

ACS Statistical Issues and Challenges: One-, Three-, and Five-year Period Estimates

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Overview

- Multiyear Estimates
 - Period Estimates
 - Population Controls
 - Tabulation geography
 - Inflation adjustments
- Main Issue: Users have choices
- Key concepts for data users
- Guidance on using multiyear estimates



Conceptualizing Period Estimates

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

Multiyear Weighting

- Pool 36 or 60 months of data versus 12 months for 1-year
- Methodology generally same as 1-year
- MYE not an average of 1-year estimates

Multiyear Estimates Population Controls

- Simple average of the population controls for the years in the multi-year period
- Use the most current estimates
- For 2005-2009, sum controls released in 2010 for 2005, 2006, ..., 2009 divide by 5



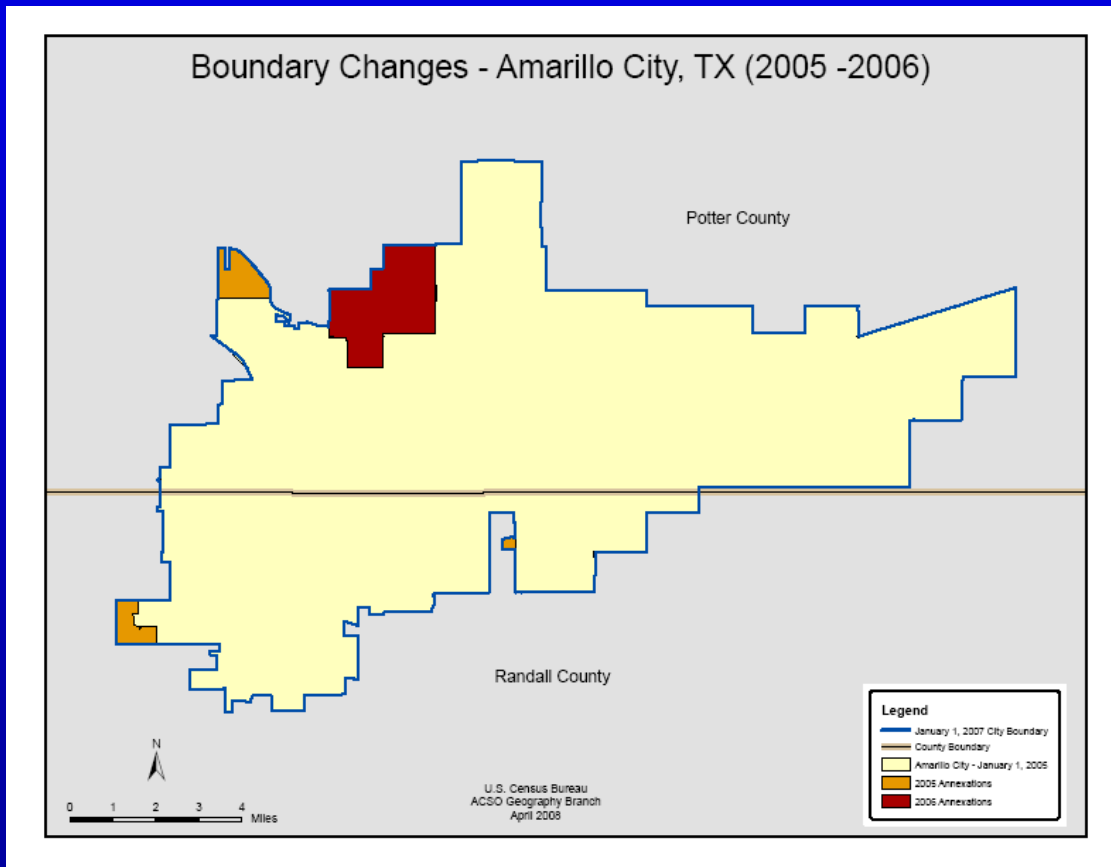
Geographic Definitions

- Updated on annual basis
- 1-year estimates
 - Use definitions exist as of January
 - Submitted by April
- Multi-year estimates
 - Geographic definitions will change
 - Decision to use most recent definition

Geographic Definition – Example

- 2005-2009 estimate
- Town annexes a set of blocks in 2007
- All sample cases will be tabulated using the 2009 definition
- Include 2005 and 2006 sample cases that were not part of the town when interviewed

