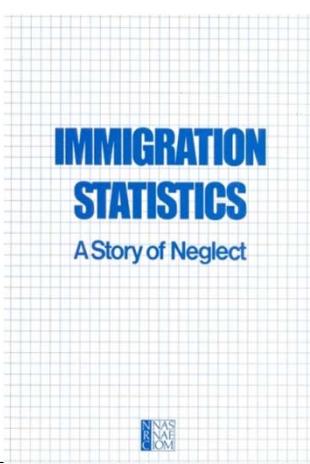


# National Research Council Studies on Immigration

Tom Plewes  
Director, Committee on Population  
National Research Council  
October 25, 2013

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## An Early Study Focused on the Quality of Immigration Statistics (1985)



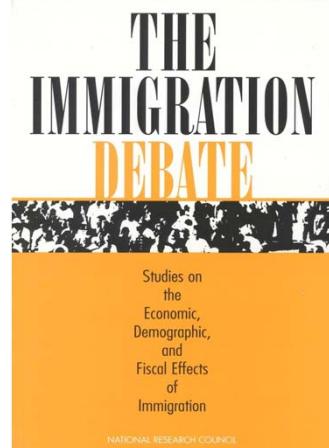
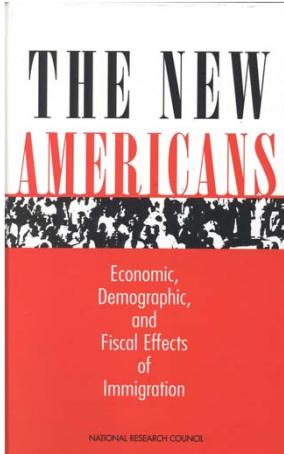
**IMMIGRATION  
STATISTICS**

A Story of Neglect

NAS  
NRC  
CIOI

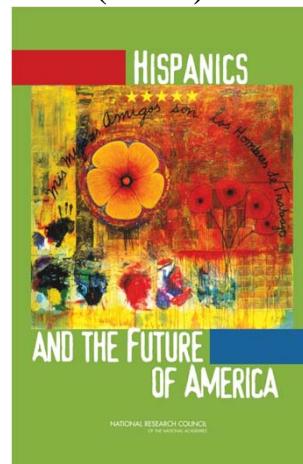
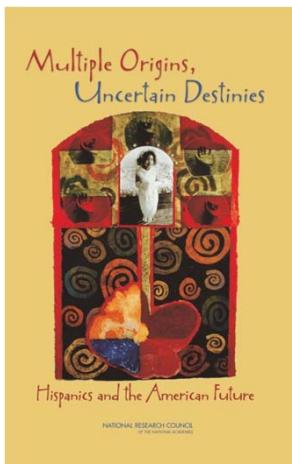
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## “The New Americans” and Background Papers (1998)



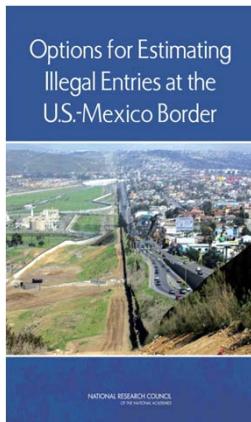
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## Two Major Studies of Hispanic Immigration Patterns and Outcomes (2006)



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## Border Crossing Study Is the Most Recent (2013)



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## Coming Soon – Two New Studies

Economic and Fiscal  
Impacts of  
Immigration

Integration of  
Immigrants into  
U.S. Society

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# The Economic and Fiscal Impacts of Immigration

Sponsored by John D. and Catherine T. MacArthur Foundation.

Expert panel will:

- (1) summarize existing knowledge about the economic and fiscal impacts of immigration;
- (2) project immigration and related economic and fiscal trends to the year 2050, or present an analysis of projection scenarios representing best research on the topic;
- (3) discuss implications of the panel's findings for economic and fiscal policy, particularly with regard to expenditure and tax programs; and
- (4) identify gaps in our existing knowledge and in the data infrastructure.

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# The Economic and Fiscal Impacts of Immigration

Questions to be addressed by the panel:

Overall living standards and the macro economy

Wages and income of U.S. natives and immigrants

The extent to which immigrant labor complements and/or substitutes for native employment

Impact on budgets and fiscal health at the federal, state and local levels; and

The distribution of budget impact across federal, state, and local entities

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## Integration of Immigrants into U.S. Society

Sponsored by: Carnegie Corporation of New York; The Russell Sage Foundation; National Science Foundation; Citizenship and Immigration Services, Department of Homeland Security; NAS Presidents' Fund

The study will:

Summarize what we know about how immigrants are integrating into American society;

Discuss what the implications of this knowledge are for informing various policy options;

Identify any important gaps in our existing knowledge and data availability.

Be completed over a two year period in conjunction with a study of the economic, fiscal and labor market effects of immigration.

Produce a consensus report and be followed by an aggressive program of outreach and dissemination.

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## Integration of Immigrants into U.S. Society

### **Immigrant integration – starting definition:**

*The process by which the characteristics of members of immigrant groups and host societies come to resemble one another. Has both economic and socio-cultural dimensions. Begins with the immigrant generation and continues through second generation and beyond.*

### **Some Measures:**

*Language, socioeconomic status, residence patterns, political integration (legal status, naturalization, citizenship, voter registration, political participation); social integration (intermarriage and belonging)*

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## Integration of Immigrants into U.S. Society

### **Questions to be addressed by the panel:**

Demographic impact

Contribution to scientific skills and innovation

Changes in residential integration patterns

Success in integrating into society according to the various measures

Effect on U.S. institutions and governance

Effect on political participation and civic engagement

Additional data needed to research the issues

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# **Understanding Undocumented Migration**

## **Survey and Modeling Options to Estimate Flows**

---

Alicia Carriquiry

Department of Statistics  
Iowa State University  
Ames, IA 50011, USA

# Background

- During the early 2000s, apprehensions of undocumented migrants at the southwestern border of the United States reached an all-time high of about 1,800,000 per year.
- Partly as a result, DHS significantly stepped up its enforcement efforts at the border:
  - More U.S. Border Patrol agents
  - More surveillance and technology assets
  - Greater use of “consequence programs”.
- In the past several years, the number of apprehensions at the southwest border has fallen dramatically.
- The number of apprehensions does not tell the whole story; we also need to know what has happened to the “denominator” – that is, the flow of unauthorized crossers.

## Background (cont'd)

- A better understanding of the magnitude, timing and location of these flows would help DHS to:
  - Better evaluate the effectiveness of enforcement efforts.
  - Provide a more complete report to the public on the state of illegal immigration.
- In terms of the national interest, understanding illegal migration is critical to inform the discussion on immigration reform that is about to get underway (again).

## The charge to the panel

- With funding from DHS, the NRC established a panel to evaluate survey and modeling options to estimate the flow of undocumented migrants between ports of entry in the southwestern border of the U.S.
- In addition to reviewing existing U.S. and Mexican surveys, the panel was to use apprehensions data collected by DHS and propose ways to model the migration process.
- Ideally, flows are to be estimated by quarter and by sector of the border.
- In a perfect world, DHS would have methods to combine information from different sources to obtain estimates of flow in a timely and accurate manner to:
  - Help DHS with field operations
  - Provide an up-to-date picture of undocumented flows across the border.

## A diverse panel

- Sampling experts: Virginia Lesser, Mark Handcock
- General statistical methods: David Banks, Steve Fienberg, Alicia Carriquiry
- Economists: Pia Orrenius, Gordon Hanson
- Sociologists / Demographers: Peter Brownell, Jeffrey Passel, Fernando Riosmena
- Sociologist from Mexico: Silvia Giourguli
- NRC staff: Malay Majumdar, Tom Plewes.
- Mike Hoefer, contact to the Office of Immigration Statistics, sponsor.
- In addition to meetings, the panel went on a “field trip” and visited the southwest border in Arizona and San Diego.

## Brief outline

- The southwestern border and the migration process.
- Sources of information about unauthorized migration.
- Surveys and their limitations.
- Administrative records: content, quality, access.
- The promising role of statistical modeling and a few final thoughts.

# The migration process

- Undocumented persons are in the U.S. because:
  - They entered at a port of entry hidden in a vehicle or using false papers.
  - They crossed the border between ports of entry.
  - They overstayed a legal visa to the U.S.
- U.S. Border Patrol (BP) has jurisdiction of the border between ports of entry.
- The Office of Field Operations (OFO) controls the ports of entry.
- Immigration and Customs Enforcement (ICE) is in charge of the interior of the United States.

