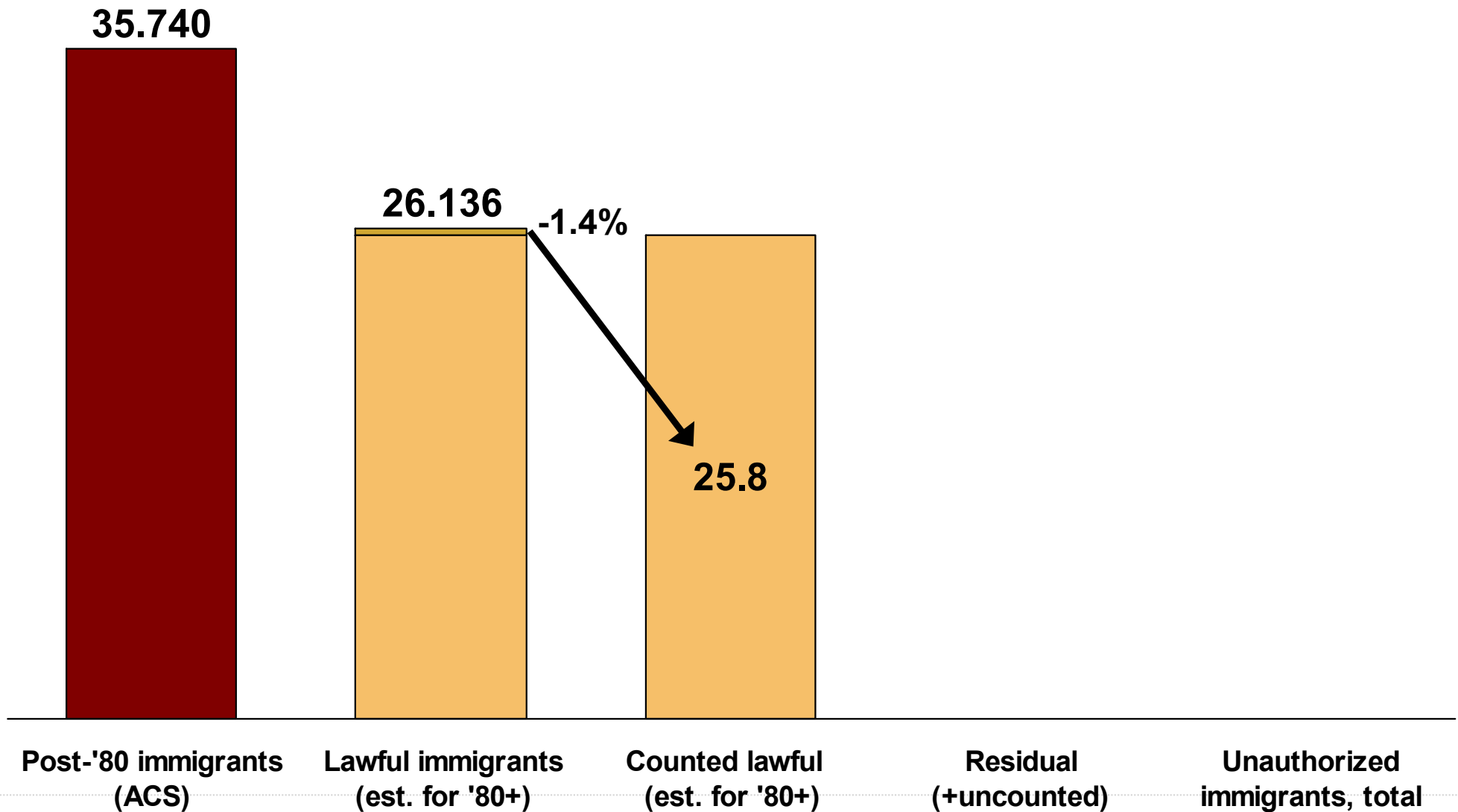
b. *Estimated undercount (2)*

New work (Van Hook et al. 2014) shows improvements in ACS/CPS coverage for Mexicans from '90s to late '00s