Annexation – An example



Geographic Definition – Factors

- ACS reflect most current definition
- Greater geographic consistency with intercensal housing unit and population time series
- No meaningful construct for “average” geographic definition



Multiyear Estimates Inflation Adjustments

- Dollar valued data items are inflation adjusted to most recent year of the period
- The Consumer Price Index (CPI) is used to compute inflation factors
- For 2005-2009, appropriate inflation factors are applied to reported income values for 2005, 2006, ..., 2008 to adjust to 2009 constant dollars

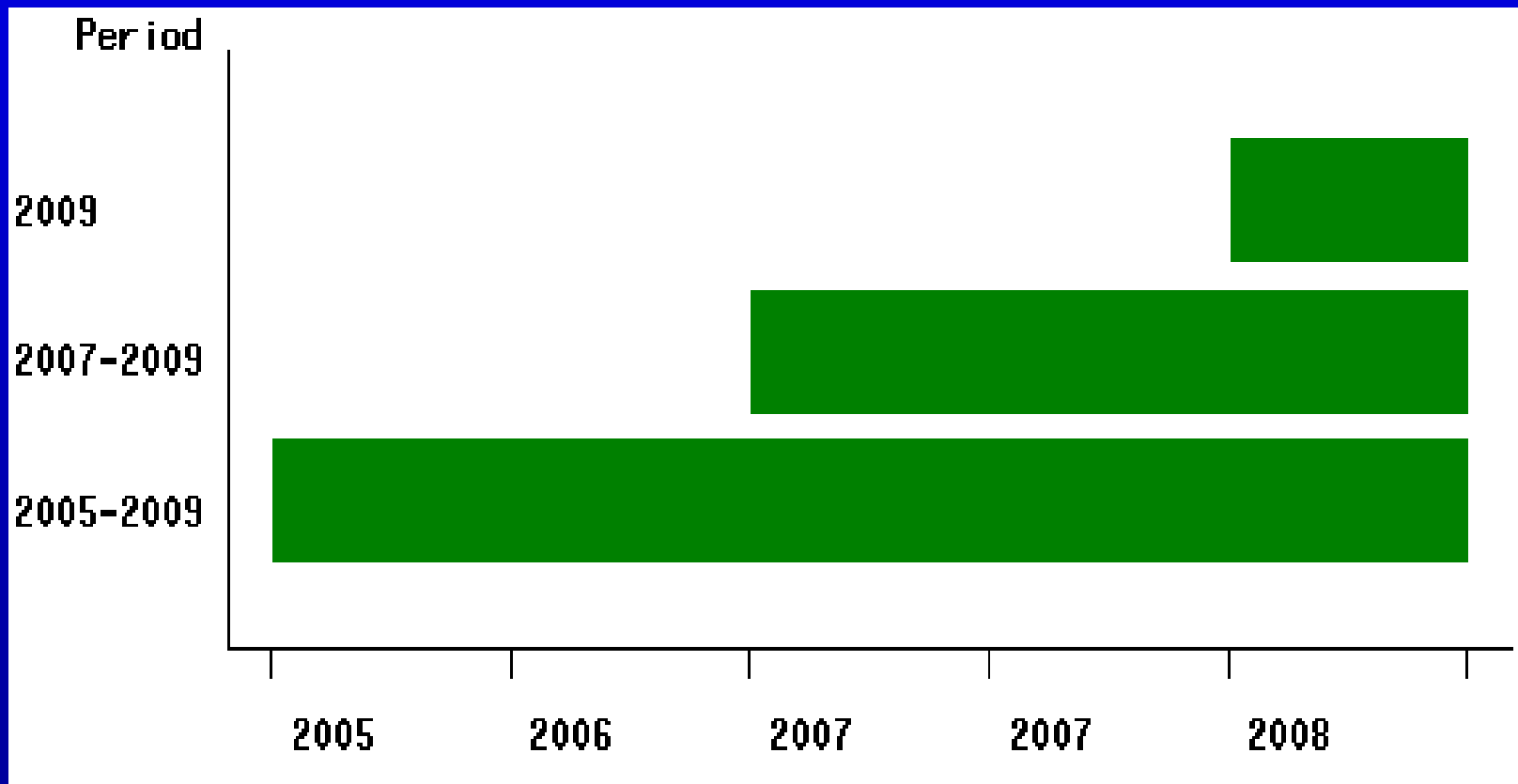
Users have Choices which Data to Use

- Population $< 20,000$
 - 5-year estimates only
- Population $\geq 20,000$ and $< 65,000$
 - 3-year estimates
 - 5-year estimates
- Population $\geq 65,000$
 - 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
- Subgroups – caution
- Comparisons over time with MYEs
 - Non-overlapping vs. overlapping periods
- Compare areas over the same time period