## The migration process (cont'd)

- The border should be viewed as a system – increased enforcement efforts in Arizona can result in more migration pressure in Texas.
- The migration process is complex and dynamic. It is the outcome of many inter-related factors that vary over time, space and individuals.
- Factors that affect the flow of undocumented persons include economic conditions in the U.S. and in Mexico, local enforcement efforts, competition from other (often more profitable) trafficking across the border (drugs to the north, arms to the south).
- At least for the purpose of estimating flows, data collected by OFO, BP and ICE are not combined.

# Sources of information about undocumented migration

- Surveys conducted in the U.S. (ACS and CPS plus a few migration surveys)
- Surveys conducted in Mexico (nationwide and focused on migration)
- Administrative data collected by DHS. The most useful potentially is the ENFORCE database, that includes information about apprehensions (and re-apprehensions) between ports of entry in the southwest border.

## Criteria to evaluate utility of surveys

- There are about 10 surveys conducted in Mexico and the United States that appear to collect information about migration, either directly or indirectly.
- For DHS's purposes, useful surveys need to be
  - Timely: estimates are reported frequently and release is quick.
  - Target population includes actual or likely undocumented migrants.
  - Includes questions about migration and border crossing.
- Neither ACS or CPS meet these criteria.
- Among the Mexican surveys, two are promising: ENOE (National Survey of Occupation and Employment) and EMIF-N (Survey of Migration at the Northern Border).

## ENOE and EMIF-N

- ENOE meets the timeliness criterion (data released quarterly, within a year of collection) but is sparse in terms of questions about migration.
- Administered by the Mexican government, so adding questions about migration might be a challenge.
- EMIF-N is administered by El Colegio de la Frontera and targets migrants passing through Mexican border cities.
- Data are released annually, but could be released more frequently.
- Target population is the one of interest, but coverage may be an issue:
  - Participants sampled at airports, bus depots, train stations, international bridges, ports of entry, plazas, anywhere where migrants might congregate.
  - Design is adaptive and dynamic, data are collected only at locations where most migration occurs.
  - Weighting assumes that no migration occurs outside of those locations.

## How about a new, dedicated survey?

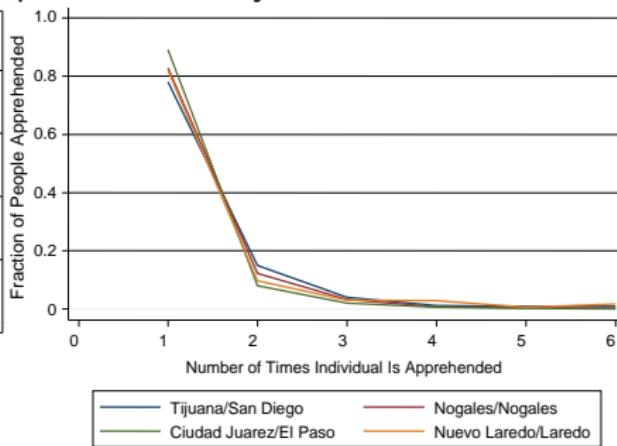
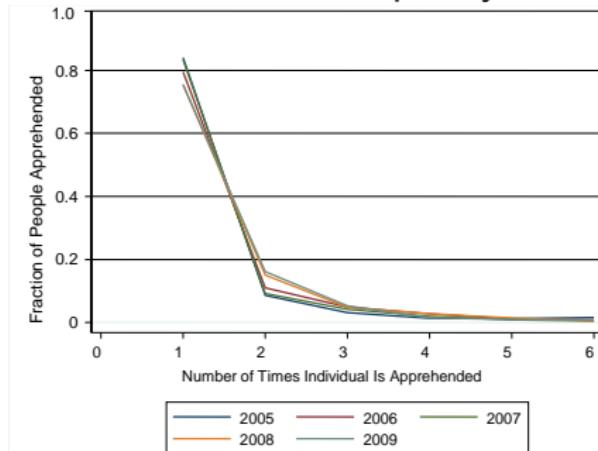
- Migration is a relatively rare event – only about 1.5% of households have an adult who crosses the border in a year.
- Back of the envelope calculations suggest that a national Mexican survey focused on immigration would need to be as large as the ACS and cost hundreds of millions of dollars.
- Too many challenges to consider this idea further:
  - Mexican government is probably not anxious to field this large survey.
  - Response rates are likely to be low on a survey funded by DHS in Mexico.
  - Large surveys are not typically nimble enough to adapt to a rapidly changing migration process.

## Data collected by DHS

- Different branches of DHS collect enforcement data pertaining to undocumented migration.
- The ENFORCE database maintained by USBP contains information about each apprehension event that can be used to better understand the migration process.
- DHS had agreed to share these data with the committee, but recanted (more later).
- Even with full access to these data, it would not be possible to estimate the number of **attempts** to cross the border illegally between points of entry.
- The database contains no information about
  - Persons who cross undetected in their first attempt.
  - Persons who cross undetected after being apprehended once or more times.
  - Persons who get discouraged and no longer attempt to cross after one or more apprehensions.

## Analysis using EMIF-N data

- Since EMIF-N collects data similar to ENFORCE, the panel carried out illustrative “frequency of frequencies” analysis.

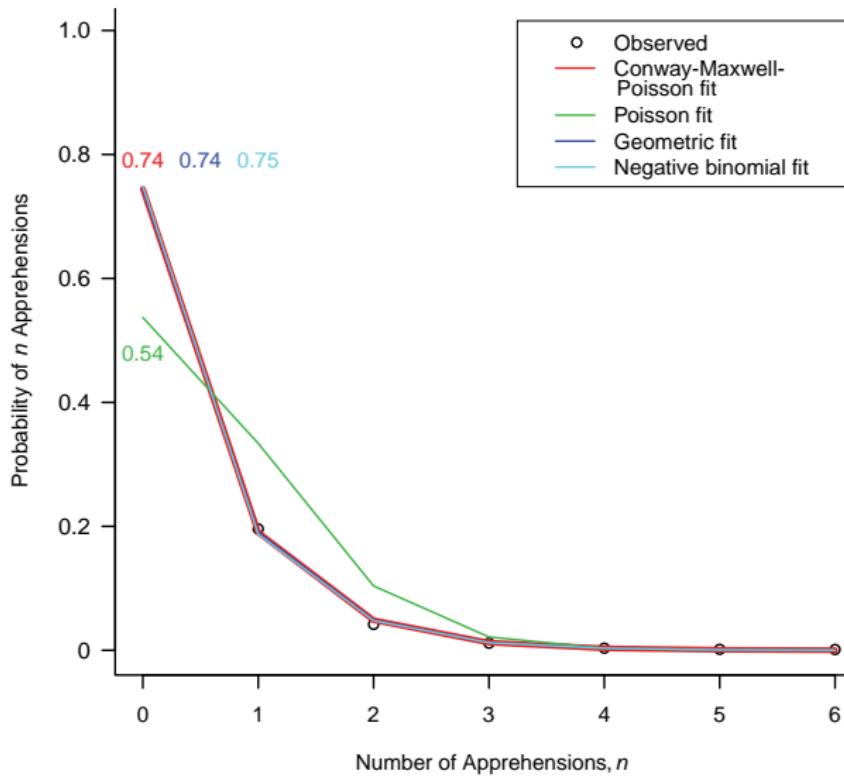


- Individuals who are apprehended once and not seen again may have crossed undetected or may have been discouraged.
- Persons who cross undetected the first time are not in the database.

# What might data like these tell us?

- Suppose that we assume that:
  - ① Each individual is apprehended independently of all others.
  - ② Individuals are never deterred – they continue attempting to cross until they succeed.
  - ③ Multiple attempts by “cyclical” crossers are independent.
- These assumptions are not easily checked and deviations would have a significant effect on inference.
- Under these assumptions, we could try to estimate the probability of zero apprehensions.

# A naive estimate of success at first attempt



## Combining data sources

- Neither surveys nor apprehensions data alone will allow accurate estimation of unauthorized migration flows.
- In combination, they can provide useful insights about migrant flows and how factors such as economic conditions, changes in enforcement, and others impact those flows.
- To combine these data sources effectively, the use of statistical models is critical.
- Unfortunately, no progress has been made in this direction, because DHS has not shared data with the broader scientific community.
- It is not clear whether the administrative records are complete, reliable, useful.
- DHS does not have the analytical capacity in-house to carry out these analyses and reports produced by contractors have not undergone review by anyone outside of DHS.

