

## **Case Study 2:**

# **Choosing between ACS 1-, 3-, and 5-Year Estimates**

2009 Population Association of America  
ACS Workshop  
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# Overview

- What are multiyear estimates
- Main issue: many users have choices
- Key concepts
  - Multiyear estimates are more reliable
  - Working with data from small population groups
  - Trade-off between reliability and currency

# Conceptualizing Period Estimates

- 1-year period estimates
  - Reflect each of the 12 months equally
  - No month given preference
  - All months given equal weight
- Multiyear estimates (MYE)
  - 3-year represents 36 month period
  - 5-year represents 60 month period
  - All years, months, given equal weight

# Many Users have Choices

- Population less than 20,000
  - 5-year estimates only
- Population from 20,000 to 64,999
  - 3-year estimates
  - 5-year estimates
- Population 65,000 or more
  - 1-year estimates
  - 3-year estimates
  - 5-year estimates

# Some Key Concepts for Data Users

- Reliability versus currency: MYEs more reliable - less up-to-date
- Small population groups – caution
- Comparisons over time with MYEs
  - Later presentation

# Example From Previous Case Study

Age by Ratio of Income to Poverty Level – Bloom Township, Cook County, IL

	2007 ACS		2005-2007 ACS	
65 years and over	Estimate	CV	Estimate	CV
Under 0.50	155	72.6%	534	27.5%
0.50 to 0.99	670	42.8%	483	22.0%
1.00 to 1.24	288	51.5%	277	29.4%
1.25 to 1.99	2,614	18.3%	2,115	13.1%
Under 2.00	3,727	15.8%	3,409	10.0%

# Examples from the Multiyear Estimates Study

- Released in preparation for the 2008 release of multiyear estimates.
- Data collected from 1999 to 2005 for 34 test counties.
- Available for download on ACS web site.

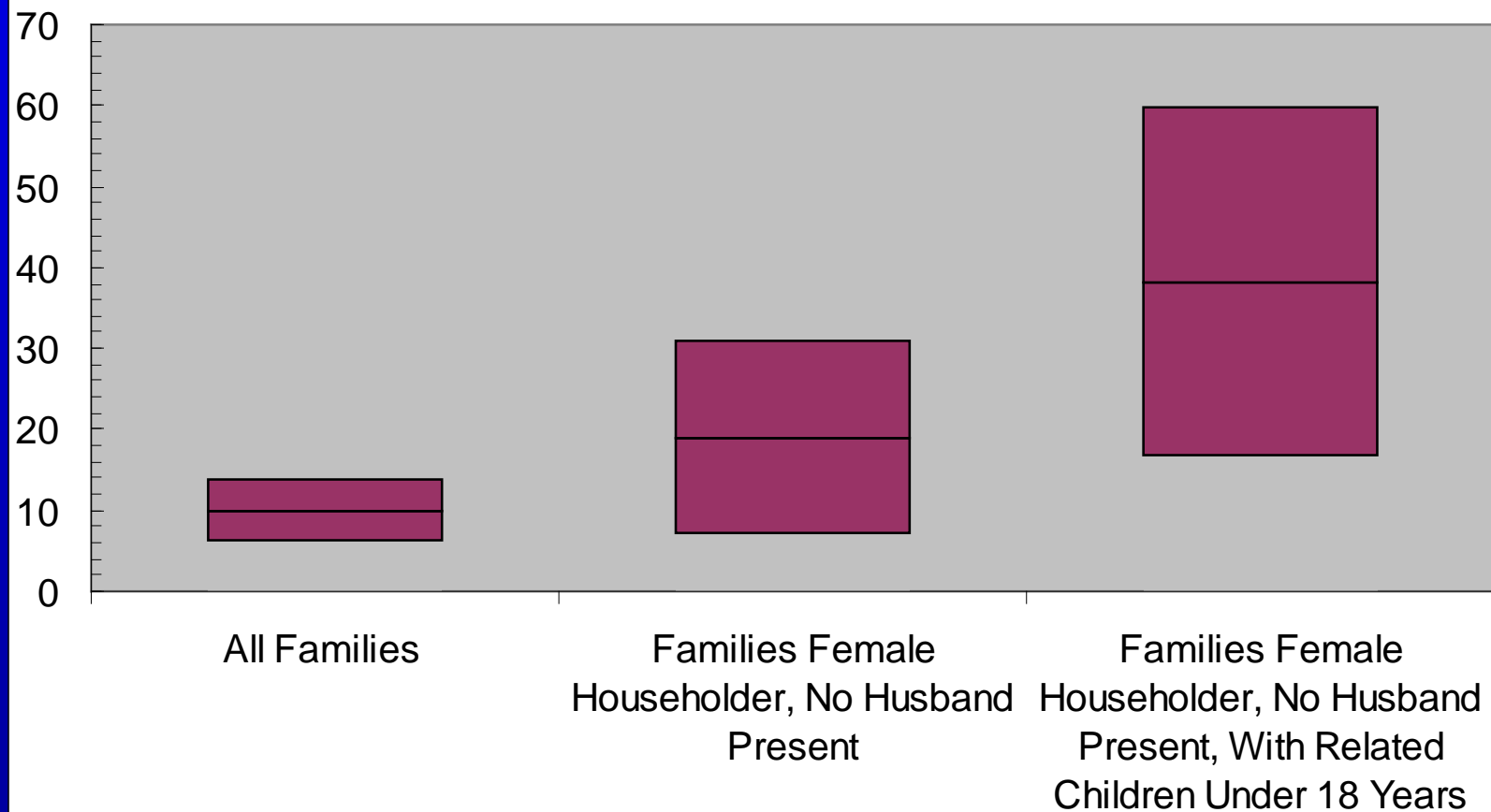
[http://www.census.gov/acs/www/AdvMeth/  
Multi\\_Year\\_Estimates/overview.html](http://www.census.gov/acs/www/AdvMeth/Multi_Year_Estimates/overview.html)

