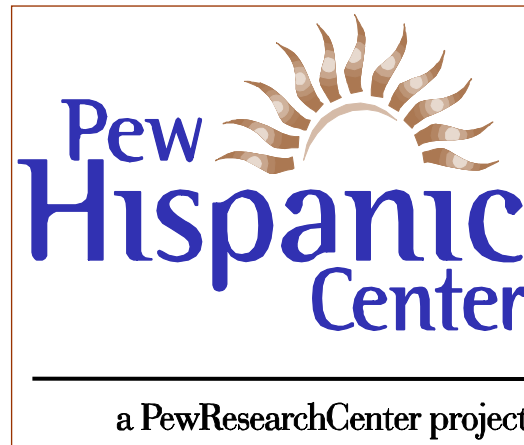


Jeffrey S. Passel  
Pew Hispanic Center  
Washington, DC

# ***Unauthorized Immigration: Measurement, Methods, & Data Sources***



***Immigration Data Users' Seminar***

Migration Policy Institute & Population Reference Bureau  
Washington, DC—16 October 2008

# ***Unauthorized Immigration***

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- ***Methodology***

- Description of Residual Method
- Who is “Authorized”/“Unauthorized”?
- Key Assumptions
- Microdata Status Assignments

- ***Data Sources***

- Microdata
- Government Data Sources:
  - Census, CPS, ACS (esp. 2005+)
- Other Surveys and Sources

# ***Estimation Methods***

# ***Residual Estimates of Unauthorized Immigrants***

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***Unauthorized Population =  
Total Foreign-Born (Census)  
minus  
Legal Foreign-Born (Estimate)***

- ***Widely Used:***
  - OIS '05–'07; Warren '80–'00
  - Passel (et al.) '80–'08
  - Binational Study '96