## Model-based and other approaches

- The committee discussed various modeling approaches to combine survey and administrative data: probability models, regression models (including spatio-temporal dependence) and even simulation-based approaches (e.g., agent-based models).
- Without access to the DHS data, discussion was largely an exercise in abstraction.
- Committee investigated novel approaches to address gaps in the information that is available. For example:
  - Can we estimate the deterrence effect of apprehensions and consequence programs?
  - Can we estimate the probability of crossing undetected in the first approach by sampling the undocumented migrants currently in the U.S.?

## Bottom line

- Understanding and quantifying unauthorized flows at the southwest border of the U.S. is a challenge, but the information is critical as the discussion about immigration reform unfolds.
- It has been proposed that by significantly increasing enforcement personnel at the border, the flow of unauthorized migrants will be reduced to almost nothing, but there is no real evidence to support this claim.
- Similarly, the effect of factors including employment opportunity (both in Mexico and the U.S) and the effect of “competing traffic” (drugs moving north, arms moving south) on migrant flows is not well understood.
- Moving forward, DHS would greatly benefit from engaging the broader scientific community and by sharing its data widely.

# *Unauthorized Immigrants:* Estimation Methods, Micro-Data, and Results

Jeffrey S. Passel

Senior Demographer



*Understanding Immigration: Measuring Flows, Populations & Economic Effects*  
Committee on National Statistics, Public Seminar  
Washington, DC—25 October 2013

## Today's Presentation

- **Example Results**
  - Family & Labor Force Characteristics
- **Measurement Methods**
  - Description of **Residual Method**
  - Who is “**Authorized**” vs. “**Unauthorized**”
  - Microdata **Status Assignments**
- **Data Sources**
  - Survey Data & Microdata – ACS & CPS
  - Role of Weighting in Measurement
  - Cross-Year & Cross-System Comparisons

## Selected Results

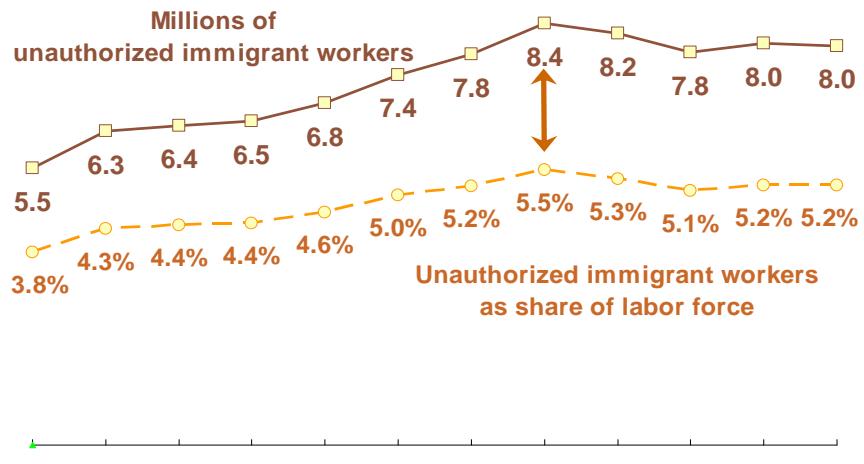
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PewResearchCenter

### Unauthorized Immigrants

- **Labor Force Trends**
  - Unauthorized are Relatively Small Share
  - Peak Numbers and Share in 2007
  - Low Shares in Most States
- **Characteristics**
  - LFPR: High for Men, Low for Women
  - Large Share are in **Families with Children**
  - Majority of **Men** are in Families, not Solo
  - Vast Majority of Kids are US-born

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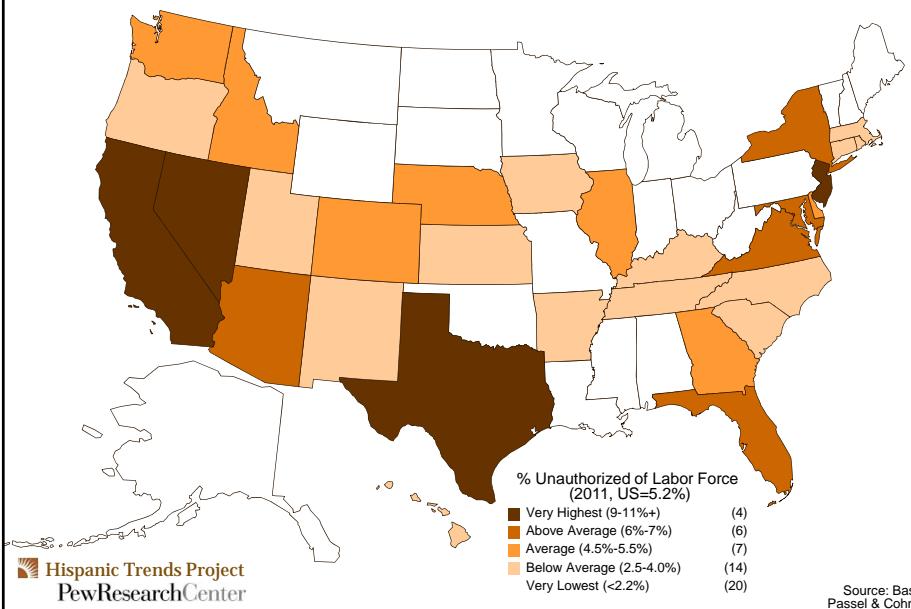
## Unauthorized Workers—Numbers & Shares Increased through 2007



Source: Pew Hispanic Trends based on augmented 2000-2011 March CPS, consistent with Passel & Cohn 2012.

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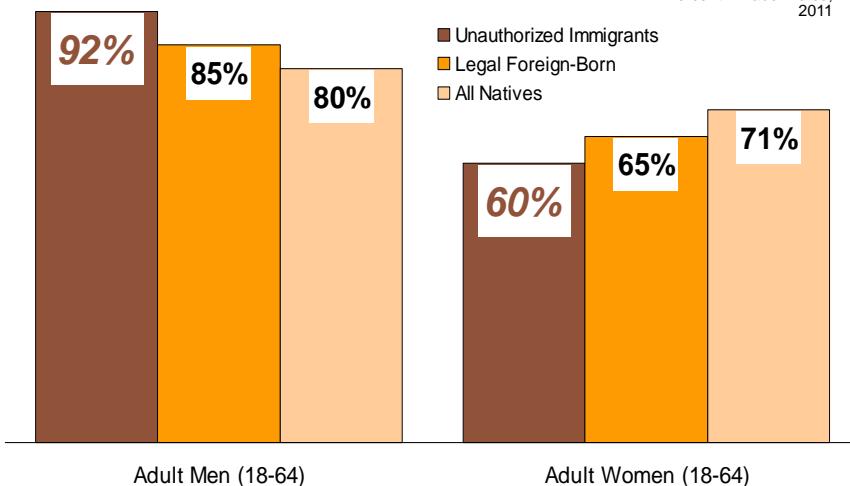
## % Unauthorized of Labor Force



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## Unauthorized Men Work More; Women Work Much Less Than Others

Percent in Labor Force, 2011

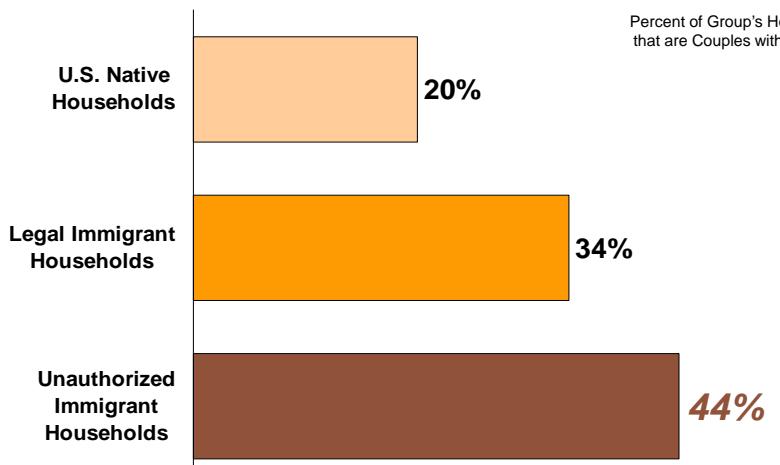


Source: Pew Hispanic Trends based on augmented 2011 March CPS, consistent with Passel & Cohn 2012.