c. *Internal migration* – ACS rates for F-B for lawful pop

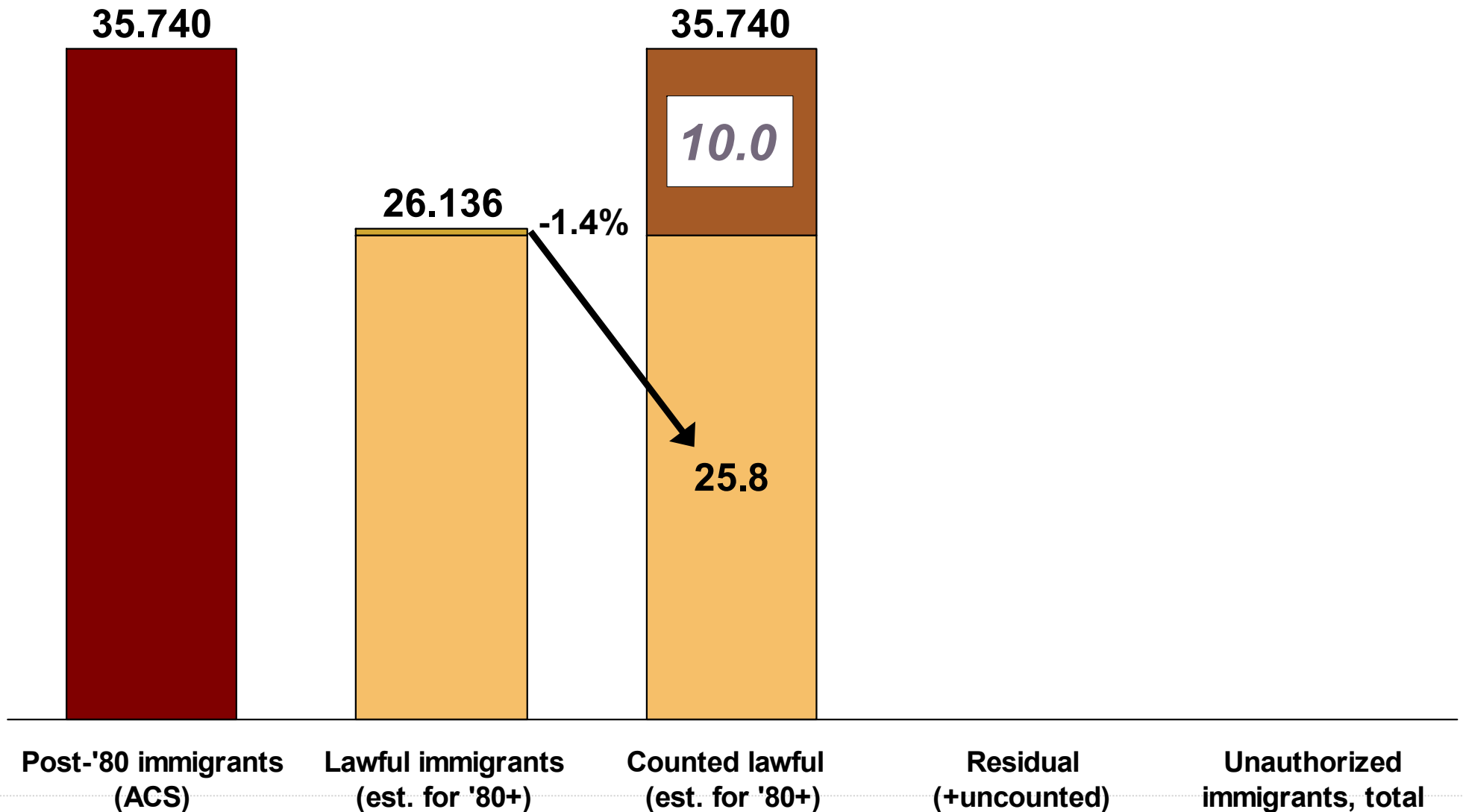
Residual estimate using 2017 ACS – *Reduce estimate of lawful by undercount*

