

A Demographic Evaluation of the Stability of American Community Survey Estimates for Selected Test Sites: 2000 to 2011

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Background

- Nearly every study that has assessed the reasonableness of the emerging ACS results has looked at characteristics of the total population.
- An important product of the census results is the classification of the demographic and socioeconomic data by race and Hispanic origin (e.g., SF-4 from Census 2000).

Background

- This presentation uses published ACS data for 2005 to 2011 and a special file from the Multi-year Estimates Study for 2000 to 2004 to examine the consistency of a time series of ACS results at the county level for race and Hispanic origin groups.

Comparisons

- We examine 1-year ACS estimates for race/origin groups of 65,000 or more population.
- We examine 3-year estimates for race/origin groups from 20,000 to 65,000 in population size.

Comparisons

- We examine 5-year estimates for race/origin groups of less than 20,000 in population size.
- The census counts for 1990, 2000, and 2010 are included as benchmarks to assess the consistency of the ACS results.

Comparisons

Population size	ACS file	Test site
65,000 or more	1-year ACS file	Bronx County, New York
20,000 to 65,000	3-year ACS file	Multnomah County, Oregon
Less than 20,000	5-year ACS file	Upson County, Georgia

Characteristics

- Two population characteristics are the focus of this presentation: the poverty rate and the percent of housing units that are owner-occupied.
- The poverty rate is of particular interest to policy makers and differences by race and Hispanic origin are well established.
- The ownership rate is a characteristic that should not change much over short time intervals—this variable is a good test of ACS stability for race/origin groups.

Research Questions

This demographic evaluation addresses the following research questions:

1. Do the differentials in the ACS estimates by race and Hispanic origin appear to be reasonable?
2. Are the measured differentials stable over time and consistent with the census benchmarks?

Results

- The following graphs illustrate the general consistency of the differential poverty rates and ownership rates based on the ACS estimates.
- For the 1-year ACS estimates, the consistency of the time series for demographic groups can be improved by using 3-year estimates.
- The confidence interval can be wide for the 5-year estimates, but the differentials tend to be consistent.

Bronx County – 1-Year Estimates

- The differential poverty rates and ownership rates (of Blacks, Hispanics, and non-Hispanic Whites) are consistently measured in each period (2000 to 2011) and agree with the differentials observed in the censuses (1990, 2000 for poverty rates; 1990, 2000, and 2010 for ownership rates).

Bronx County – 1-Year Estimates

- The “stability” of the time series of estimates for demographic groups across years would be improved by using 3-year estimates (this is related to the reduction in the margin of error for each “point” estimate using the 3-year series versus the 1-year series).

Figure 1. Poverty Rates for Race/Ori­gin Groups Based on Census Data (1990, 2000) and ACS Estimates: Bronx County, NY