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## Unauthorized Immigrants More Likely To Be Couples with Children

Percent of Group's Households that are Couples with Children, 2011

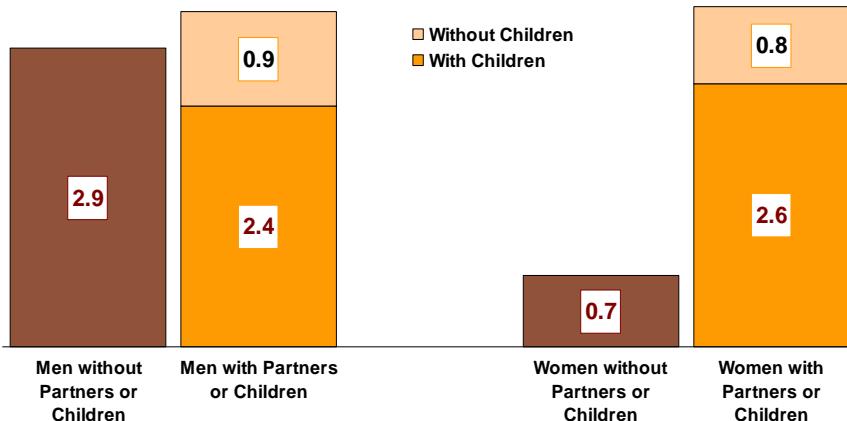


Source: Pew Hispanic Trends based on augmented 2011 March CPS, consistent with Passel & Cohn 2012.

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## A Majority of Unauthorized (Men) Are Married or Have Children

Adult Unauthorized Immigrants,  
2010 (millions)

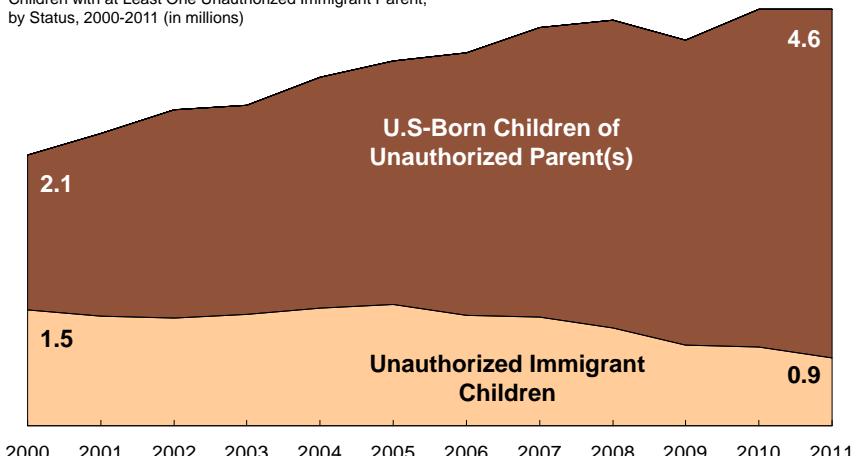


Source: Pew Hispanic Trends based on augmented  
2010 March CPS (Passel & Cohn 2011), superseded.

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## US-Born Children of Unauthorized Up but Unauthorized Children Decrease

Children with at Least One Unauthorized Immigrant Parent,  
by Status, 2000-2011 (in millions)



Source: Pew Hispanic Trends based on augmented  
2000-2011 March CPS, consistent with Passel & Cohn 2012.

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## Estimation Methods

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### Residual Estimates of Unauthorized Immigrants

*Unauthorized Population* =  
**Total Immigrants (Survey)**  
minus  
**Legal Immigrants (Estimate)**

- **Widely Used:**
  - OIS '05–'11; Warren '80–'00
  - Passel (et al.) '80–
  - Binational Study '96
  - Warren & Warren '13 (Variant)

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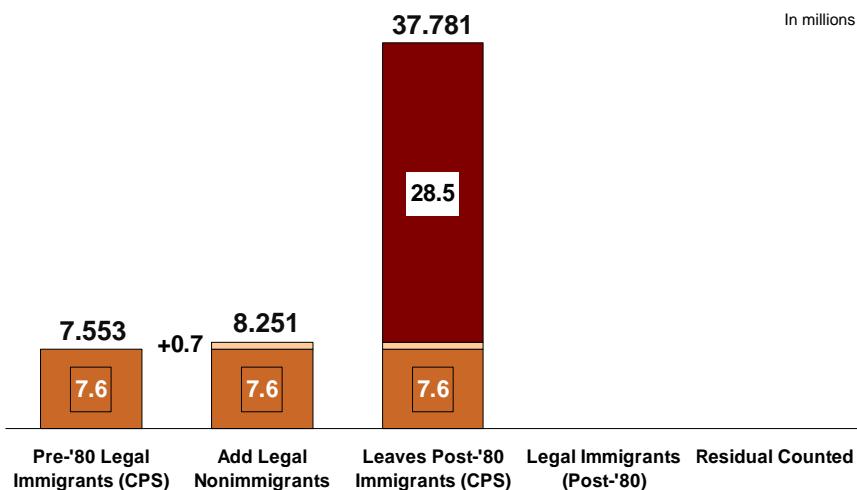
## Equations for Estimates of Unauthorized Immigrants

$$\begin{aligned}
 \text{Unauthorized Immigrants} &= \text{Total Immigrants} \text{ minus Legal Immigrants} \\
 &\quad \downarrow \\
 &\text{Less Estimated Undercount} \\
 &\quad \downarrow \\
 \text{Unauthorized Counted} &= \text{Counted Immigrants} \text{ minus Counted Legal Immigrants} \\
 &\quad \downarrow \\
 \text{Counted Immigrants} &= \text{Survey Foreign-Born} \text{ minus Counted Legal Non-Immigrants}
 \end{aligned}$$

Note: All populations are for post-1980 entrants.

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## Residual Estimate Using March 2009 CPS Supplement

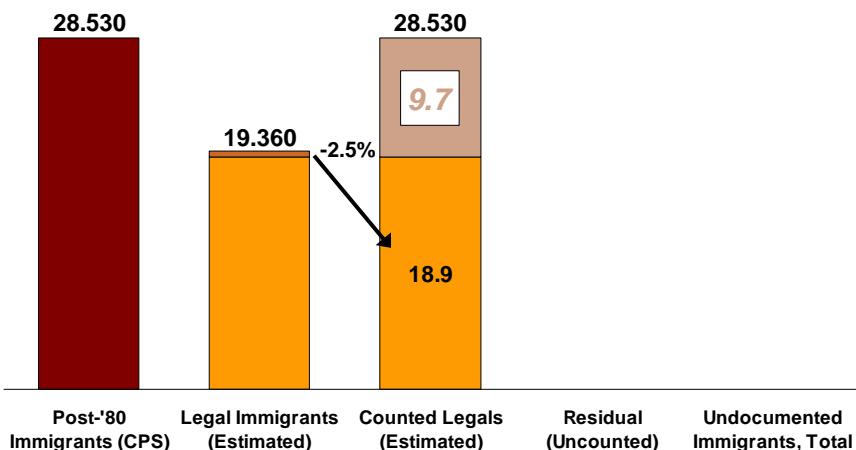


Source: Pew Hispanic Trends  
consistent with Passel & Cohn 2012.

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## Residual Estimate Using March 2009 CPS -- Continued

In millions



Source: Pew Hispanic Trends  
consistent with Passel & Cohn 2012.

