

Uses of ACS data in BLS Local Area Unemployment Statistics

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Local Area Unemployment Statistics

ACS Data Users Group Conference

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Outline

- Bureau of Labor Statistics - Local Area Unemployment Statistics Program
- Why use the American Community Survey?
- Challenges with American Community Survey Estimates
- Solutions

The LAUS Program

- Local Area Unemployment Statistics (LAUS) is a cooperative program between States and BLS.
- LAUS produces four measures
 - ▶ Civilian Labor Force
 - ▶ Employment
 - ▶ Unemployment
 - ▶ Unemployment Rate

LAUS Program Data

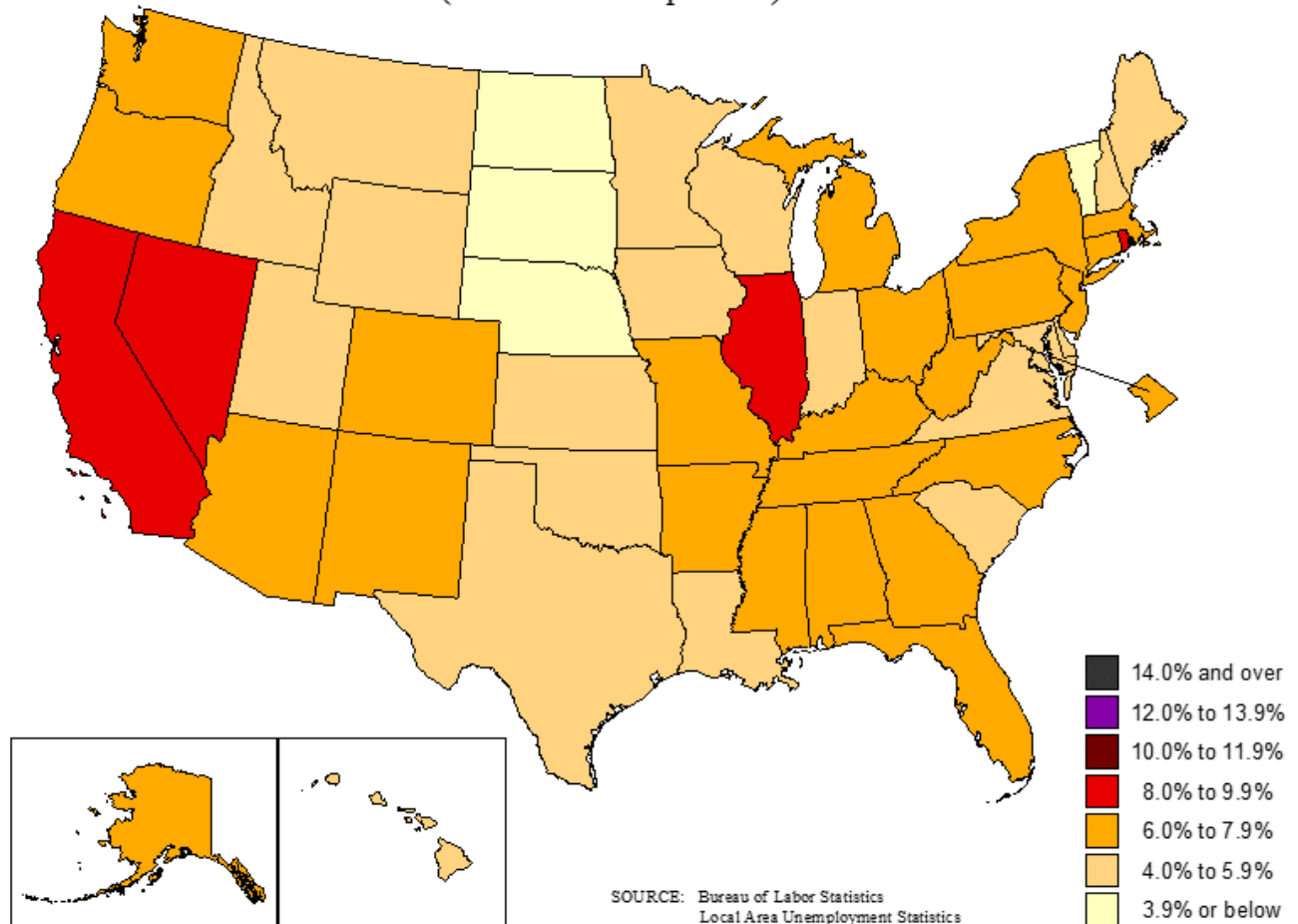
- A key feature of the LAUS program is the significant geographic detail provided:
 - Approximately 7,300 areas in total.