# Small Population Groups: Number of Families by Type, Sevier County, TN (Census 2000)

All Families	20,836
Families with Female householder, no husband present	2,883
Families with Female householder, no husband present, with related children under 18	1,876



## 90% CI for Percent Poverty by Family Type - Sevier County, TN - 2004 ACS



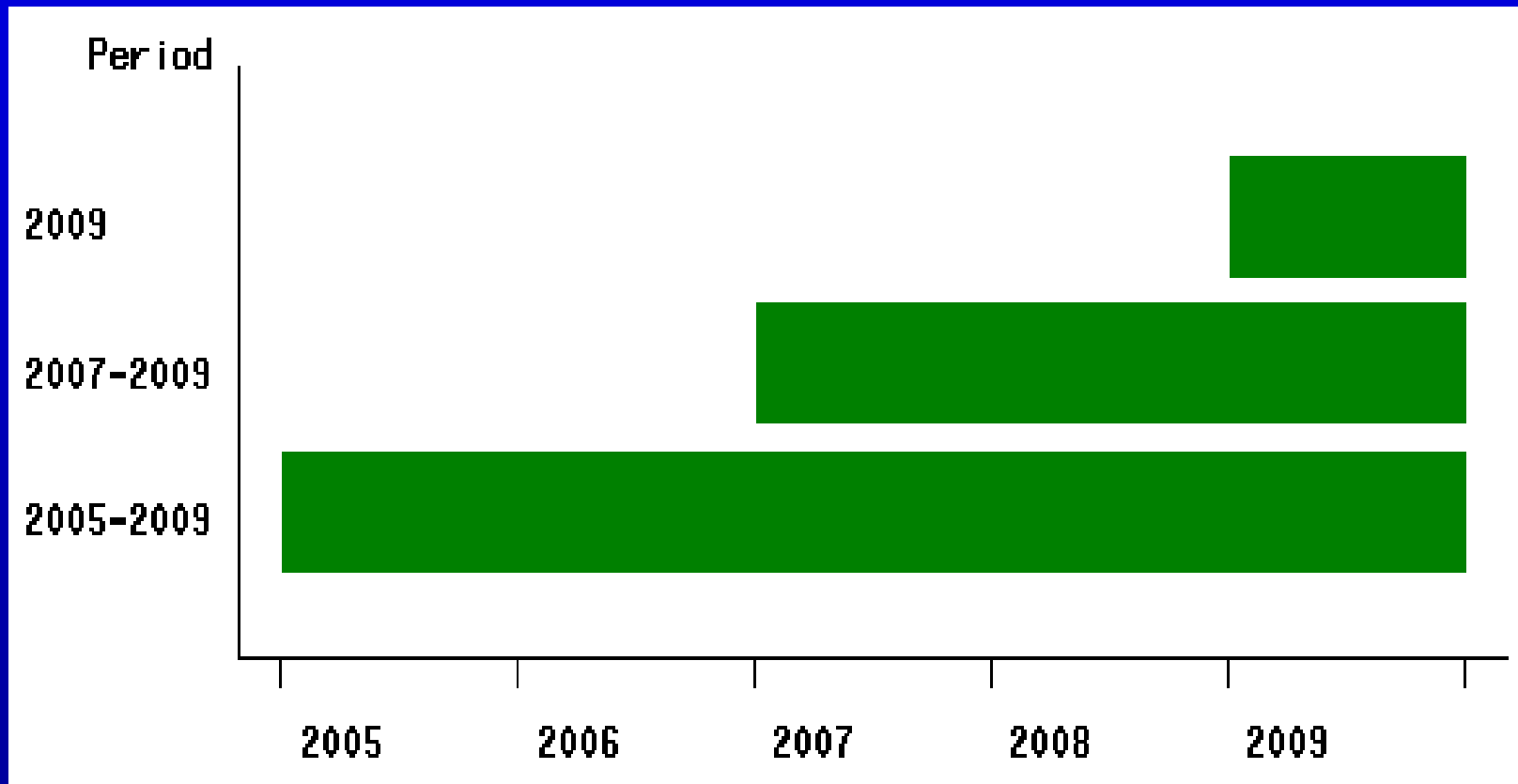
## Percent of Families in Poverty: Female Householder, No Husband Present, Related Children Under 18 (Multiyear Estimates Study)

ACS Period	2004	2000-2004
Percent in Poverty	38.3	40.2
Margin of error	21.4	8.0
CV	33.9	12.1