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## Residual Estimates of Unauthorized Immigrants

$$\text{Total Unauthorized Immigrants} = \text{Counted Unauthorized Immigrants} \text{ plus} \text{ Missed Unauthorized Immigrants}$$

### Some Assumptions:

#### a. Estimated Undercount

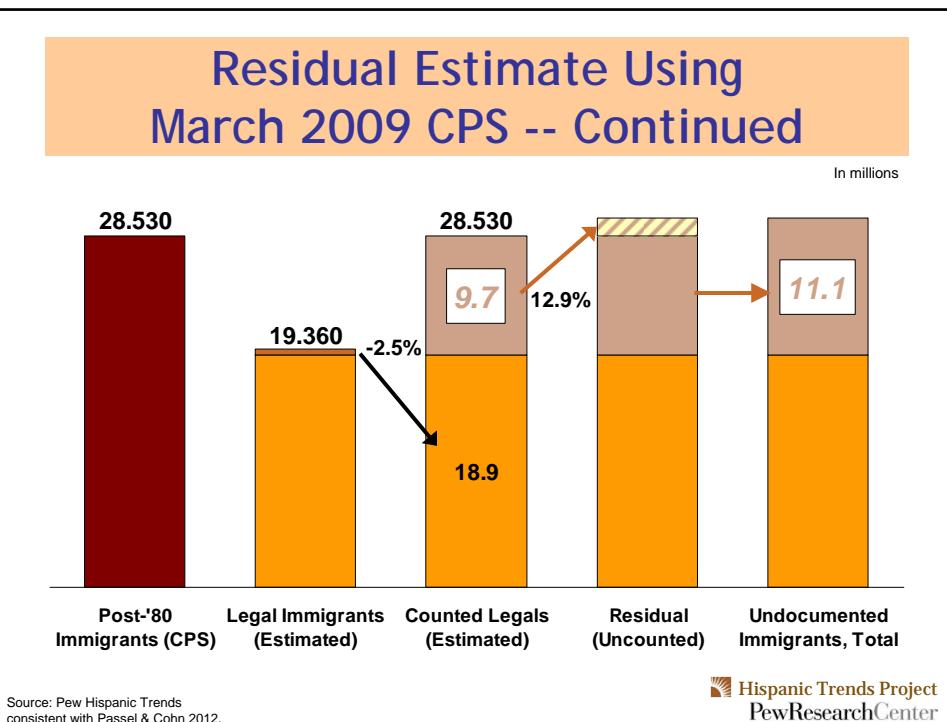
% Undercount for Legal Immigrants –  
based on A.C.E. by age-sex-race \* 1.75 for recent arrivals  
% Undercount for Unauthorized Immigrants –  
1.83 \* specific rates for legal

#### b. Estimated Undercount (2)

New work (Van Hook et al. 2013) shows improvements in  
ACS/CPS coverage for Mexicans from '90s to late '00s

#### c. Internal Migration -- ACS rates for F-B (new)

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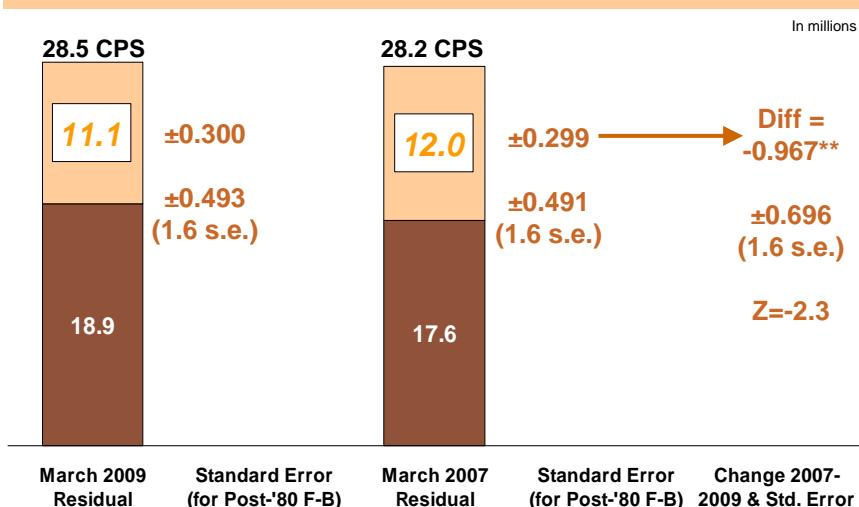


## Who Are the “Unauthorized”?

- **Not “Legal” or Non-Immigrants**
- **Overstays (~40-45%) & EWIs**
- **“Quasi”-Legals, including:**
  - a. TPS & DED (especially Salvadorans, Central Americans)
  - b. NCARA & ABC beneficiaries
  - c. Asylum Applicants
  - d. Adjustment Applicants (esp. K, V Visas)
  - e. 245(i) Beneficiaries
- **Overlapping Categories (& No Data)**
- **Possibly ~1 million in “Quasi” groups**

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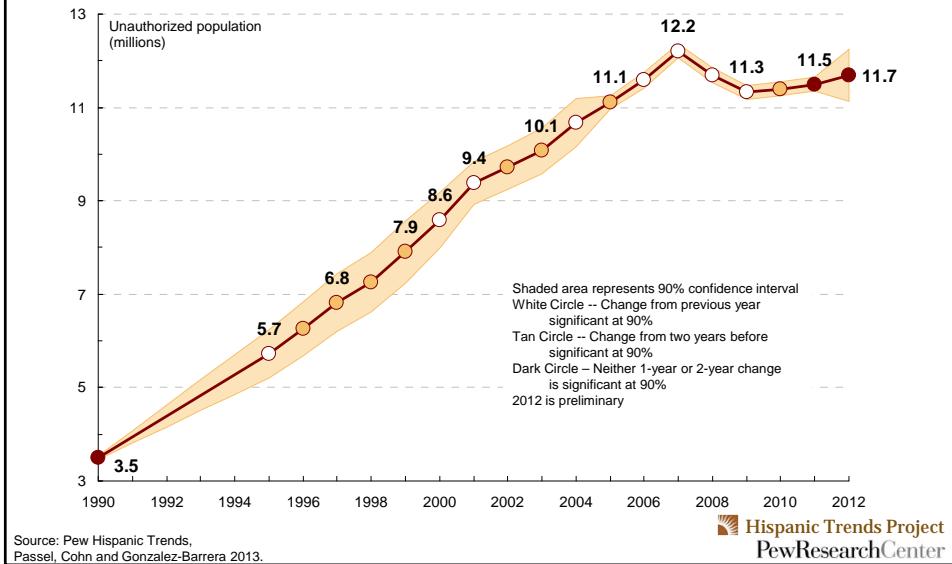
## Change in Residual Estimates March 2009 vs. March 2007 CPS



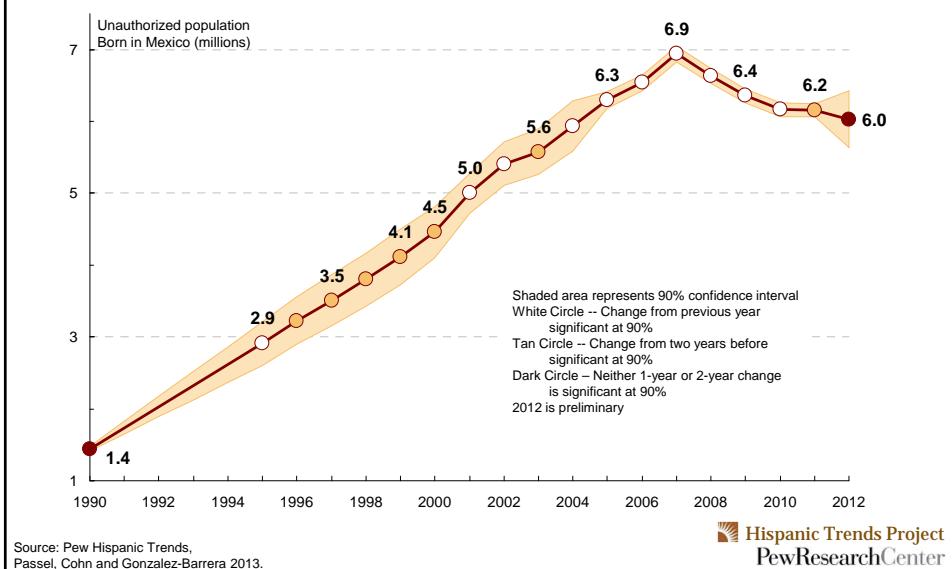
Source: Pew Hispanic Trends  
consistent with Passel & Cohn 2012.