# ***Equations for Estimates of Unauthorized Immigrants***

**Unauthorized Immigrants** = **Total Immigrants** minus ***Legal Immigrants***

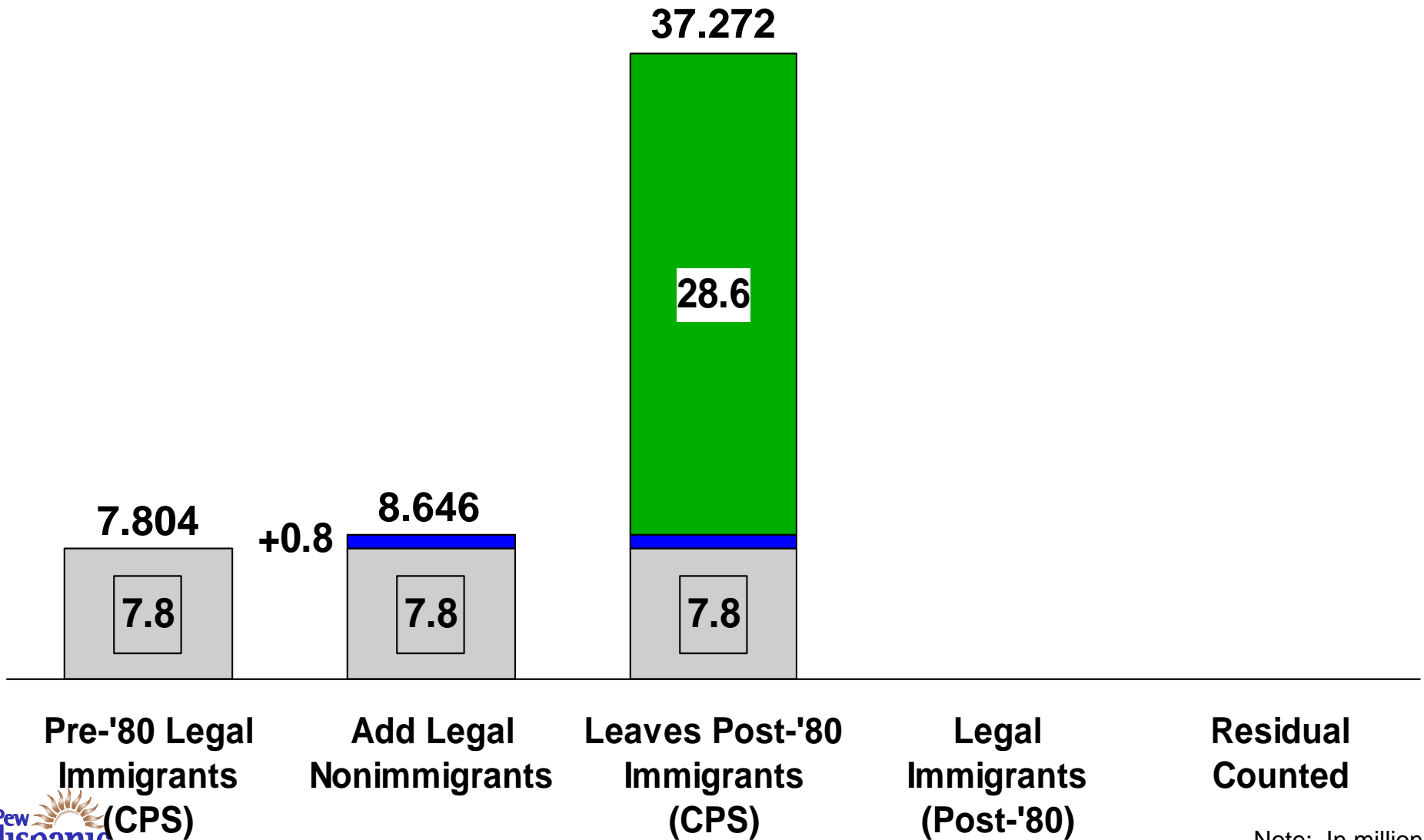
***Less Estimated Undercount***

**Unauthorized Counted** = **Counted Immigrants** minus **Counted Legal Immigrants**

**Counted Immigrants** = ***Census Foreign-Born*** minus ***Counted Legal Non-Immigrants***

**Note: All populations are for post-1980 entrants.**

# Residual Estimate Using March 2008 CPS Supplement



Note: In millions.

# ***Residual Estimates of Unauthorized Immigrants***

**Total** = **Counted** plus **Missed**  
**Unauthorized** **Unauthorized** **Unauthorized**  
**Immigrants** **Immigrants** **Immigrants**