# Small Population Groups in Summary

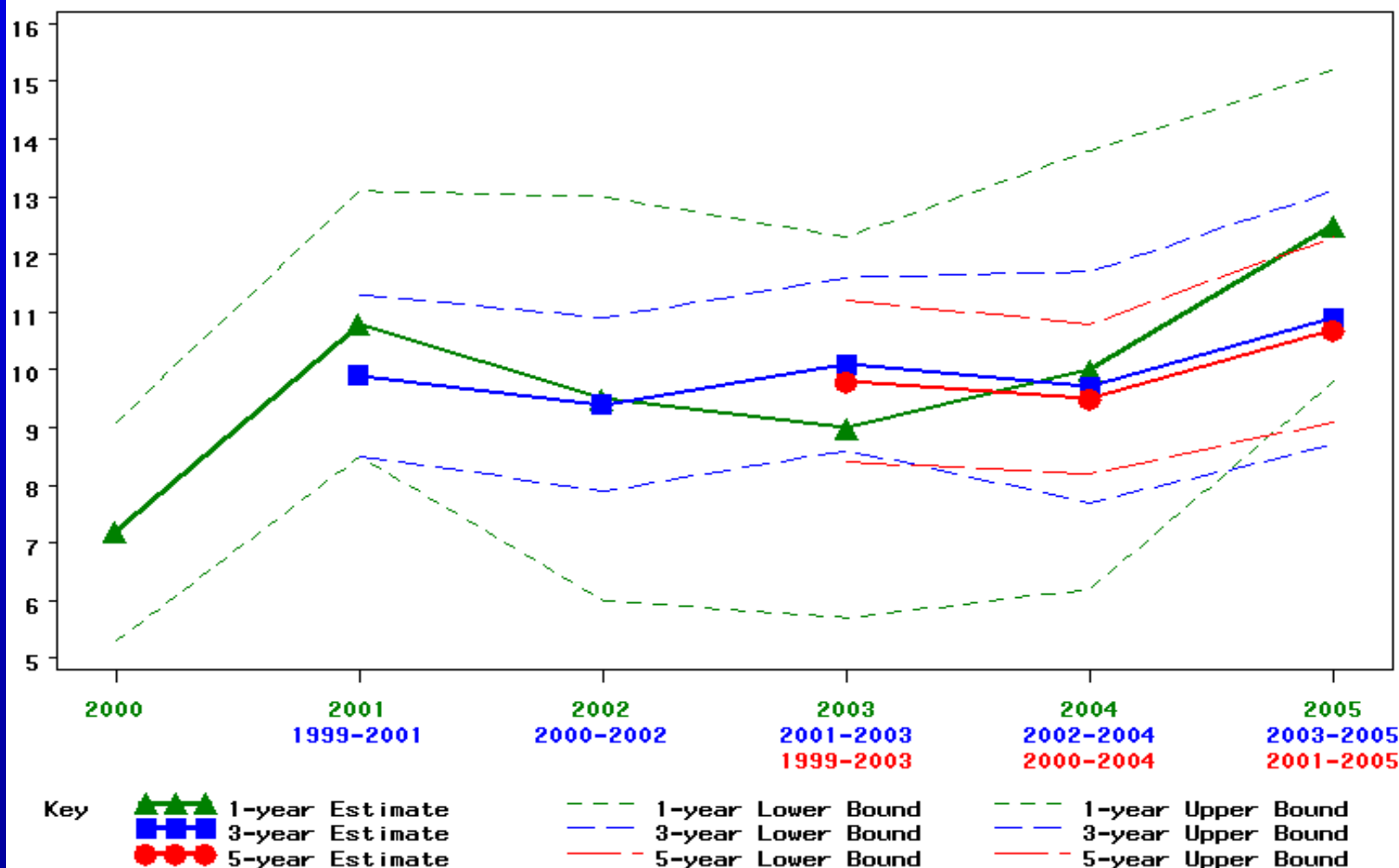
- Size of confidence intervals & standard errors can get large
- Caution – geographic entity may support 1-year estimate, but small population group may not
- Data Users – Look at standard errors!