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## Establish Downward Trend '07-'09; Essentially No Change '09 to '12



## Mexican Unauthorized Peaked in '07; Decreases Continue through '11



## Status Assignments, Geographic Data & Characteristics

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### Types of Data & Estimates

- **Analytic Estimates (published Sep. '13)**
  - a. “Counted” in Survey
  - b. “Corrected” for undercount
  - c. Totals by Country/Region (e.g. Mexico, All Other)
  - d. 6 States (CA, FL, IL, NJ, NY, TX) and Rest of Country
  - e. Some, limited Demographic Information:
    - \* Age and Sex
    - \* Period of Entry
- **Status Assignments into Survey**
- **Totals of Above May Differ**

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## Status Assignments (I)

- **Legal Temporary Immigrants**

- a. Students, Diplomats, H1-B
- b. Intracompany Transfers, Outstanding Talent
- c. Uses occupation, period of entry, relationships in household, other characteristics
- d. No targets, tends to understate DHS estimates
- e. Many more in ACS than CPS

- **Refugees/Asylees (at Entry)**

- a. Country of Birth
- b. Period/Year of Entry
- c. Demographic Targets

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## Status Assignments (II)

- **Naturalized Citizens**

- a. In US  $\geq$  6 years → Edit to Alien
- b. In US  $\geq$  6 years →
  - Mexico → Potential Unauthorized or Naturalized (as below)
  - Central America → Same as Mexico
  - All Other Countries → Accept as Naturalized
- c. No Demographic Targets

- **Definite Legal Immigrants**

- a. Naturalized Citizens (from above)
- b. Entered US before 1980
- c. Definite Legal Occupation
- d. All Others are **Potential Unauthorized Immigrants** →

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## Status Assignments (III-Unauthorized)

- **Targets**

- a. 6 States and balance of US
- b. Total, Under 18, 18-64 Male & Female
- c. Mexico-All Other in CPS; Mexico, Latin America, Asia, Rest of World in ACS (some states collapsed)

- **Random Assignments of Potentials**

- a. Initial  $p$ 's from IRCA LPS by occupation group; separate adjustments for parents and non-parents
- b. Household edits for consistency
- c. Adjust  $p$ 's and iterate until targets are hit
- d. Relatively insensitive to initial  $p$ 's since targets are about 80–95% of potential unauthorized population

- **Adjust Weights for Undercount**

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## Legal Status Data

- **Dataset with “Legal Status Variable”**

- **Other Variables Created**

- a. Nuclear Families (“MHUs”) including parent-child linkage
- b. Family Legal Status (hierarchical)
- c. Household Legal Stats (hierarchical)

- **Uses of Data**

- a. Geography, including All States; some Metro Areas
- b. Detailed Data by Country of Birth
- c. Family Data and Other Characteristics of Legal and Unauthorized Populations  
(As Presented Earlier)

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## Immigration Measurement Issues (I)

### • **Problematic Components**

- a. Legal Nonimmigrants (Temporary), including K & V Visas
- b. Some Categories of Refugees and Parolees
- c. Backlogs with US Residents (not in a.)
- d. Emigration (of Legal Immigrants)
- e. Deportations (& Emigration) of Unauthorized
- f. Counts of Other “Quasi-Legal” Categories

### • **Categorical Issues**

- a. Definition of and Identification of US Residents, especially for Mexicans and Legal Nonimmigrants
- b. Gross Flows (Ins and Outs), including Flows between Categories of Immigrants

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## Immigration Measurement Issues (II)

### • **Data Issues**

- a. Reliance on Census/CPS/ACS Population Controls
- b. Lack of Direct Measures of Census/Survey Coverage for Immigrants (by Status)
- c. Emigration Measurement
- d. Interpretation of Date of Entry in CPS/ACS versus DHS/INS

### • **Government/Survey Issues**

- a. Better Models for Measuring Immigrant and Emigration (Census).  
-- Consistent Population Controls and **Weighting** Over Time
- b. More Micro-Data, especially from DHS (OIS)
- c. Direct Collection of Legal Status in More Surveys (perhaps as input to models)

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## Data Sources and Weighting

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### Current Population Survey

- **Universe:** Civilian Noninstitutional (missing ~4 million)
- **Sample Size** (State-based design)
  - a. Monthly: 45,000 Households
  - b. March: 1994-2001, 50,000+ HHs; 2001-present, 80,000 HHs
- **Weighting Issues (March)**
  - a. 1994-1995: Many problems, special Urban Institute weights
  - b. 1994-2001: '90-based weights (use with great caution)
  - c. 2001 (SCHIP): Special '00-based weights
  - d. Reweighted March 2000
  - e. **New Controls every year (!) – for “Vintage” ‘07-‘09 there were large “revisions” relative to annual change in population**
  - f. 2010 Census has large differences for some groups in 2010
  - g. Intercensal Reweighting has **LARGE Impact** on 2006-2011 estimates and on 1995-1999
- **Key Variables**
  - a. Place of Birth, Citizenship, Year of “Entry”
  - b. Parental Place of Birth
  - c. Public-Use Sample → Full CPS Sample

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## American Community Survey

- **Universe:** Total Population, Households only in 2005
- **Sample Size** (Random, Representative with minor stratification)
  - a. Full Sample: 250,000 Households per month, 3 million per year
    - Subsampling for Non-Response
    - Expansion in 2012
- **Weighting Issues**
  - a. 12 merged monthly samples; 3 or 5 merged years
  - b. Geography comparable, based on 2000 PUMAs
  - c. New Controls every year (!) – for “Vintage” ‘07-‘09 there were large “revisions” relative to annual change in population
  - d. 2010 Census has large difference for some groups in 2010
  - e. Intercensal Reweighting has LARGE impact on 2006-2009 estimates
- **Key Variables**
  - a. Place of Birth, Citizenship, Year of “Entry”
  - b. No Parental Place of Birth
  - c. Measurement issues on some “rolling sample” questions
  - d. Public-Use Sample → 1% of US population

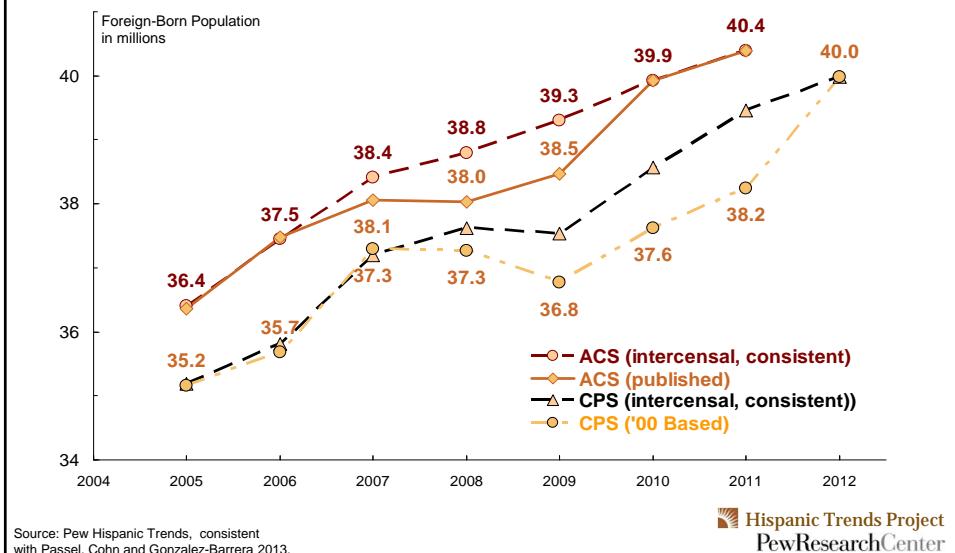
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## Key Dates for Population Controls

- **Vintage 2007 (ACS 2007, CPS 2008)**
  - a. ½ of post-‘00 Immigration by Old Method (FB Difference)
  - b. ½ of post-‘00 Immigration by New Method (ROYA)
- **Vintage 2008 (ACS 2008, CPS 2009)**
  - a. All post-‘00 Immigration by New Method (ROYA)
- **Vintage 2009 (ACS 2009, CPS 2010)**
  - a. Changes in Age Structure of Migration, but not Level
- **Vintage 2010 (CPS 2011)**
  - a. More Changes in Age Structure of Migration, but not Level
- **Census 2010-based Controls (ACS 2010, CPS 2012)**
  - a. Large Differences in Hispanics and Asians
  - b. Intercensals revise 2001-2009
- **Revisions to Weights**
  - a. Census Bureau does **NOT** Revise Survey Weights
  - b. Pew has Revised CPS for 1995-1999, 2001-2011 and ACS for 2005-2009
  - c. New Data for Group Quarters in 2005 → Full Population Available

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## Census 2010-based Weighting Changes FB Trends Substantially



## Conclusions

- **Unauthorized are Represented in Surveys**
- **Direct Impacts from Population Controls**
  - a. Be Very Careful in Measuring Trends and with Cross-Survey Comparisons
  - b. Consistent Weights Not Readily Available
  - c. Pew Research Center plans to provide Consistent Weights
- **Better Data on Coverage is Needed**
  - a. For Foreign-Born
  - b. Separate Estimates for Unauthorized Would Help
- **Much Can Be Learned from ACS & CPS**
  - a. Careful Analysis is Required

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# Thank You!