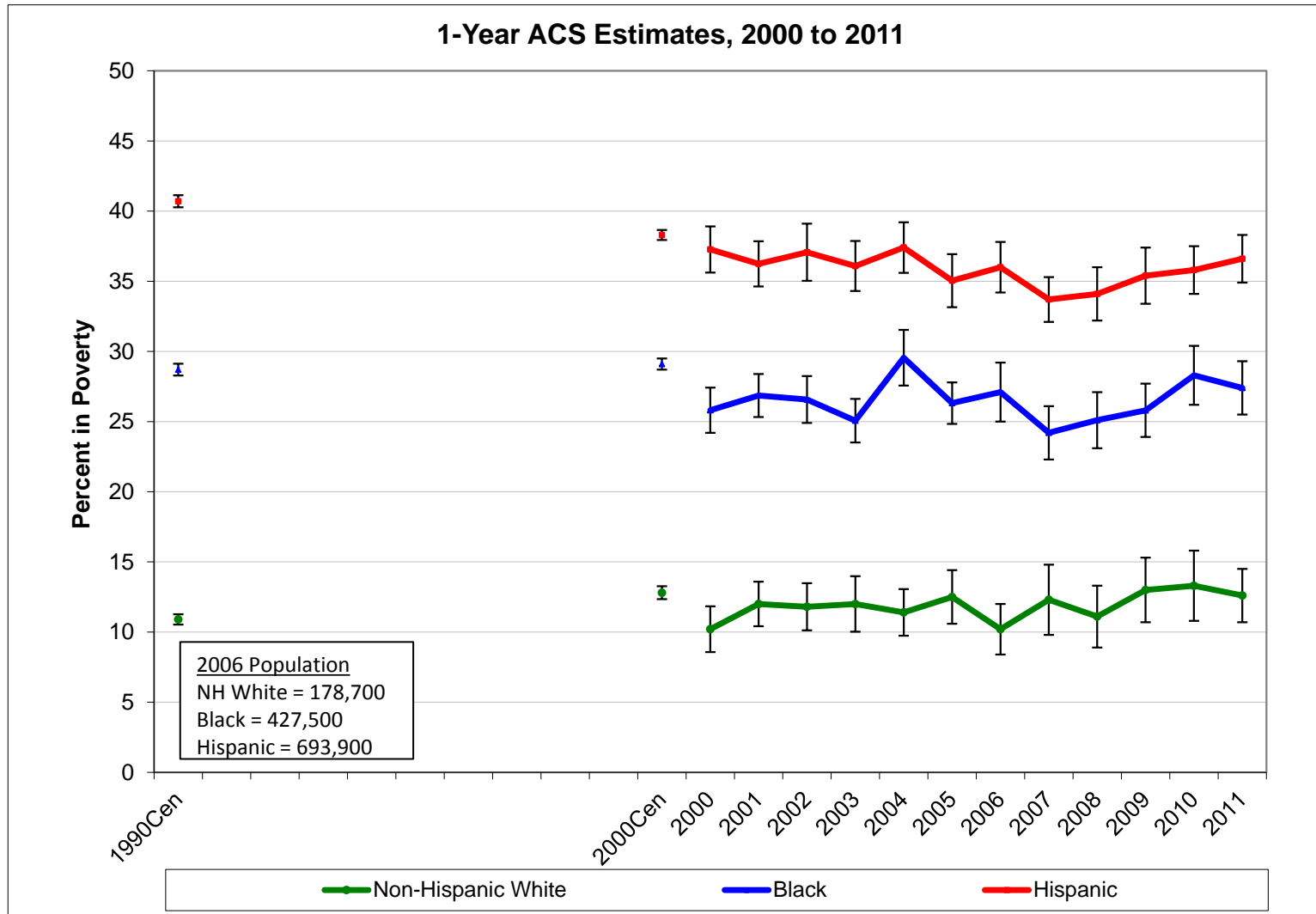