## ***Some Assumptions:***

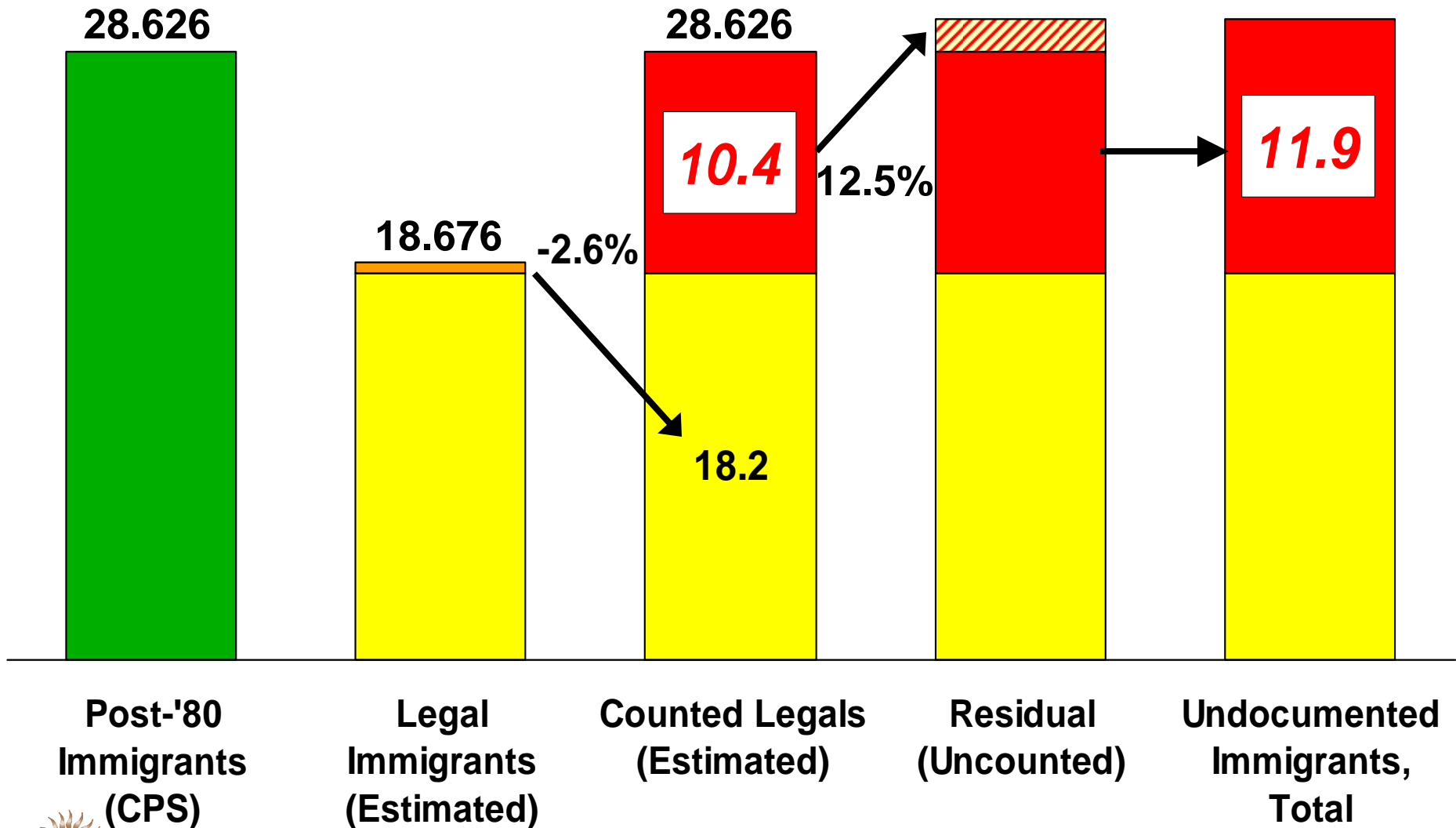
### ***a. Estimated Undercount***

**% Undercount for Legal Immigrants –  
based on adjusted A.C.E. by age-sex-race  
times 1.75 for recent entrants**

**% Undercount for Unauthorized Immigrants –  
1.83 times specific rates for legals**

### ***b. Internal Migration -- Census/CPS rates for F-B***

# Residual Estimate Using March 2008 CPS -- Continued



# ***Who Are the “Legals”?***

- ***Components of Legal Immigrants:***

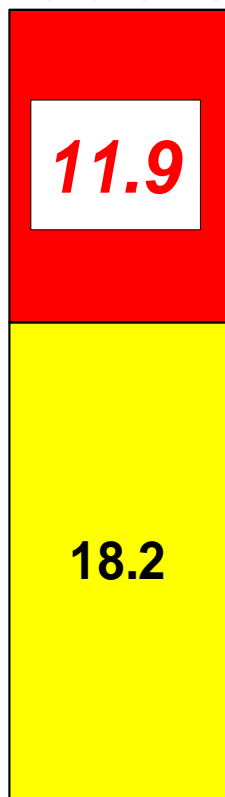
- a. Refugee Arrivals (ORR, INS, State)
- b. Asylum Approvals (INS)
- c. Cuban-Haitian Entrants, Amerasians, Northern Iraq parolees (ORR)
- d. Other Entrants, Other Parolees (INS)
- e. IRCA Legalizations approved -- SAWs & “LAWs” (INS)
- f. INS New Arrivals, except Amerasians in d.
- g. Adjustments to LPR Status, except from statuses in a.-e. (INS)
- h. Pre-1980 Entrants (Census/CPS counts)

# ***...the “Unauthorized”?***

- ***Not “Legal” or Non-Immigrants***
- ***Overstays (40–45%) & EWIs***
- ***“Quasi-”Legals, including:***
  - a. TPS & DED (esp. El Salvador, Nicaragua)
  - b. NCARA & ABC beneficiaries
  - c. Asylum Applicants
  - d. Adjustment Applicants (incl. K, V visas)
  - e. 245(i) Beneficiaries
- ***Overlapping Categories***
- ***Probably ~1 Million or so “Quasi”***

# Change in Residual Estimates March 2008 vs. March 2006 CPS

28.6 CPS

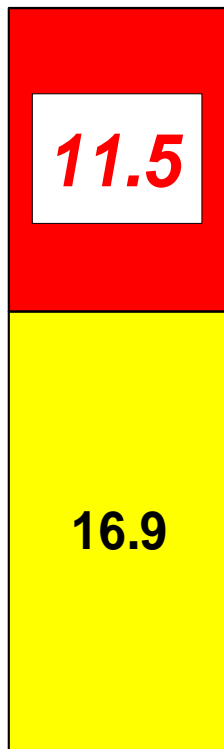


11.9

$\pm 0.300$   
 $\pm 0.494$   
(1.6 s.e.)