In millions

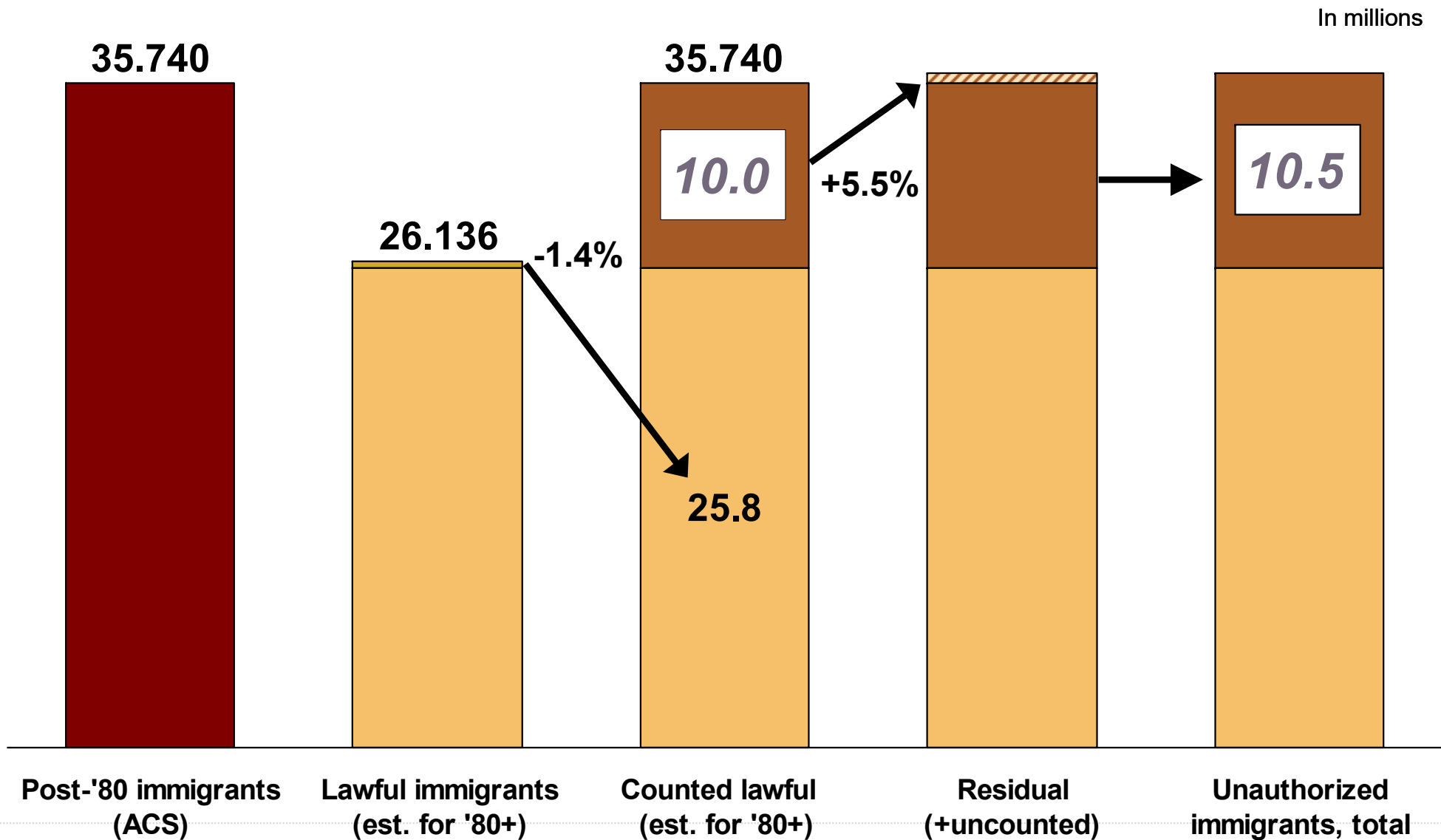


Residual estimate using 2017 ACS – Initial estimate of “counted unauthorized”

In millions



Residual estimate using 2017 ACS – Add uncounted → Total unauthorized



Who are the “Lawful immigrants”?