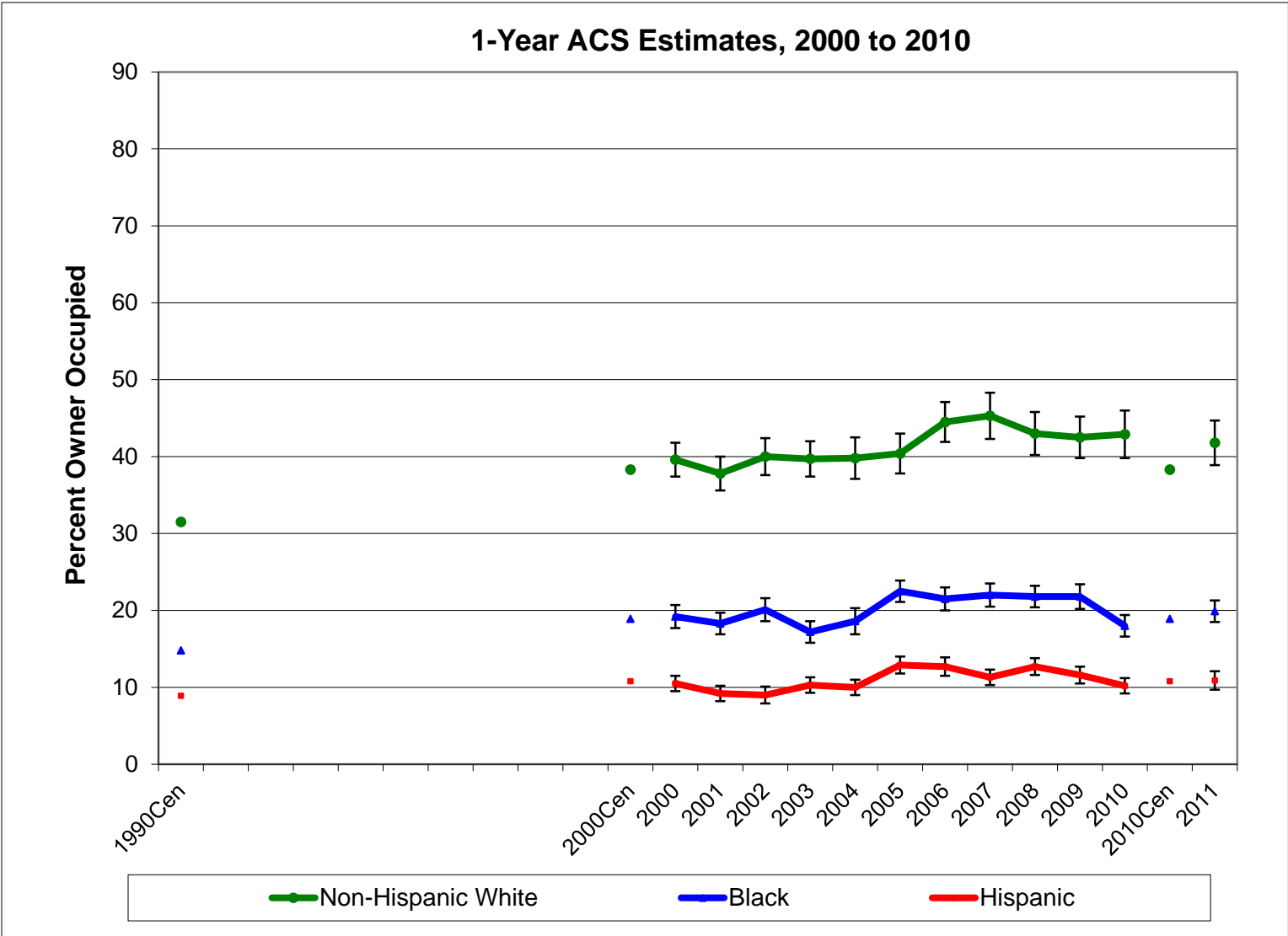