18.2

26.9 CPS



11.5

$\pm 0.295$   
 $\pm 0.485$   
(1.6 s.e.)

16.9

Diff =  
0.421

$\pm 0.692$   
(1.6 s.e.)

March 2008  
Residual

Standard Error  
(Est. for Post-  
'80 F-B)

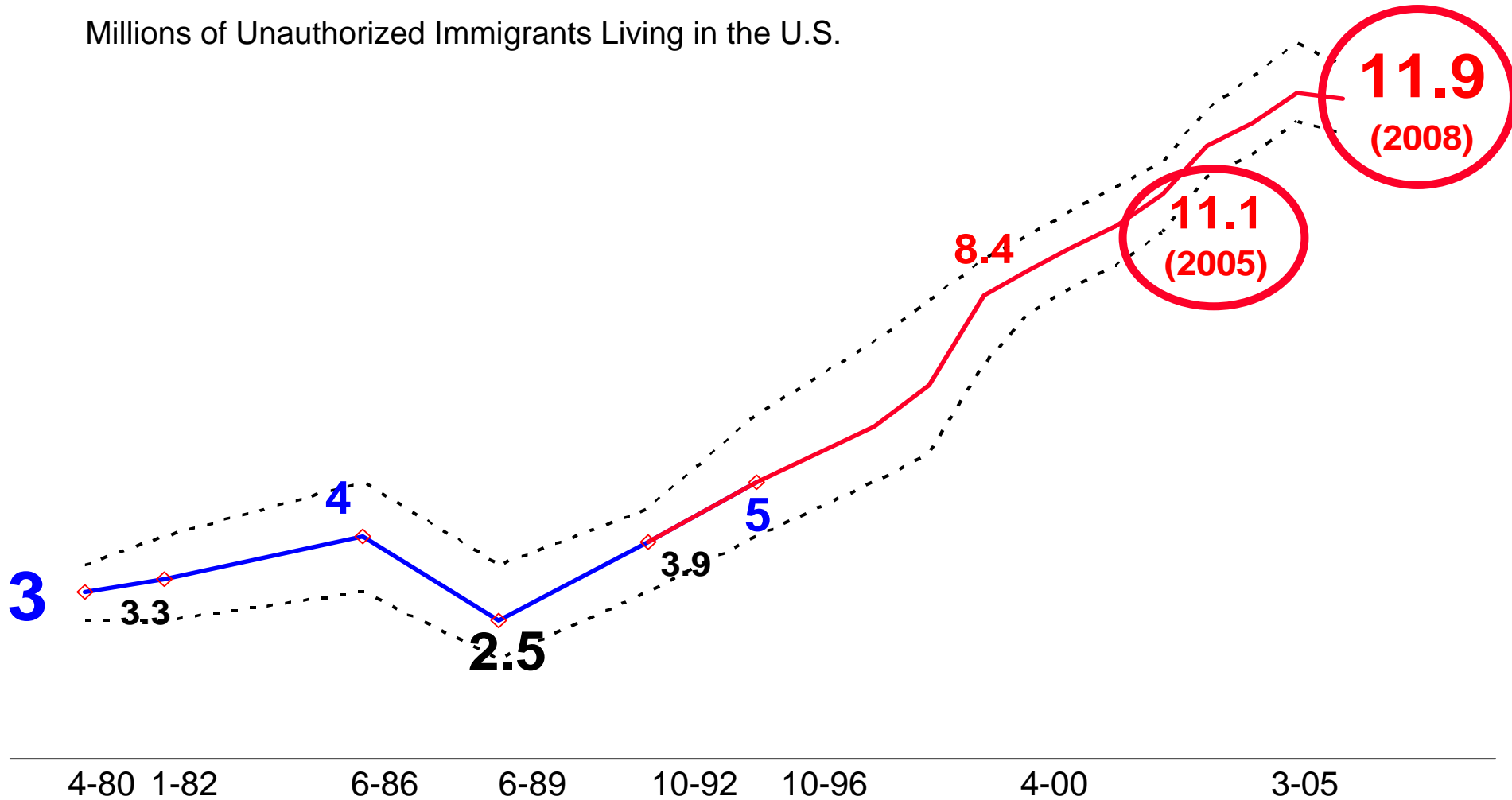
March 2006  
Residual

Standard Error  
(Est. for Post-  
'80 F-B)

Change 2008-  
2006 & Std.  
Error

# Unauthorized Clearly at New High -- Trend Uncertain

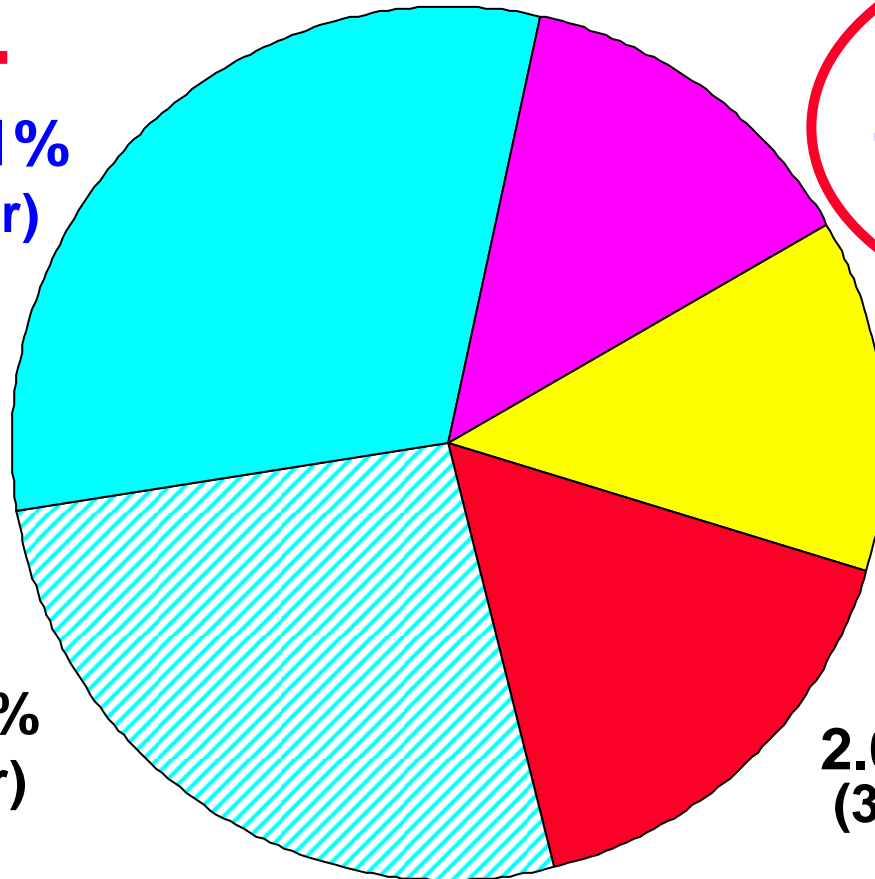
Millions of Unauthorized Immigrants Living in the U.S.



# Recent Cohorts Are Smaller → Large In- & Out-Flows

**2000-04**  
3.7 million – 31%  
(725,000 per year)

**2005-08**  
1.6 million – 13%  
(500,000 per year)



**1980s**  
1.6 million -- 13%

**1995-1999**  
3.1 million -- 26%  
(625,000 per year)

**1990-94**  
2.0 million -- 16%  
(390,000 per year)

**11.9 Million in March 2008**

(Analytic estimates)

***Status Assignments,  
Geographic Data,  
Characteristics***

# ***Types of Data/Estimates***

- ***Analytic Estimates***
  - “Counted” in Census/CPS
  - “Corrected” for undercount
  - Totals by Country/Region
  - 6 States (CA, TX, NY, FL, NJ, IL) & Balance
  - Some Demographic Information:
    - Age & sex
    - Period of Entry
- ***Status Assignments in Survey***
- ***Totals May Differ***