- Data for detailed geographic areas:
 - ▶ Census regions and divisions
 - ▶ All states, D.C., and Puerto Rico
 - ▶ Combined statistical areas
 - ▶ Metropolitan statistical areas
 - ▶ Metropolitan divisions
 - ▶ Micropolitan statistical areas
 - ▶ Small labor market areas
 - ▶ Counties and county equivalents
 - ▶ Cities with populations of 25,000 or more
 - ▶ Nearly all cities and towns in New England

The LAUS Program

Unemployment rates by state, seasonally adjusted, March 2014

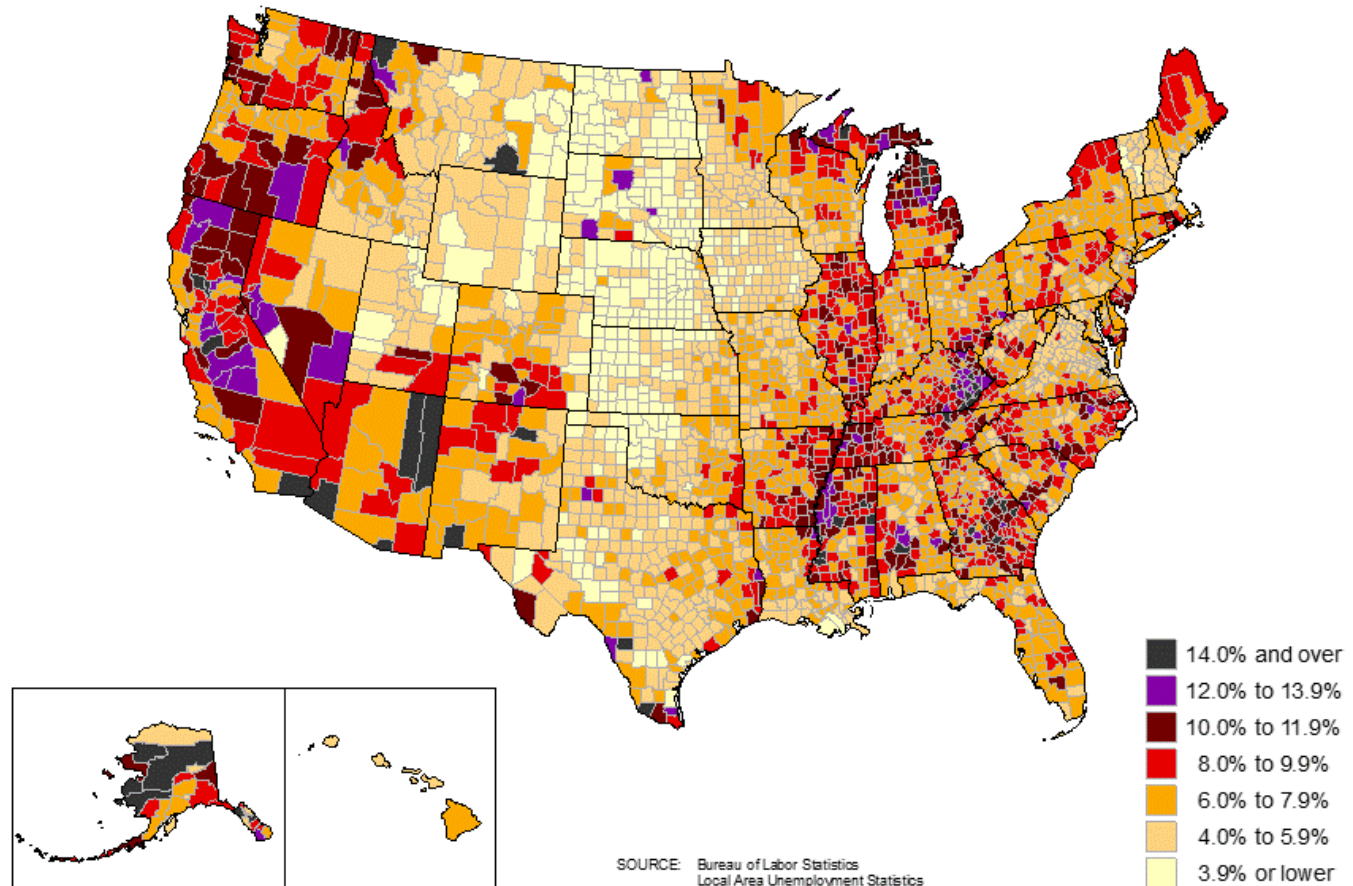
(U.S. rate = 6.7 percent)