Figure 2. Percent Owner-Occupied Units for Race/Origin Groups Based on Census Data (1990, 2000, 2010) and ACS Estimates: Bronx County, NY



Multnomah County, OR – 3-Year Estimates

- The differential poverty rates and ownership rates of Hispanics and non-Hispanic Whites are consistently measured in each period (1999-2001 to 2009-11) and agree with the differentials observed in the censuses (1990, 2000, 2010).
- The poverty rates and ownership rates of Asians and non-Hispanic Whites are more similar, mirroring the pattern of Census 2000.

Figure 3. Poverty Rates for Race/Ori Origin Groups Based on Census Data (1990, 2000) and ACS Estimates: Multnomah County, OR

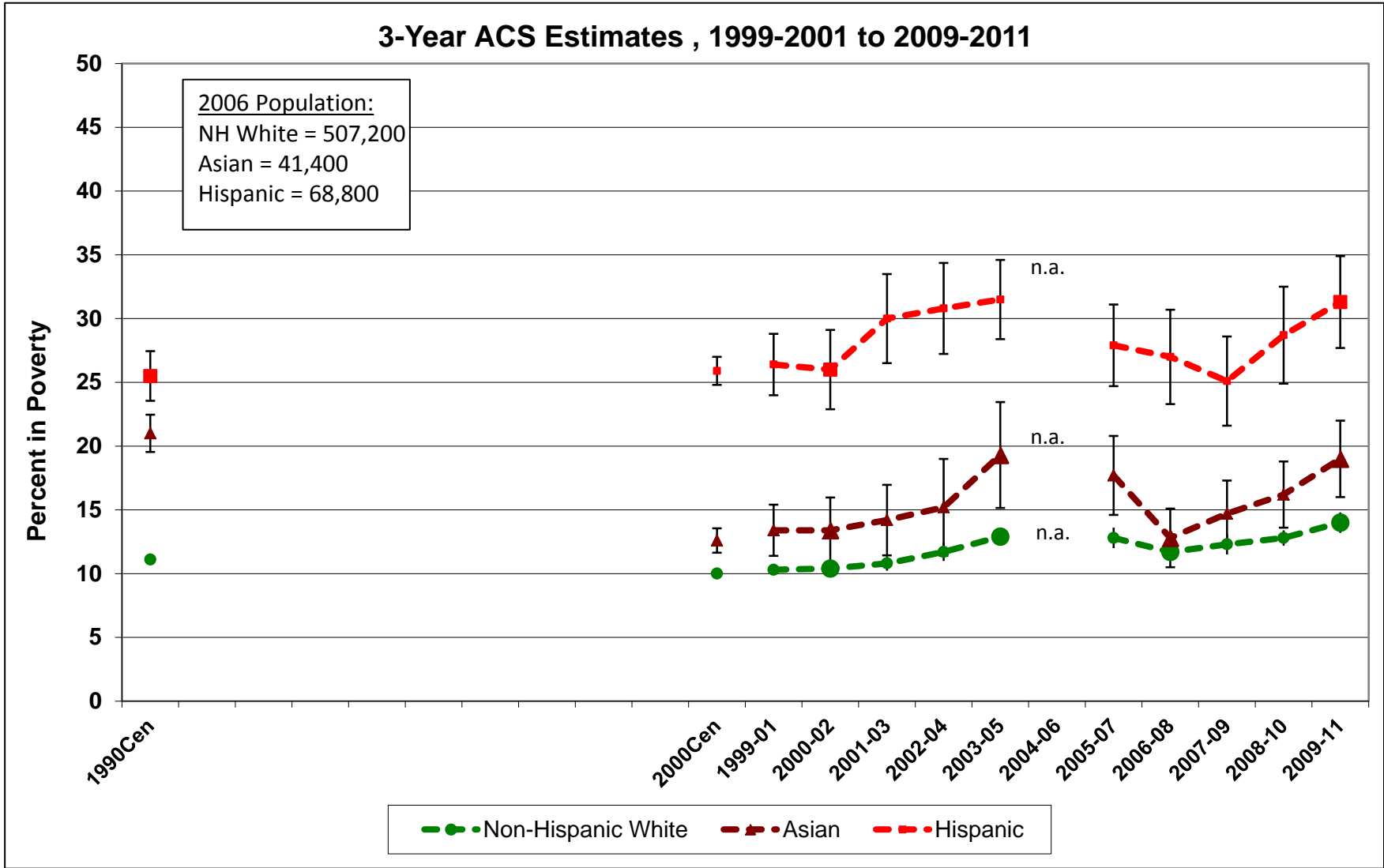
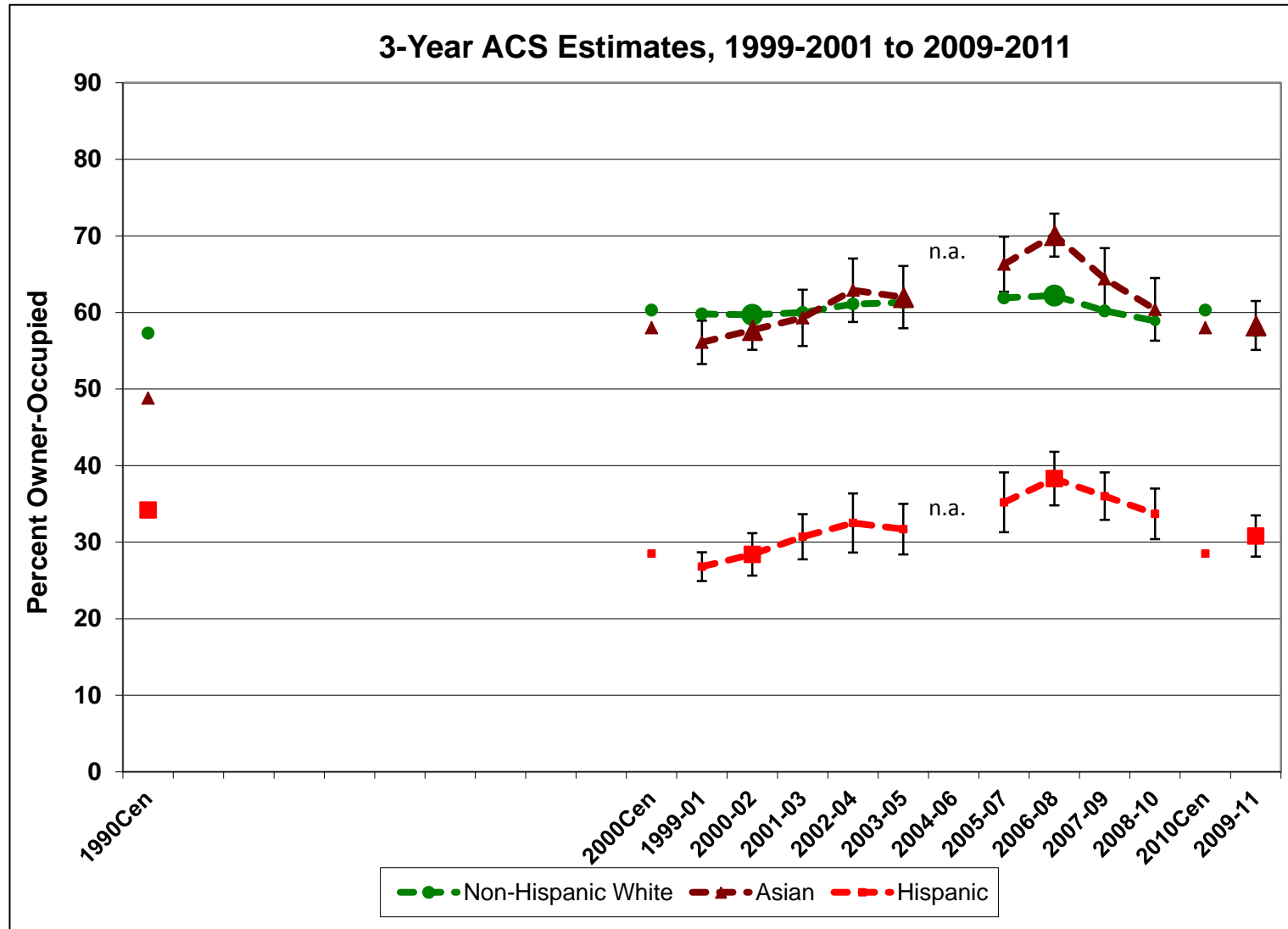