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## Contact Information

**Jeffrey S. Passel**  
*Senior Demographer*

[jpassel@pewresearch.org](mailto:jpassel@pewresearch.org)  
202-419-3625 (direct)  
202-527-2146 (mobile)

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# Economic Impacts of Immigration

David Card  
UC Berkeley and NBER

## *A long history of controversy....*

“The problems which so sternly confront us to-day are serious enough without being complicated and aggravated by the addition of some millions of Hungarians, Bohemians, Poles, south Italians, and Russian Jews.”

- Francis A. Walker, 1896

## Overview of two main questions:

### I. How does immigration affect the level and structure of wages?

- large body of work; theoretical foundations; credible “design-based” empirical studies

### II. How does immigration affect government costs and revenues?

- far less research (mainly descriptive; no emphasis on causality v. correlation)

# I. How does immigration affect the level and structure of wages?

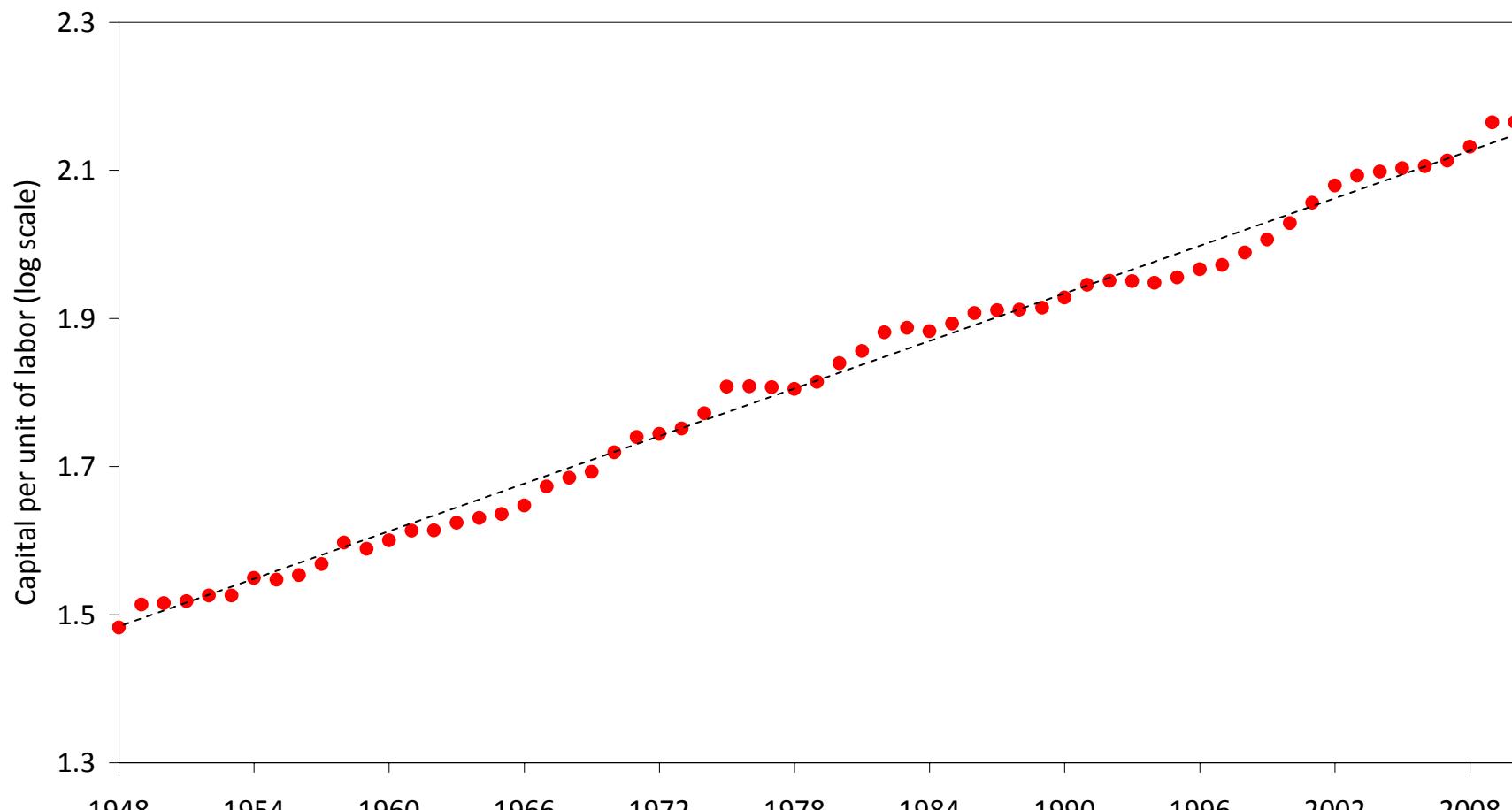
3 key points:

- A) Malthus was wrong
- B) **relative** supply and **relative** wages
- C) consistent findings from alternative approaches

A) **first order** effect of immigration is to increase population/labor force

- Malthus: population up  $\Rightarrow$  wages down  
(Black Death)
- BUT: Malthus ignored capital accumulation. In modern economies capital rises with population
- data for the US show very steady long run growth in capital per worker (1.1% per year)
- Bigger cities: wages are higher, not lower

## The Long Run Trend in Capital per Unit of Labor



Source: BLS Multifactor Productivity Tables (<http://www.bls.gov/mfp>)

- if  $K$  can adjust, wages do not vary with supply of labor. (In fact, size could be a benefit).

THIS MATTERS A LOT!

E.g.: Borjas and Katz, 2007 simulations

- capital fixed: immigration from 1980 to 2000 caused average wages to fall 3.4%
- capital adjusts: no effect on average wages

B) *Relative supply and relative wages.*

**Second order** effect of immigration is to distort the relative supplies of different groups.

- benchmark. 2-skill groups (H, L) in a given labor market:

$$\log (w_L/w_H) = A - b \log (N_L/N_H)$$

**b** parameter can be large or small

Two issues for theoretical and empirical studies:

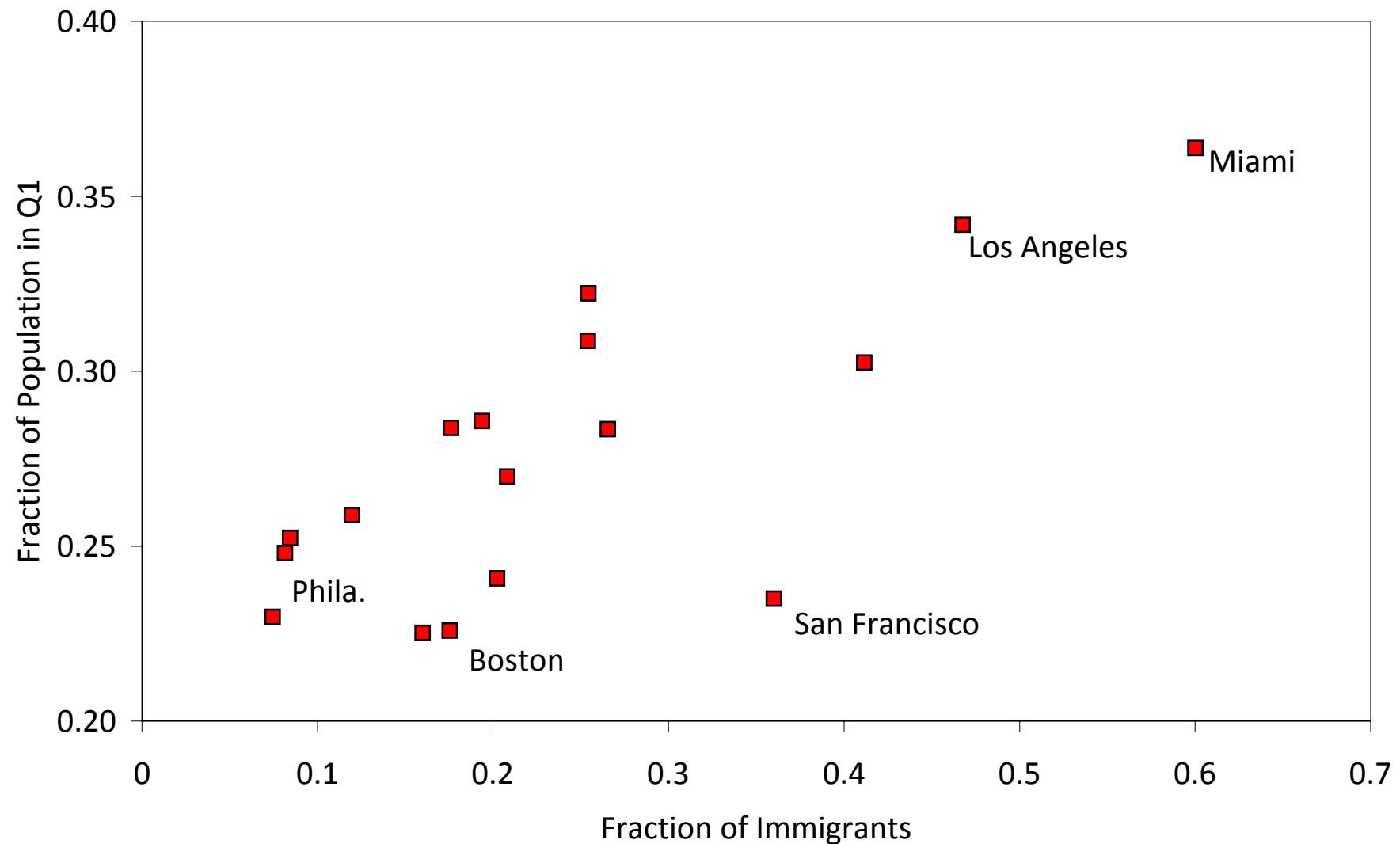
a) how to define skill groups?