# ***Status Assignments (I)***

- ***Legal Temporary Immigrants***
  - Students, Diplomats, H1-B
  - Intracompany, Outstanding
  - Uses occupation, period of entry, relationship, other
  - No targets; understated
- ***Refugees/Asylees***
  - Country of Birth
  - Period of Entry
  - Demographic targets

# ***Status Assignments (II)***

- ***Naturalized Citizens***
  - In US < 6 years, edit to alien
  - In US  $\geq$  6 years,
    - Mexico—Potential illegal or natz.
    - Cent. Am.—Potential illegal or natz.
    - Other—Accept as natz.
  - No demographic targets
- ***Definite Legal Immigrants***
  - Naturalized from above
  - Entered US before 1980
  - Definite legal occupation
  - All others are ***Potential Illegals***

# ***Status Assignments (III)***

- ***Undocumented Immigrants***
  - Targets for 6 States & US balance:
    - <18 — Legal & Undoc
    - 18–64 — Undoc M & F
    - For Mexico & Other(s)\*
    - State Total
  - Random assignments by Occupation
  - Initial  $p$ 's from IRCA LPS
  - Household edits for consistency
  - Adjust  $p$ 's and iterate 'til targets hit
  - Targets are ~80% of potential
  - Relatively insensitive to initial  $p$ 's
  - Adjust weights for undercount

# ***Legal Status Data***

- ***Legal Immigrants as Remainder***
  - Dataset with ***“Legal Status Variable”***
- ***Other Variables Created***
  - Nuclear Families (“MHU’s”)
  - Family Legal Status (hierarchy)
  - Household Legal Status (hierarchy)
- ***Use of Data***
  - Geography (All States; Metro Areas)
  - Detailed Country Data
  - Families & Other Characteristics

# ***Immigration Measurement Issues (I)***

- ***Problematic Components***
  - Legal Nonimmigrants, including K & V Visas
  - Refugees/Parolees (?)
  - Backlogs
  - Emigration
- ***Categorical Issues***
  - Definition of Resident, especially Mexicans & Nonimmigrants
  - Gross Flows, including between categories

# ***Immigration Measurement Issues (II)***

- ***Data Issues***

- Reliance on Census/CPS/Controls
- Lack of Direct Coverage Measure
- Emigration Measures
- Interpretation of Entry Date

- ***Government/Survey Issues***

- Better Models (Census Bureau)
  - Consistent Controls
- More Micro-Data (esp. OIS)
- Direct Collection of Legal Status

# ***Data Sources***

# ***Data on U.S. Immigrants***

- ***Current Population Survey (CPS)***
  - Monthly
  - Supplements, especially ***March***
- ***Census***
  - Public-Use (PUMS & IPUMS) — ***5%*** & 1%
- ***American Community Survey (ACS)***
  - 2000 (C2SS) & 2001–2004
  - ***2005–2007 — 1%*** of U.S.
- ***Other Data***
  - Mexican Migration Project
  - New Immigrant Survey (NIS); Pew Surveys
  - OIS (INS) Data on Legals