Figure 4. Percent Owner-Occupied Units for Race/Origin Groups Based on Census Data (1990, 2000, 2010) and ACS Estimates: Multnomah County, OR



Upson County, GA – 5-Year Estimates

- The differential poverty rates and ownership rates of Blacks and non-Hispanic Whites are consistently measured in each period (1999-2003, 2001-2005, and 2006-2010) and agree with the differentials observed in the previous two censuses (1990, 2000).

Upson County, GA – 5-Year Estimates

- The margin of error can be wide for the 5-year estimates of these relatively small populations, but the differentials tend to be consistently measured. Note that the margin of error is also conspicuous in the census estimates, although smaller than the ACS confidence interval.

Figure 5. Poverty Rates for Race/Origin Groups Based on Census Data (1990, 2000) and ACS Estimates: Upson County, GA

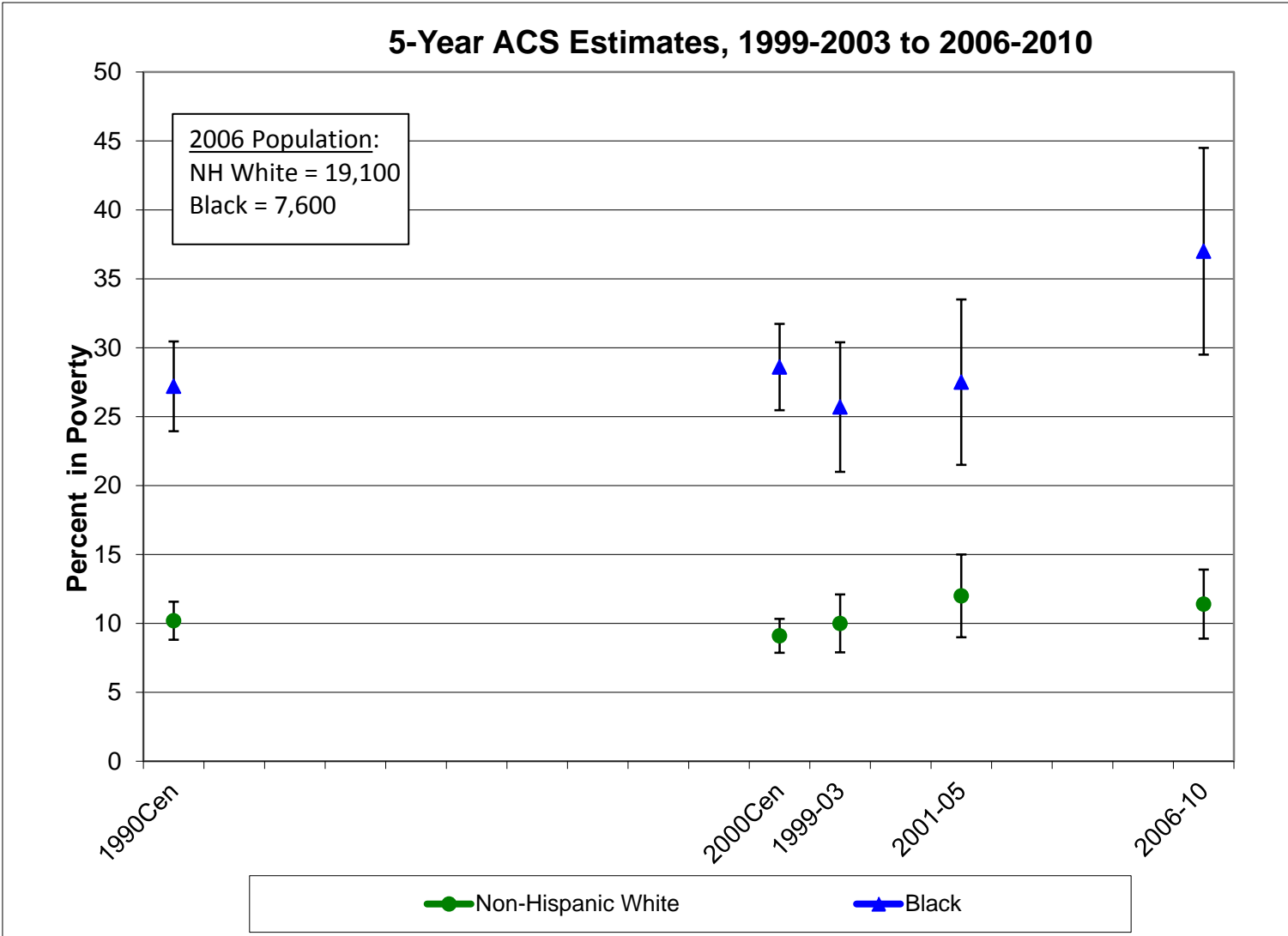
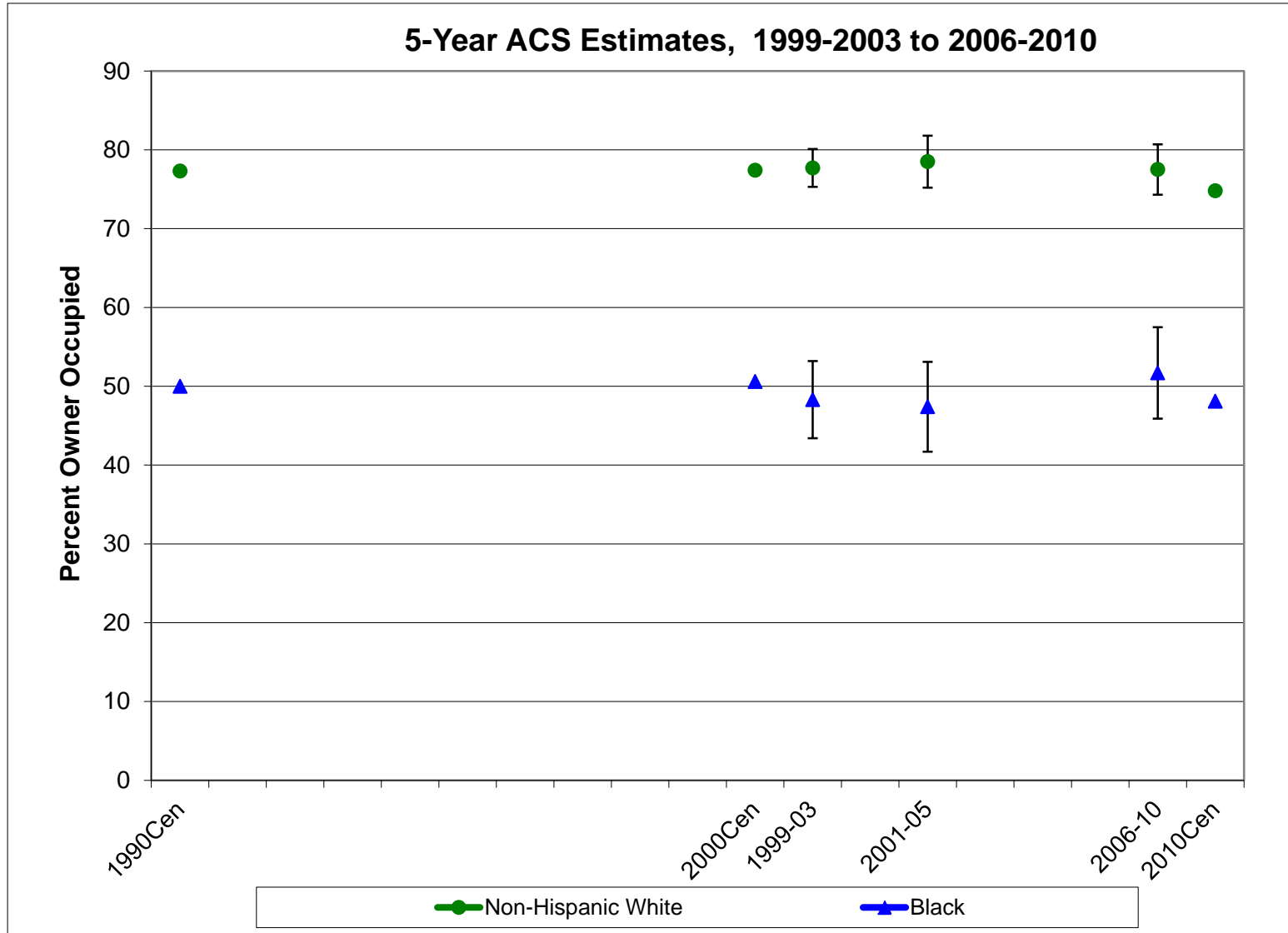