Components of lawful immigrants:

- a. DHS/INS “new arrival” LPRs (green cards)
- b. Refugee arrivals (State Dept, DHS/INS, ORR)
- c. Asylum approvals (DHS/INS)
- d. Adjustments to LPR status, except from e.-g. below (DHS/INS)
- e. Cuban-Haitian entrants, Amerasians, some parolees (ORR)
- f. Other entrants, other parolees (DHS/INS)
- g. IRCA legalizations approved—SAWs & “LAWs” (INS)
- h. Pre-1980 (or 1982) arrivals (ACS/CPS counts)

a.-g. are combined year-by-year using allowances for mortality, emigration, & state-to-state movement to estimate the legal population

Who are the “Unauthorized”?

- Not “lawful immigrants” or legal nonimmigrants (i.e., temporary *residents*)
- Overstays vs. EWIs (illegal entrants)
 - Inferred because ACS doesn’t ask mode of entry
 - Before 2010, most were EWIs
 - 2010s, most new unauthorized were likely overstays
 - Today, most are illegal border crossers
- Distinction is relevant for enforcement
- Today, many are known to authorities (so-called “quasi”-legals)

Who are the “Quasi”-Legal?

- **DACA recipients**
 - a. As of Dec-23 -- **530,000**; Jul-22, 595,000; Initially ~700,000
- **Temporary Protected Status**
 - a. Mainly Central Americans until recently
 - b. As of Dec-23 – **1,200,000**; Jul-22, 650,000
- **Affirmative asylum claimants** (processed by DHS-USCIS)
 - a. Dec-23 – **1,120,000** cases/1,600,000 people in backlog; Jul-22, 500,000/725,000 people
 - b. Increase *adds* 875,000 to the unauthorized immigrant population
- **Defensive asylum claimants** (processed by DOJ-EOIR)
 - a. Dec-23 – **1,030,000** people; Jul-22, 915,000 people
 - b. Increase *adds* 120,000 to the unauthorized immigrant population
- **CHNV paroles** – visas for Cubans, Haitians, Nicaraguans, Venezuelans
 - a. Began in Oct. 2022 for Venezuela and January 2023 for the rest
 - b. Cumulative admissions to Dec-23 – **320,000**
- **U (criminal victims), K (finance), V, T, DED** and various other categories
 - a. Most are small, but the U visa backlog grew from 300,000 to **355,000** in Dec-23
- **3.2 million in 2022** unauthorized immigrants are “quasi”-legal (28%)
- By Dec-23, these will grow by **1.8 million** to more than **5 million**

Status assignments (microdata)

Types of data and estimates

- **Analytic** estimates of unauthorized
 - a. “Counted” in survey
 - b. “Corrected” for undercount
 - c. **Totals by country/region birth** (i.e., Mexico, Latin America, Asia, Rest of World)
 - d. **6 States** (CA, FL, IL, NJ, NY, TX) and Rest of Country
 - e. Some, limited demographic information:
 - * **Age (<18/18+)** and sex
 - * Period of entry
- **Status assignments** into survey
- **Final estimates** may differ from **analytic** totals for some countries, age groups, regions, etc.