Reliability Versus Currency



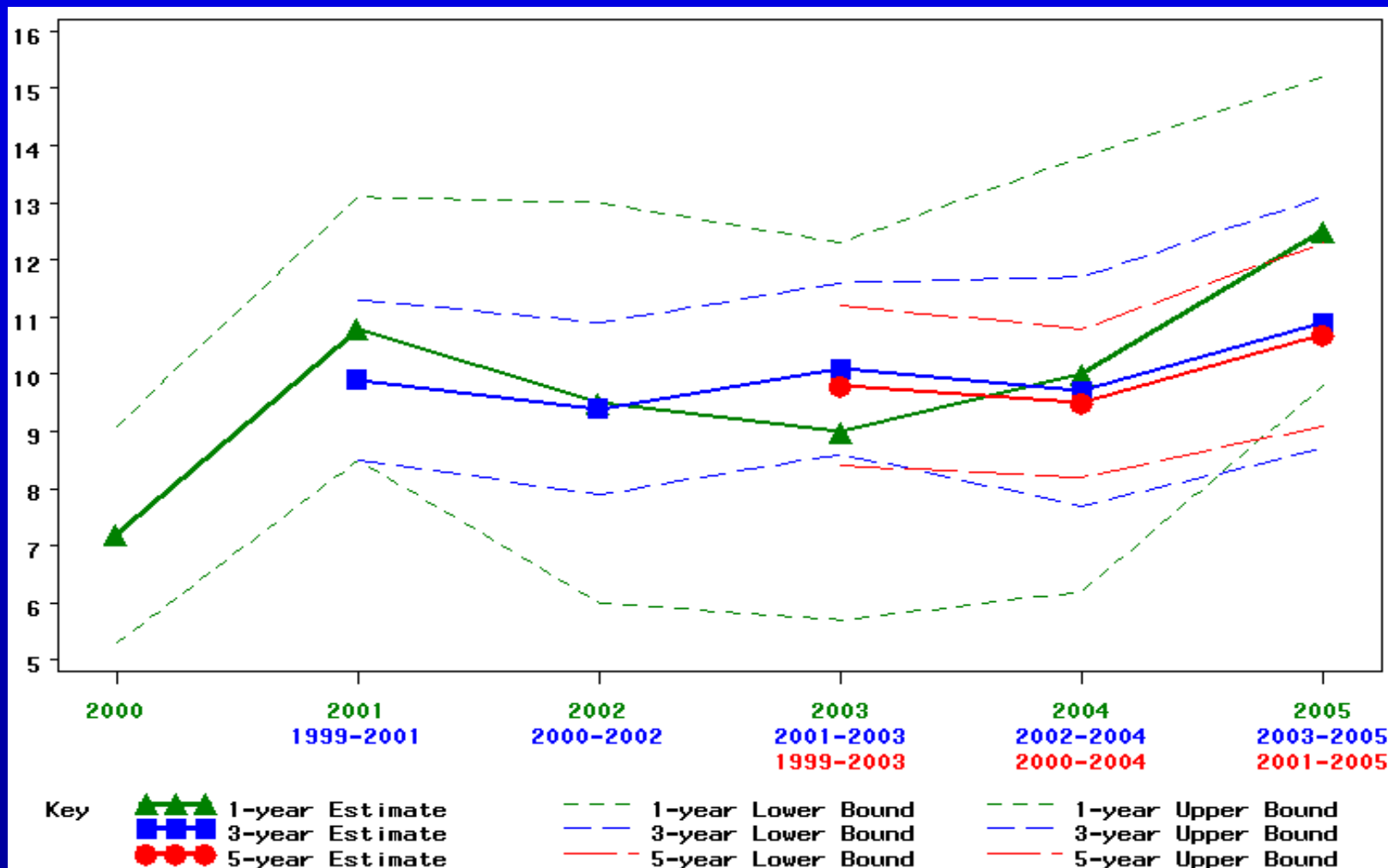
Examples from the Multiyear Estimates Study

- Data collected from 1999 to 2005 for 34 test counties.
- Available for download on ACS web site.