- are HS dropouts a separate skill group?
- are natives and imms with same education “perfect” or “imperfect” substitutes?

b) what is appropriate market (local v. national) ?

- **selective** outmigration can dampen local effects
- local markets may have more flexibility (smaller  $b$ )

## Immigrant Presence and % Low Skilled in Local Population

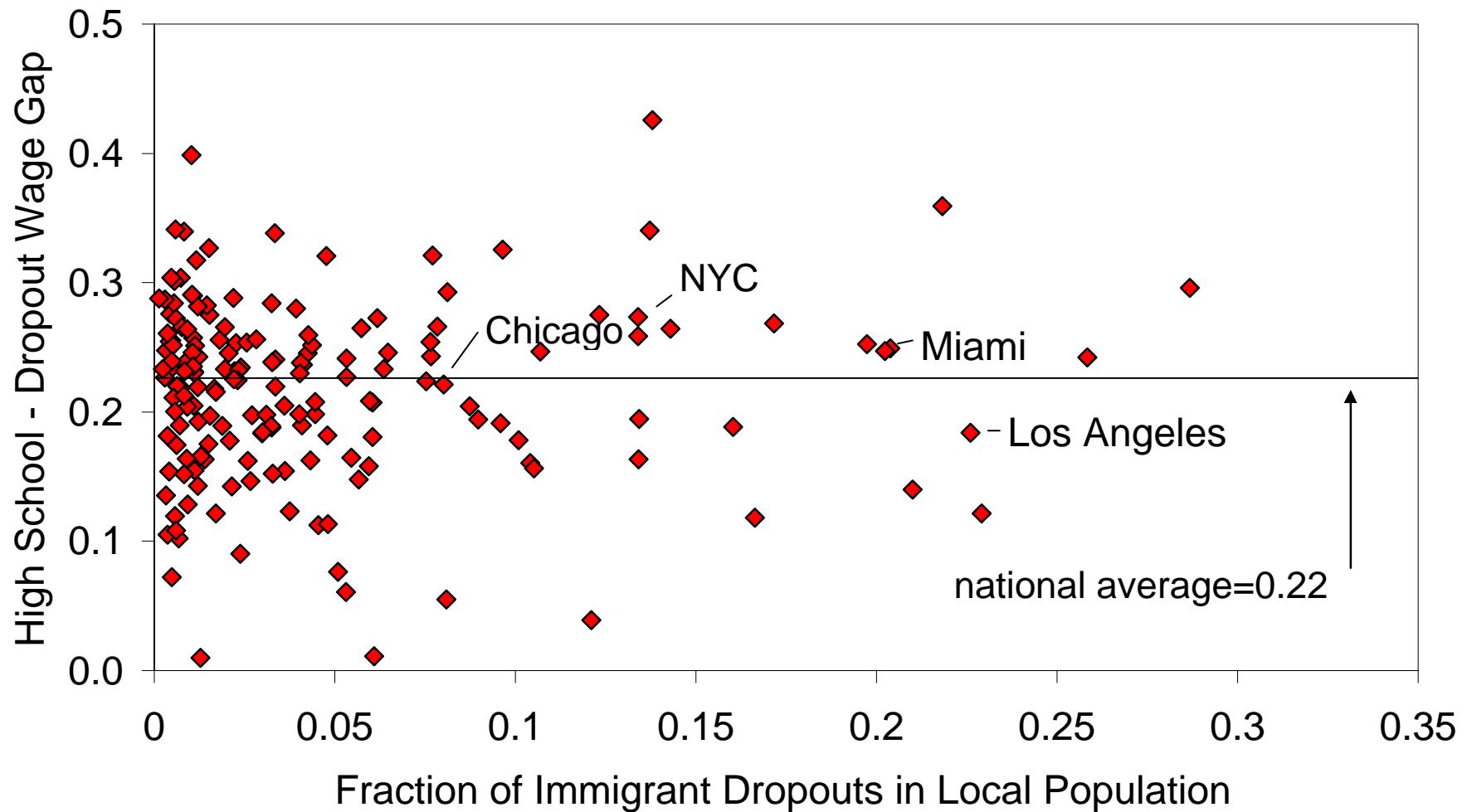


# What have we learned?

*On the skill group question:*

- HS dropouts/HS grads  $\approx$  perfect substitutes  
( $\Rightarrow$  “dropout-intensive” imm. inflows have not lowered wages of low-educ. natives by much)
- immigrants and natives with similar education/age are imperfect substitutes  
( $\Rightarrow$  previous immigrants are main “losers” from increased inflows)

## High School Wage Premium for Native Men vs. Fraction of Low Education Immigrants



*On the issue of local vs. national markets:*

- immigration affects relative supplies of skill groups in different cities A LOT! (Little/no offsetting movement of natives).
- key parameters (*b*'s) appear to be very similar at the local and national levels
- we can learn a lot from empirical studies at the local level

## C) Consistent findings from 2 main approaches

1. Design-based comparisons of wage structures across cities

- observational comparisons

- (LA/Atlanta/Pittsburgh)

- enclave based IV (e.g. Filipinos, naval bases)

- big shocks (Mariel Boatlift)

2. Model-based analyses of economy-wide impacts over time (2-4 parameters measuring  $b$ 's across subgroups + Census/ACS counts)

## Conclusions

- 1) at the national level, immigration has a small effect on relative wages of different native groups (+/- 2% from 1980 to mid-2000s)
- 2) immigration has had a small positive effect on average wages of all workers (+1-2%)
- 3) continuing immigration (e.g., from 1990-2006) had a modest negative effect on wages of earlier immigrants (around -5%, similar across groups)

## II. How does immigration affect government costs and revenues? Five key points:

- a. lower skilled people pay less taxes. Data on federal/state taxes and cash transfers (2004/5 CPS) per working age adult:

		Cash		
	Tax rate	Taxes	Transfers	Net
All	17.4	6,800	1,000	5,800
Q1	14.6	3,000	800	2,200
Q4	19.7	11,500	1,000	10,500

b. Despite their lower average skills, immigrants pay about the same taxes *per capita* and receive less transfers *per capita* than natives.

	Imms	Natives
Age 16-65	83%	64%
In school (K-12)	8%	19%
Earnings p.c.	\$22,500	\$20,100
St/Fed taxes p.c.	\$6,000	\$6,100
Cash trans. p.c.	\$1,300	\$1,900
Medicare	11%	14%
Medicaid	10%	12%

c. Immigrant's native born children shift the balance back. Full accounting is very complex. Issues (essentially the early 20<sup>th</sup> C. eugenics debate):

- immigrants have higher fertility
- 2<sup>nd</sup> gen. children of some groups have relatively low education/earnings.  
Others have very high education/earns.

d. Immigrants (and their children) have different effects on federal vs. state vs. local rev/costs.

### e. The legal setting matters

- until early 2000's, illegal immigrants widely tolerated; many paid UI and SocSec taxes, little evidence of wage gap for legal status (NAWS)
- post 9/11 policies have substantially changed the market for undocumented workers, driving more underground, lowering taxes received (?)
- will mandated health ins. affect indigent care costs associated with immigrants?