Status assignments (I)

- ***Lawful temporary immigrants****
 - a. Students (F, M visas) & scholars (J visa)
 - b. “High-tech” guest workers (H-1B), intracompany transfers (L visas), nurses (H-1A) and physicians (J visas)
 - c. International organizations (G visas), diplomats and embassy employees (A visas)
 - d. Religious workers (R visas), athletes, artists, entertainers and “outstanding” talent (O,P visas)
 - e. Au pairs and exchange visitors (J visas)
 - f. Identified in survey based on occupation, period of entry, household relationships, other characteristics (e.g. program participation, veteran status)
 - g. No targets, tends to understate DHS estimates
 - h. Many more in ACS than CPS

* More detailed specifications available on request.

Status assignments (II)

- **Refugees/asylees** (at entry)
 - a. Country of birth and year of entry*
 - b. Demographic estimates (targets) control the assignments
- **Naturalized citizens**
 - a. In US < 6 years → edit to alien (except spouses)
 - b. In US ≥ 6 years →
 - **Mexico** → potential unauthorized***
 - **Central America** → same as Mexico***
 - **All others countries** → keep as naturalized
 - c. No demographic targets

* More detailed specifications available on request. *** Those not assigned as unauthorized revert to naturalized citizens.

Status assignments (*Ila*–Lawful)

- ***Definite lawful immigrants***
 - a. Naturalized citizens, refugees, legal temps (previous)
 - b. Entered US before 1982/1980
 - c. Occupations/employers* →
 - Government workers, veterans, military
 - Law enforcement and related occupations
 - Court and legal employees
 - Licensed occupations (e.g., medical)
 - Security occupations (esp. with licensing; e.g., police, ATC)
 - Assorted other minor occupations
 - d. Program participation* (SSI, TANF, Medicaid, Medicare)
 - e. Most family members of lawful immigrants
 - f. No demographic targets
- ***Others: “Potential unauthorized” →***

* More detailed specifications available on request.

Status assignments (*III*-Unauthorized)

- ***Targets***

- a. 6 **States** (CA, FL, IL, NJ, NY, TX) and balance of US
- b. Total, **Under 18**
- c. ACS: **Mexico, Latin America, Asia, all other** (may collapse)
- d. CPS: *Mexico, all other*

- ***Random assignments of Potentials***

- a. Replicate households for “multiple” imputation
 - 1) Weights are fractionalized (10 in ACS; 100 in CPS)
 - 2) Random assignments separately for individuals in each replicate
 - 3) “Like” assignments collapsed at end
- b. Initial ***p***'s = **Target (above) / potential unauthorized (previous)**
 - 1) Parents and non-parents done separately
 - 2) Assignments for parents use child estimates as targets

Status assignments (*IIa*-Unauthorized)

- ***Final status assignments of Potentials***
 - a. Household edits for consistency of parents, children & relatives (based on date of arrival)
 - b. Adjustment of *p*'s from (Target /potential unauthorized)
 - 1) Initial modification based on IRCA LPS occupation groups
 - 2) Possibility of using other data here (e.g., SIPP, Marcelli)
 - 3) Adjust each state-region of birth for convergence to targets
 - 4) Separate adjustments for parents/non-parents by state-region
 - c. Iterate assignments and edits until targets are hit
 - d. Relatively insensitive to initial assignments (a.-b.) since targets are 80–95% of ***potential unauthorized targets***
- ***Adjust weights for undercount***
 - a. From analytic estimates by state-region of birth-ages

Approximate status assignments

- **Assign refugees**
 - a. Country of birth and year/period of entry*
- **Assign legal temporary residents**
 - a. Short-term residents
 - b. Occupations, school enrollment, family status*
- ***Assign definite lawful immigrants***
 - a. Pre-1982 arrivals
 - b. Naturalized citizens except Mexico/Central America*
 - c. Specific occupations and industries*
- ***Potential unauthorized → unauthorized***
 - a. One option – analyze potential unauthorized
 - b. Use external totals (e.g., Pew, DHS, MPI) as controls – could be states/state groups, countries/regions of birth
 - c. Randomly assign unauthorized

* More detailed specifications available on request.

***There's a lot more in the reports!
Thank you! Questions?***



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