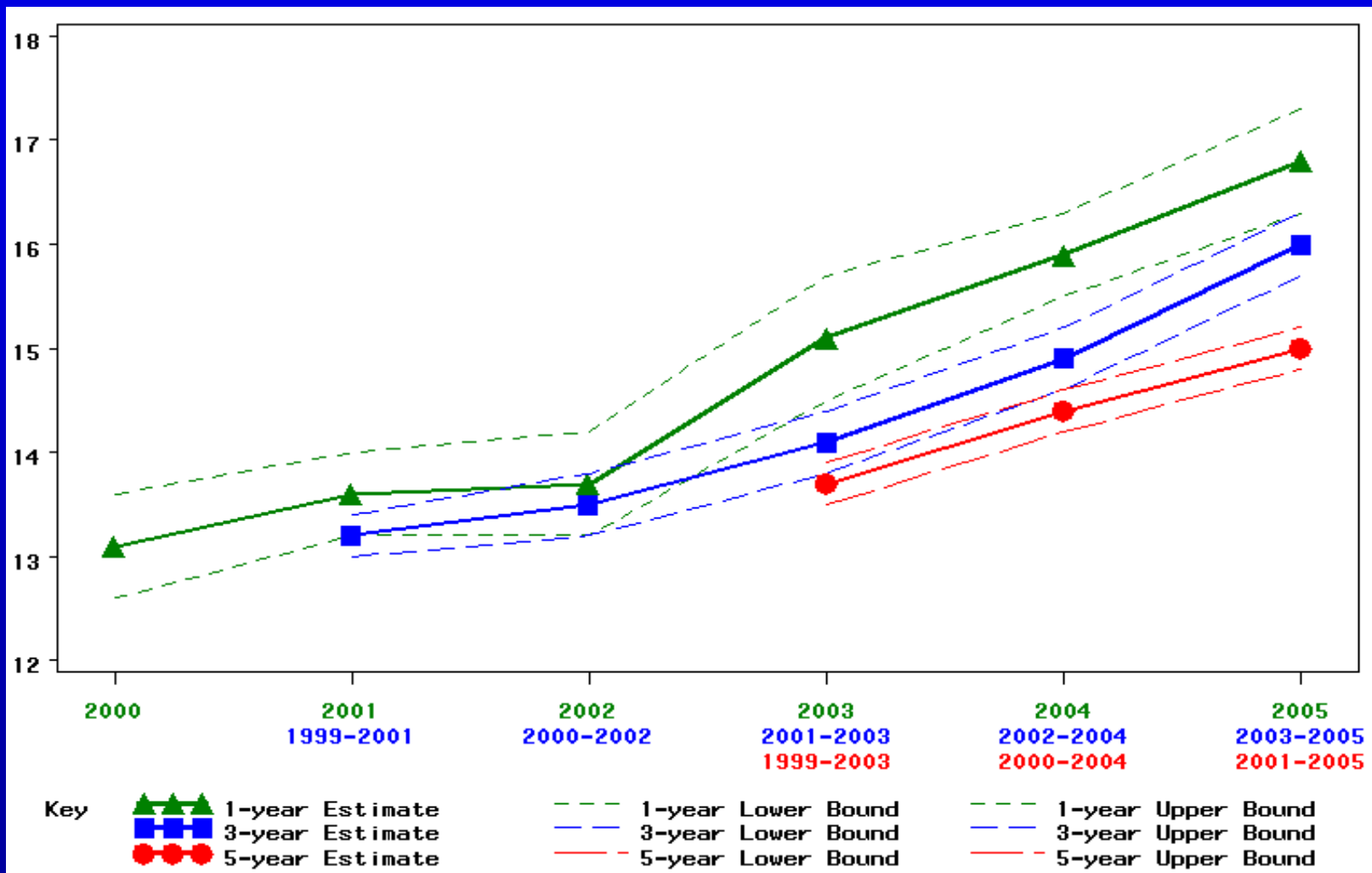
<http://www.census.gov/acs/www>



Percent Poverty for Families – Sevier County, TN



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



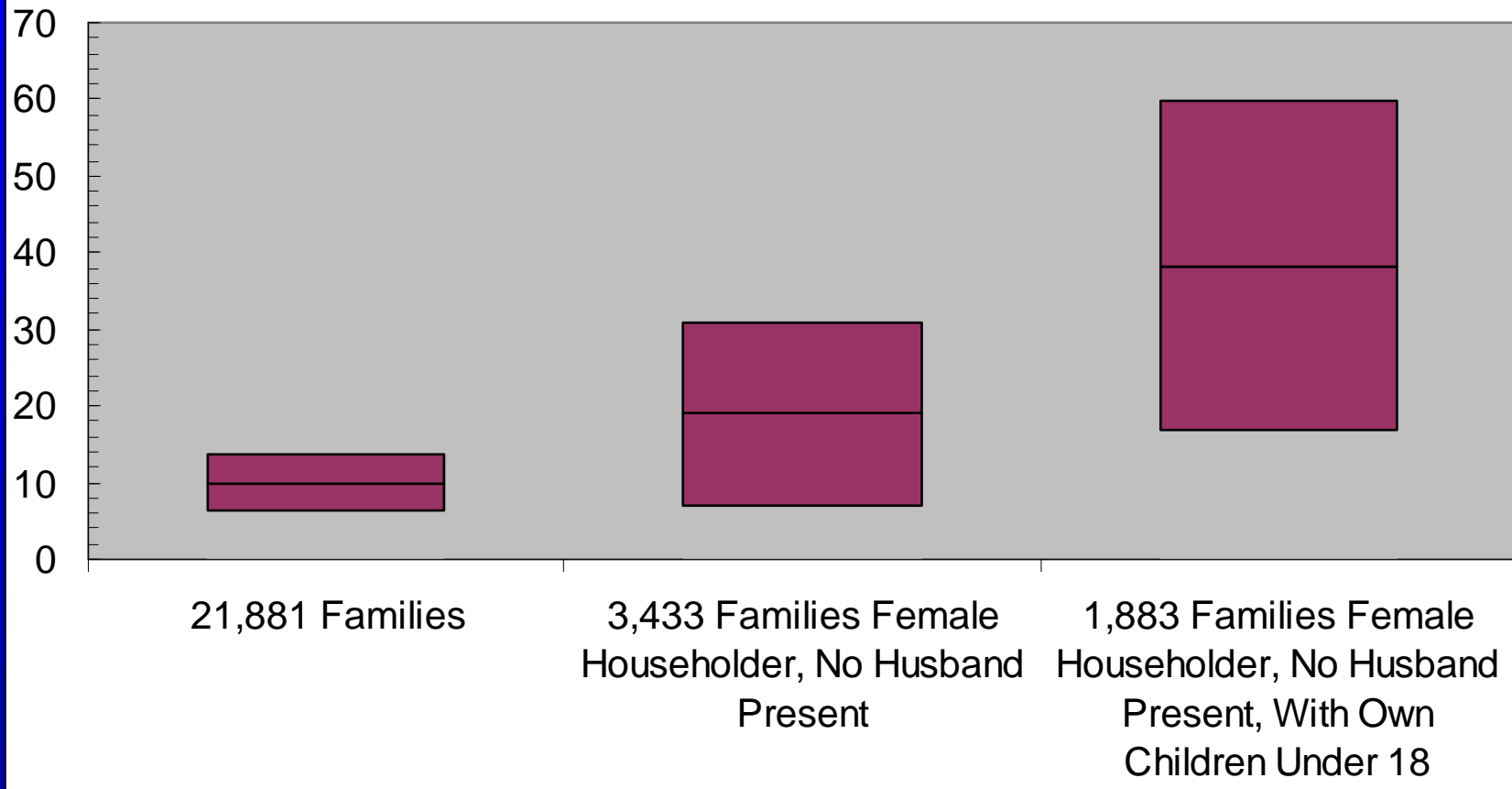


Subgroups Example: Family Types in Sevier County, TN

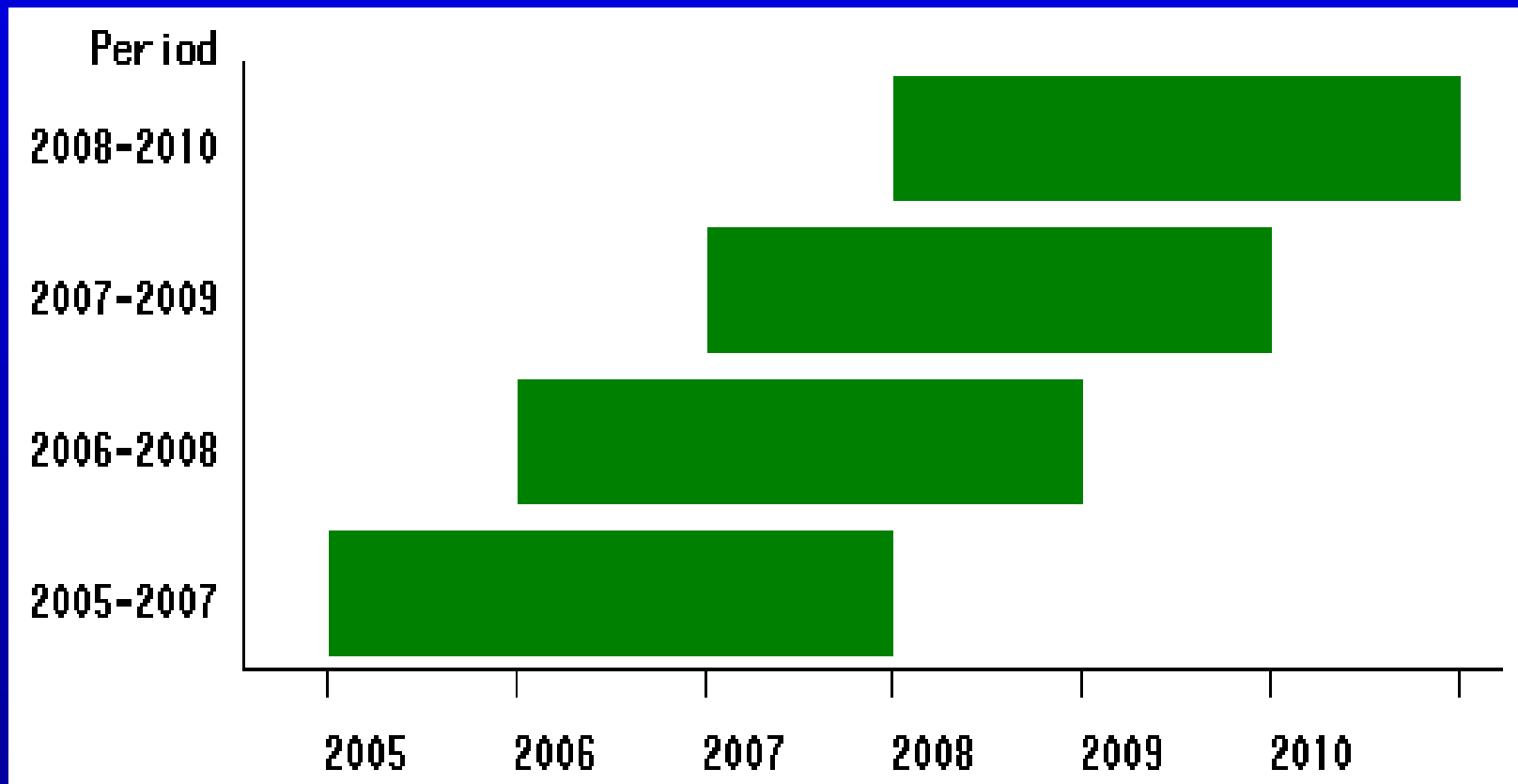
Group	Size
All Families	21,881
Families with Female householder, no husband present	3,433
Families with Female householder, no husband present, with own children under 18	1,883



90% Confidence Intervals for Percent Poverty by Family Type - Sevier County, TN - 2004



Overlapping vs. Non-Overlapping Time Periods



MYE Comparison Guidance

- Overlapping Estimates
- Geographic Comparisons
- Population Subgroups

Comparisons of Estimates of Overlapping Periods

- Hard to interpret
- Difference determined by difference of non-overlapping years, for example the difference between 2008-2010 and 2007-2009 is the difference between 2010 and 2007!
- Use appropriate methods to compare overlapping estimates
- Better and easier to compare non-overlapping periods, e.g., 2008-2010 vs. 2005-2007

Compare Areas over the Same Time Periods

- Do - compare 2005-2007 with 2005-2007 estimates
- Don't - compare 2005-2007 with 2007 estimates
- For example:
 - Upson County GA, pop 27,597
 - Lake County, IL, pop 644,356



Subgroups in Summary

- Size of confidence intervals & S.E.s can get large with subgroups
- Caution – geographic entity may support 1-year estimate, but subgroup may not
- Data Users – Look at Standard Errors!

Conclusion

- MYEs new product, new choices, new concepts for data users
- Detailed user guidelines will be provided in time for the 2008 release of first MYEs
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