The LAUS Program

Unemployment rates by county,
April 2013 - March 2014 averages

(U.S. rate = 7.1 percent)



Uses of LAUS Data

- LAUS employment and unemployment data are key indicators of local economic conditions. They are used:
 - ▶ To facilitate planning and budgeting by state and local governments
 - ▶ To indicate the need for local employment and training services and programs
 - ▶ To determine eligibility of state and local areas for various federal assistance programs

Why Use the ACS?

- Several inputs to LAUS substate estimation currently come from data collected on the Census 2000 “long” form questionnaire.
- After Census 2000 the long form was discontinued and labor force questions are no longer part of the decennial Census.

Why Use the ACS?

- The Census long form was an essential source of data for specific categories of employment as well as total unemployment and employment at a detailed geographic level.
- Without these data at a detailed geographic level, labor force measures would be much more difficult to develop for smaller areas.

Why Use the ACS?

- The American Community Survey (ACS) is designed to replace those Census long form economic data.
- ACS provides geographically detailed estimates of:
 - ▶ Total Employment
 - ▶ Total Unemployment
 - ▶ Employment by Commutation Area
 - ▶ Employment by Industry

Why Use the ACS?

- In the LAUS program, estimates for 2357 substate labor market areas are produced using an arithmetic building-block approach.
- This method currently uses data from several sources, including the CPS, CES, State UI systems, and the decennial Census.

Why Use the ACS?

- Take advantage of geographically detailed ACS data to develop shares of specific subcomponents of employment.
- ACS-based county or minor civil division (MCD) shares of components of statewide employment are applied to unpublished monthly CPS Statewide direct estimates of employment components.

Why Use the ACS?

- Use of MCD or county-level ACS shares of employment subcomponent to disaggregate CPS statewide estimates
 - ▶ Research shows ACS shares to be relatively stable year-to-year between datasets
 - ▶ Example:
$$\text{ACS}_{\text{county}} \text{ agricultural employment share} = (\text{ACS}_{\text{county}} \text{ ag emp}) / (\text{ACS}_{\text{state}} \text{ ag emp})$$
- Apply ACS 5-year share to monthly CPS statewide estimate of agricultural employment to develop monthly county agricultural employment estimate

Challenges with ACS

- Data availability
- Updating inputs from overlapping multi-year datasets

Data Availability

- Only the 5-year ACS datasets contain estimates that can be used as inputs for all required LAUS geographies.
- Commutation employment data are available in non-overlapping 5-year datasets.
- Some suppressed inputs available in 5-year dataset special tabulations.