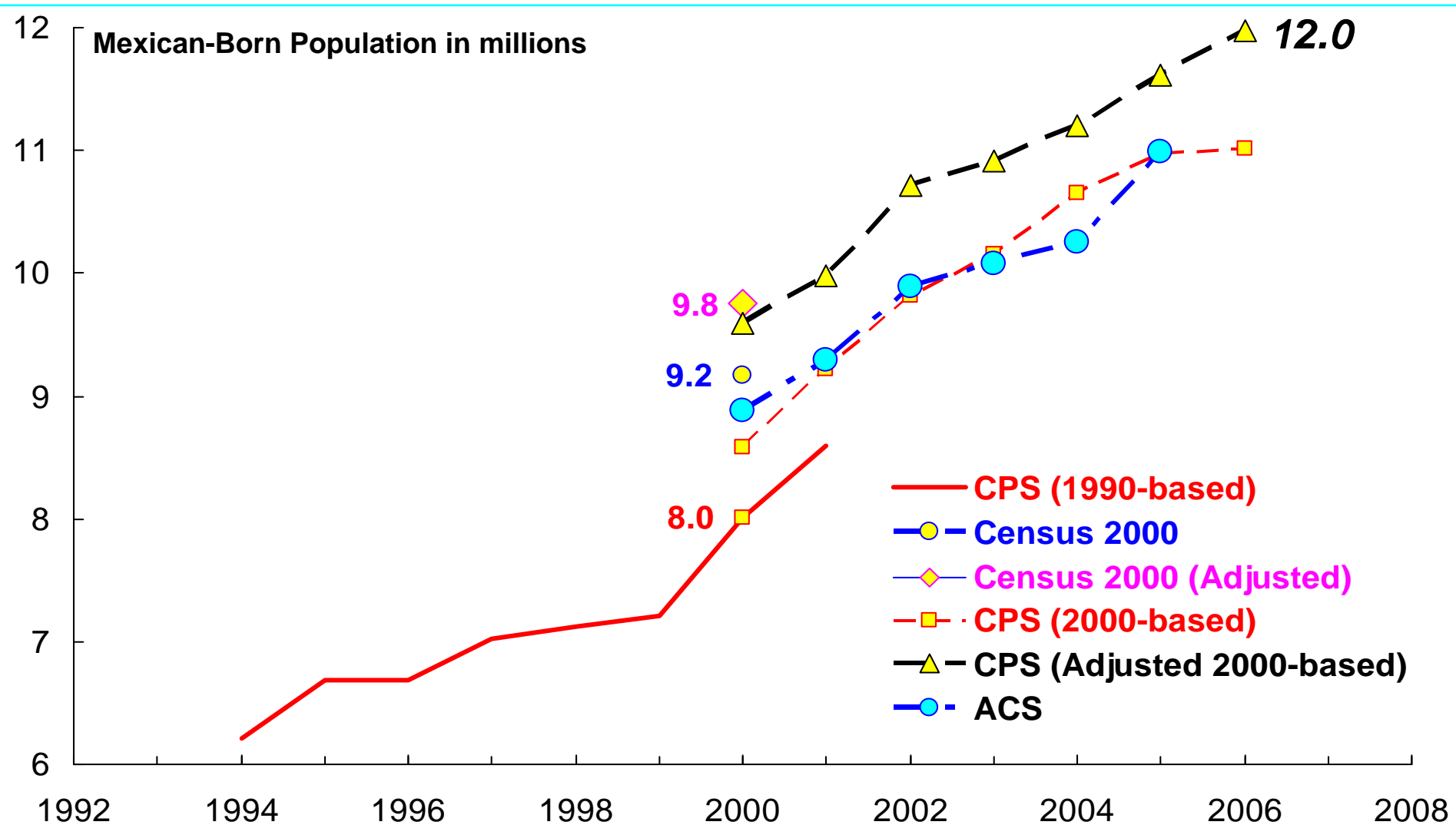
# ***Current Population Survey***

- ***Universe:*** Civilian, Noninstitutional (-4M)
- ***Sample Size*** (State-based design)
  - Monthly: 45,000 Households
  - March 1994–2001: 50,000+ HHs
  - March 2001–: 80,000 HHs
- ***Weighting Issues***
  - 1994–1995: Many problems, special wts.
  - 1994–2001: '90-based weights (caution)
  - 2001(SCHIP)–: '00-based weights (OK)
  - Reweighted March 2000, monthly 2000–2002:  
Caution with March 2000
  - New Controls every year (!) – Vintage 07-08 (?)
- ***Key Variables***
  - Birthplace; ***Citizenship***; Year of “Entry”

# ***Evolution of Numbers***

- ***New CPS Figures in 1990s***
  - Steady Upward Trend
- ***Census 2000 Number Much Higher***
- ***CPS Reweighted to Census Level***
  - Growth Continues
- ***Adjustment for Undercount***
- ***New Data Source — ACS***
  - Trend Data Generally Fits