# Reliability Versus Currency



# Percent Poverty for Families – Sevier County, TN

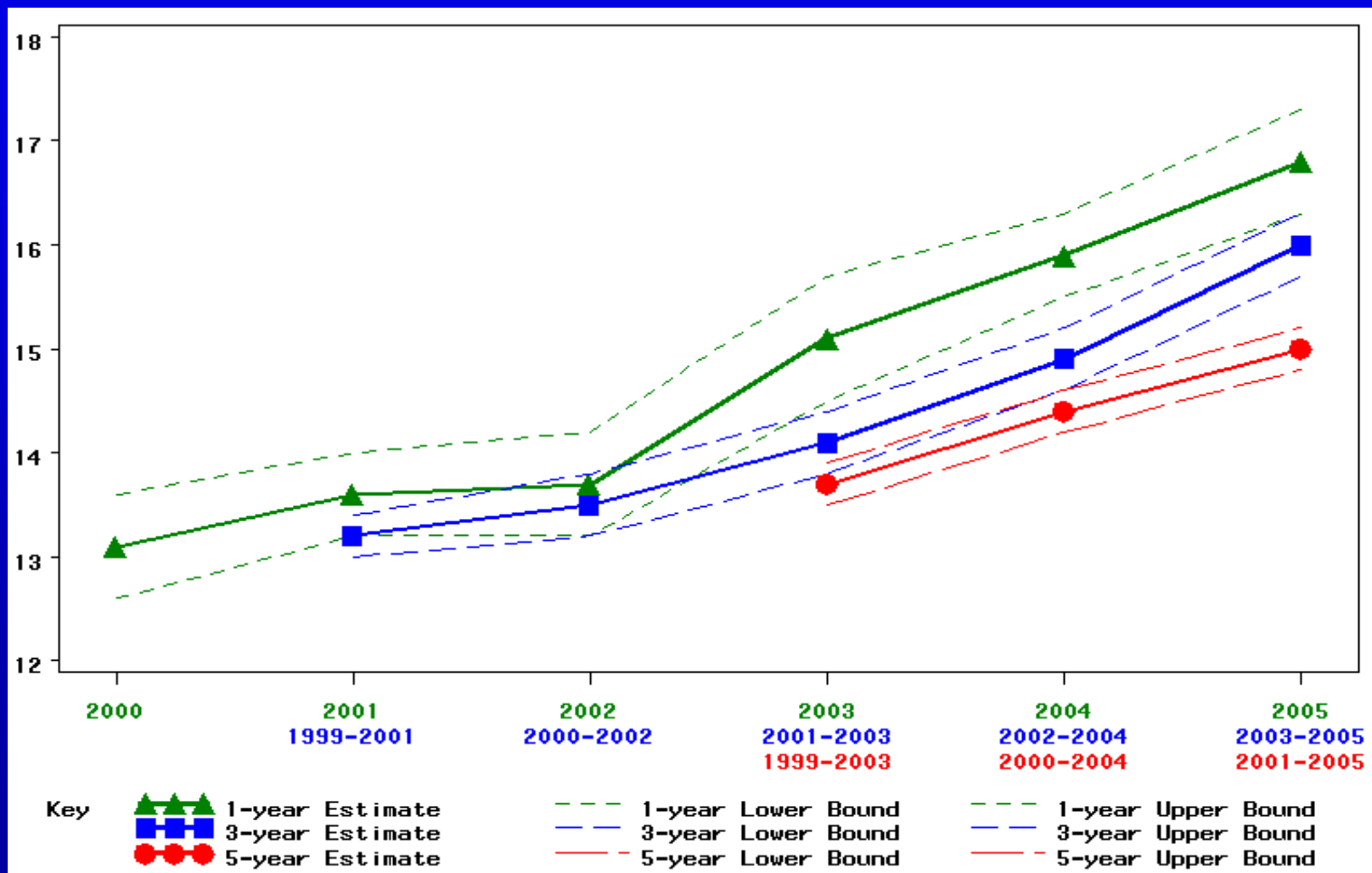
(ACS Multiyear Estimates Study)



# Percent Poverty for Sevier Co., TN

- Margins of error are large with respect to any changes over time
- No clear trends over time
- Use 3-year or 5-year for better reliability

# Percent of Population 5 Years and Older who Speak Spanish at Home - Lake Co., IL (ACS Multiyear Estimates Study)



# Percent of Population 5 Years and Older who Speak Spanish at Home - Lake County, IL

- Margins of error are small with respect to change over time
- Strong trend over time
- Use 1-year estimates because they are more up-to-date



# When to Use Multiyear Estimates

- For tracts and other smaller geographies with a population less than 65,000
- To obtain estimates with lower standard errors
- For small population groups
- For more on comparisons of change over time – next presentation

# When to Use One-Year Estimates

- For larger geographies and populations
- For characteristics with small standard errors and currency is important
- For comparing year-to-year change
  - Next presentation

# For More Detailed Information

## Using Multiyear Estimates

<<http://www.census.gov/acs/www/UseData/myeoverview.html>>

## Choosing Between ACS 1-year and 3-year estimates

<<http://www.census.gov/acs/www/UseData/mye/myechoosing.html>>

## Statistical Issues of Interpretation of the American Community Survey's One-, Three-, and Five-Year Period Estimates

<[http://www.census.gov/acs/www/Downloads/MYE\\_Guidelines.pdf](http://www.census.gov/acs/www/Downloads/MYE_Guidelines.pdf)>

# Conclusion

- MYEs new product, new choices, new concepts for data users

# Contact

Michael Beaghen

U.S. Census Bureau

[michael.a.beaghen@census.gov](mailto:michael.a.beaghen@census.gov)