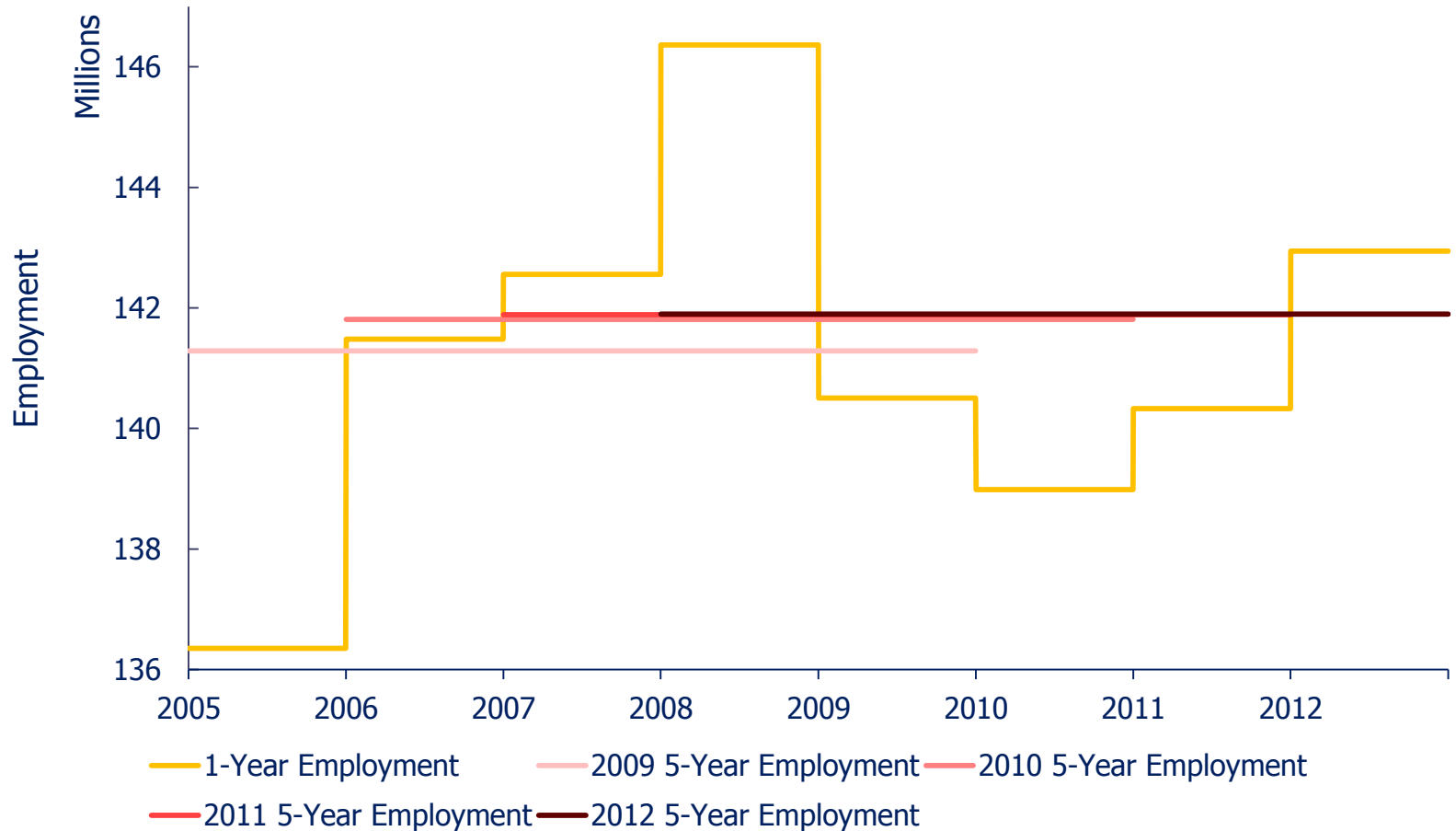
Overlapping ACS 5-year Inputs

- Census advises caution when comparing overlapping datasets

“When comparing estimates from two multiyear periods, ideally comparisons should be based on nonoverlapping periods (e.g., comparing estimates from 2006–2008 with estimates from 2009–2011). The comparison of two estimates for different, but overlapping periods is challenging since the difference is driven by the nonoverlapping years.”

A Compass for Understanding and Using American Community Survey Data
What Researchers Need to Know Issued May 2009

Multi-Year Estimates



Overlapping ACS 5-year Inputs

- Concerns for data interpretation
 - ▶ Differences between ACS inputs based on annual updates with each new 5-year dataset may be interpreted as economic change. Users will need to understand that changes to these inputs do not reflect over-the-year change in ACS employment levels.
- Concerns over timeliness
 - ▶ Using only inputs from 5-year datasets does not take advantage of the more timely estimates for larger geographies.

Solutions

- Updating inputs from overlapping multi-year datasets
- Hybrid Approach
- Census annual population ratio

Overlapping ACS 5-year Inputs

- There may be advantages to incorporating the newest estimates each year.
 - Incorporating each new set of 5-year estimates annually may smooth change over time.
 - In the past, updating decennial long form inputs led to series breaks. Updating inputs annually may smooth out breaks that would occur with incorporating non-overlapping 5-year estimates.