# American Community Survey Data Offers New Source & Information



# Census 2000

- **Universe:** U.S. Resident Population
- **Sample Size** (Random Representative)
  - Full Sample: 1-in-6, 16 Million Households
  - Public-Use 5%: 5+ Million HHs; 14M Persons
  - Public-Use 1%: 1+ Million HHs; 2.8M Persons
- **Weighting Issues**
  - No special issues
  - Geography based on PUMAs
  - States OK; some caution on Metro Areas
- **Key Variables**
  - Birthplace; **Citizenship**; Year of “Entry”
  - Caution on Born Abroad of American Parents

# Census *IPUMS* ([www.ipums.org](http://www.ipums.org))

- **Universe:** U.S. Resident Population, 1800s-2000
- **Sample Size** (Random Representative)
  - Public-Use: Samples Vary by Census
- **Weighting Issues**
  - No special issues
  - Geography varies by Census
  - States OK
- **Key Variables**
  - Birthplace; **Citizenship**; Year of “Entry”
  - **Universal Variable Names & Codes**
  - Some special variables (Family links)
  - Some loss of detail from full PUMS

# **ACS 2005**— (Census Replacement)

- **Universe:** Household Population (expanded 2006)
- **Sample Size** (Random Representative)
  - Full Sample: 250,000 HH/month; 3 Million/year  
Subsampling for nonresponse
  - Public-Use 1%: 1.1 Million HHs; 2.9M Persons
- **Weighting Issues**
  - 12 merged monthly samples; 5 merged years
  - Geography based on 2000 PUMAs
  - States OK; some caution on Metro Areas
- **Key Variables**
  - Birthplace; **Citizenship**; Year of “Entry”
  - Measurement questions on “rolling sample”

# ACS 2000–2004

- **Universe:** Household Population
- **Sample Size** (Not Truly Random)
  - Full Sample: 700,000 HH/year (nominal)  
Subsampling for nonsreponse → ~500K HHs
  - Public-Use: ~500K HHs ('01-'04); 130K ('00)
- **Weighting Issues**
  - 12 merged monthly samples
  - Geography only for States
  - Representativeness at issue
- **Key Variables**
  - Birthplace; **Citizenship**; Year of “Entry”
  - Use caution for trends & comparisons (esp. 2000)

# Websites

- [www.census.gov](http://www.census.gov)
  - ACS PUMS (SAS format; Pop & Housing separate)
  - American Factfinder; **“DataFerrett”** (find w/ Google)
  - Census PUMS (Not formatted); CPS?
- [www.nber.org](http://www.nber.org)
  - All CPS files (Supplements, monthly, reweighted)
  - SAS, SPSS, Stata conversion programs
- [www.ipums.org](http://www.ipums.org)
  - All Censuses (1850-2000), CPS, etc.
  - Universal coding across years (some data loss)
  - SAS & other extracts available
- [www.pewhispanic.org](http://www.pewhispanic.org)
  - Reports
  - Datasets

# ***Other Data Sources***

- ***Mexican Migration Project***
  - Mexico-based samples (Representative?)
  - Detailed Migration History
- ***New Immigrant Survey***
  - 1-year sample of ***Legal Admissions*** (8K?)
  - Detailed Migration History
  - Plans for Longitudinal Survey
- ***Other Surveys***
  - Pew Matricula Consular
  - Other Specialized Surveys
- ***OIS (INS) Administrative Data***
  - Annual Green Cards (1972-2001)
  - Legals only; Limited socio-demographic data
  - Naturalizations (1975-?)
- ***Mexican Sources***

# ***Other Methods/Data***

- ***ACS/CPS Data on Year of Arrival***
  - CPS has only 2+ year intervals
  - ACS has single years and larger sample
  - Specialized study of year of arrival
- ***Mexican Data Sources***
  - Various Surveys & Census
  - Departure Survey (ca. 2000)
- ***Apprehensions Data***
  - Events, not Flows
  - Mostly not Immigrants but Labor Flows
  - HIS has Unduplicated Data
- ***Indirect Indicator***
  - Total Mexican-Born Population
  - Remittances (Augmented with Specialized Surveys?)
  - Other Population/Labor Force Measures

**For more information,  
contact:**

***Jeffrey S. Passel, Ph.D.  
Pew Hispanic Center  
Pew Research Center  
Suite 700  
1615 L St., NW  
Washington, D.C. 20036***

**(202) 419-3625**

**[jpassel@pewhispanic.org](mailto:jpassel@pewhispanic.org)**