Hybrid Approach

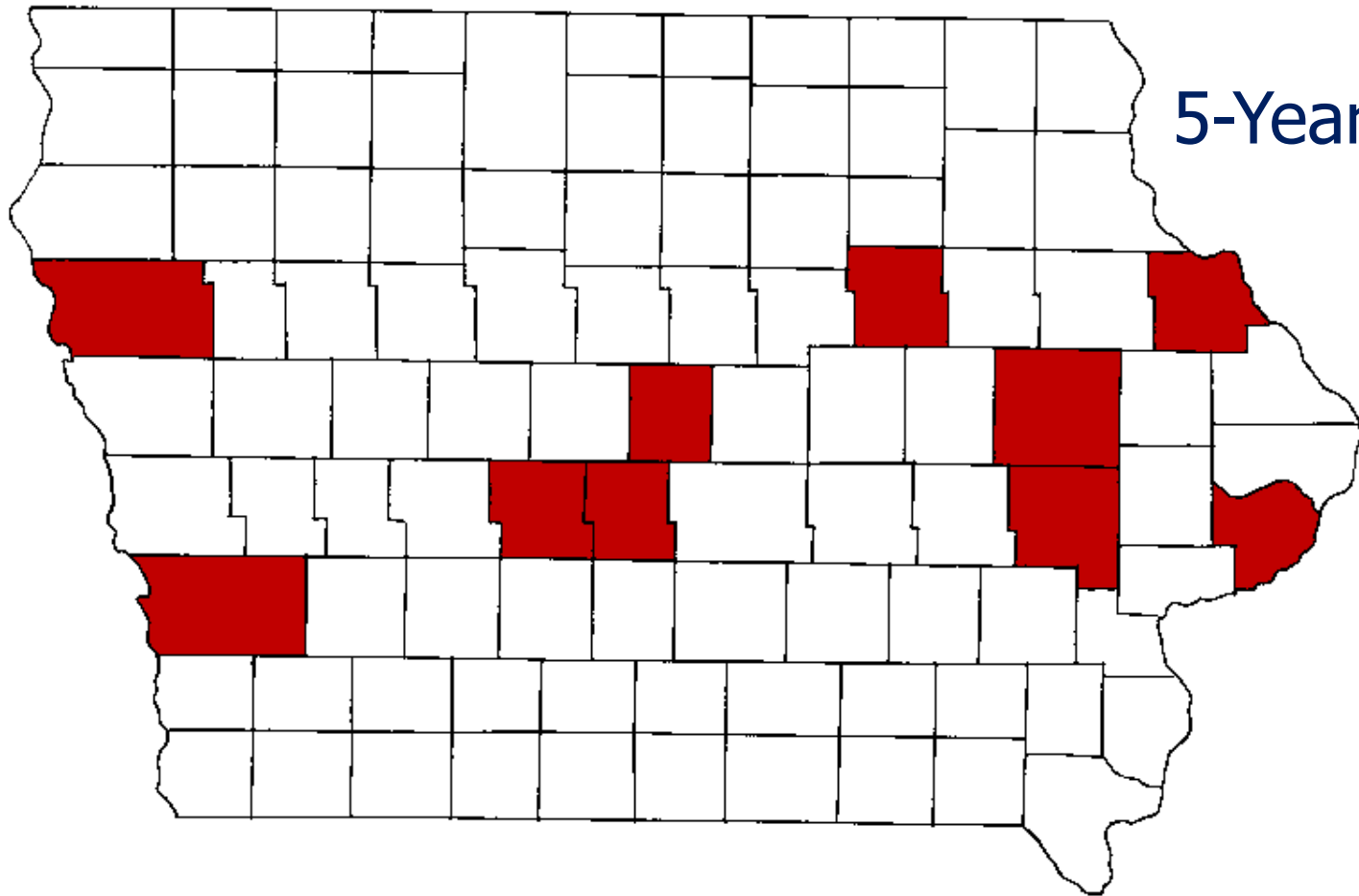
- Census RESEARCH REPORT SERIES (Statistics #2012-03) opens up the possibility of a “hybrid” approach.
- “Form three groups of counties based on the most recent data available for each county; i.e., one-year counties, three-year counties and five-year counties...This approach would be fair to smaller counties with only five-year data...However, it also uses the most recent data available for larger counties...”

Interpretation and Use of American Community Survey

Multiyear Estimates by Michael Beaghen, Tucker McElroy, Lynn Weidman, Mark Asiala, Alfredo Navarro

Report Issued: April 18, 2012

Hybrid Approach



5-Year Data

Hybrid Approach

- Ongoing research on a tiered approach incorporating the most timely available estimates for any given geography.
- One unresolved issue is that of the interpretation of estimates for areas that switch dataset duration due to population change.

Census Population Ratio

- Assumption that population change is a proxy for employment change
- Calculate ratio of Census annual population estimate to ACS 5-year population estimate.
- Apply Census/ACS population ratio to ACS 5-year employment estimate to update for current year population change.
- This also corrects for discrepancies between ACS and Census population estimates for very small areas.

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