Figure 6. Percent Owner-Occupied Units For Race/Origin Groups Based on Census Data (1990, 2000, 2010) and ACS Estimates: Upson County, GA



Differential Poverty and Ownership Rate for Asians Across Counties

- We examine the reasonableness of the ACS 5-year estimates for Asians in three counties where the poverty rates differ appreciably (as well as the ownership rates).

Differential Poverty and Ownership Rate for Asians Across Counties

- The geographic ordering appears consistently (e.g., 2001-2005 and 2006-2010 estimates), with relatively high poverty rates (or low ownership rates) for Asians in Bronx County, intermediate rates in Multnomah County, and lower poverty rates (or higher ownership rates) in Rockland County. The rank ordering is the same as measured by Census 2000.

Figure 7. Poverty Rates based Census Data (1990, 2000) and ACS Estimates: Asian Alone Population for Selected Counties

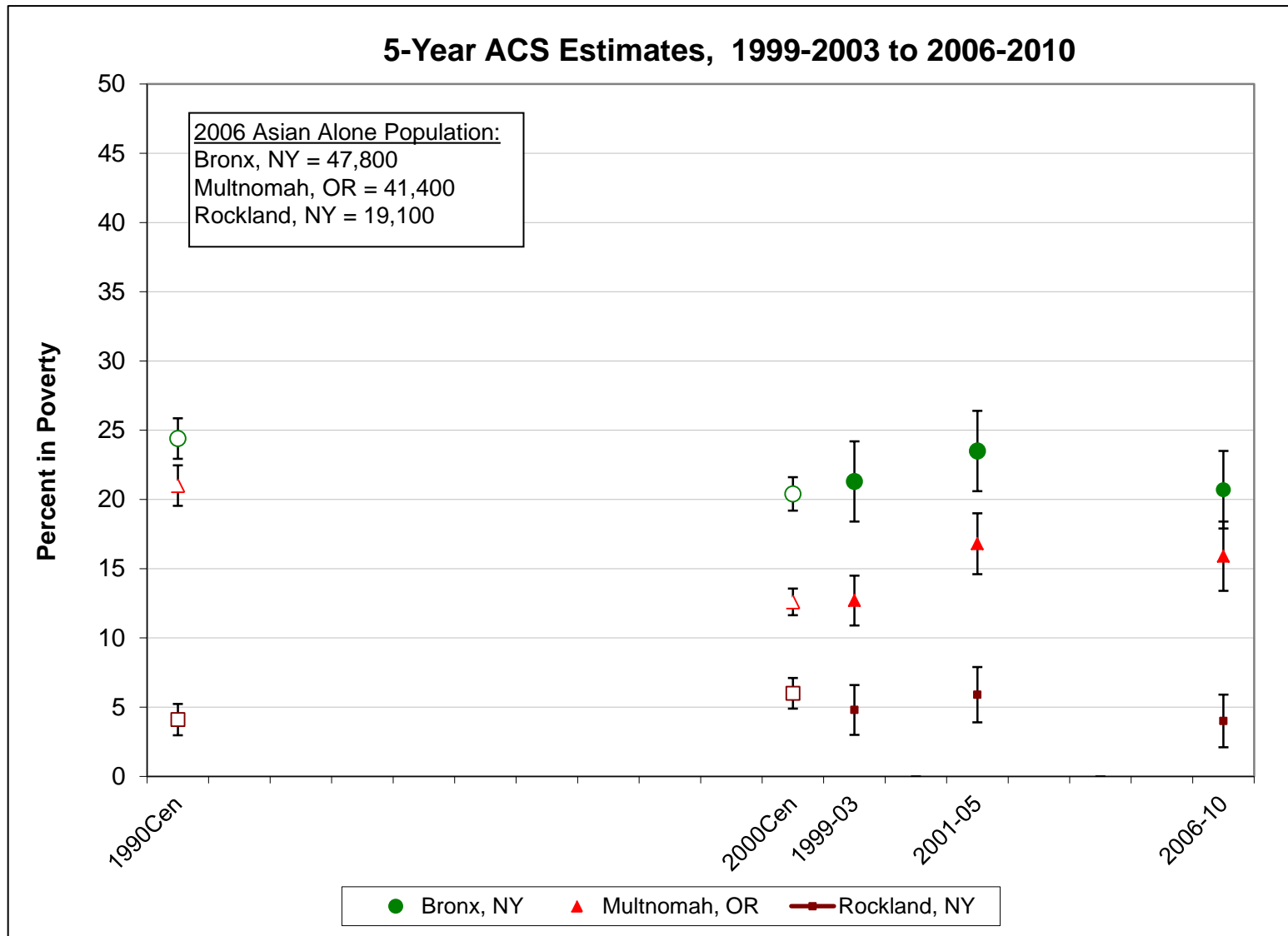
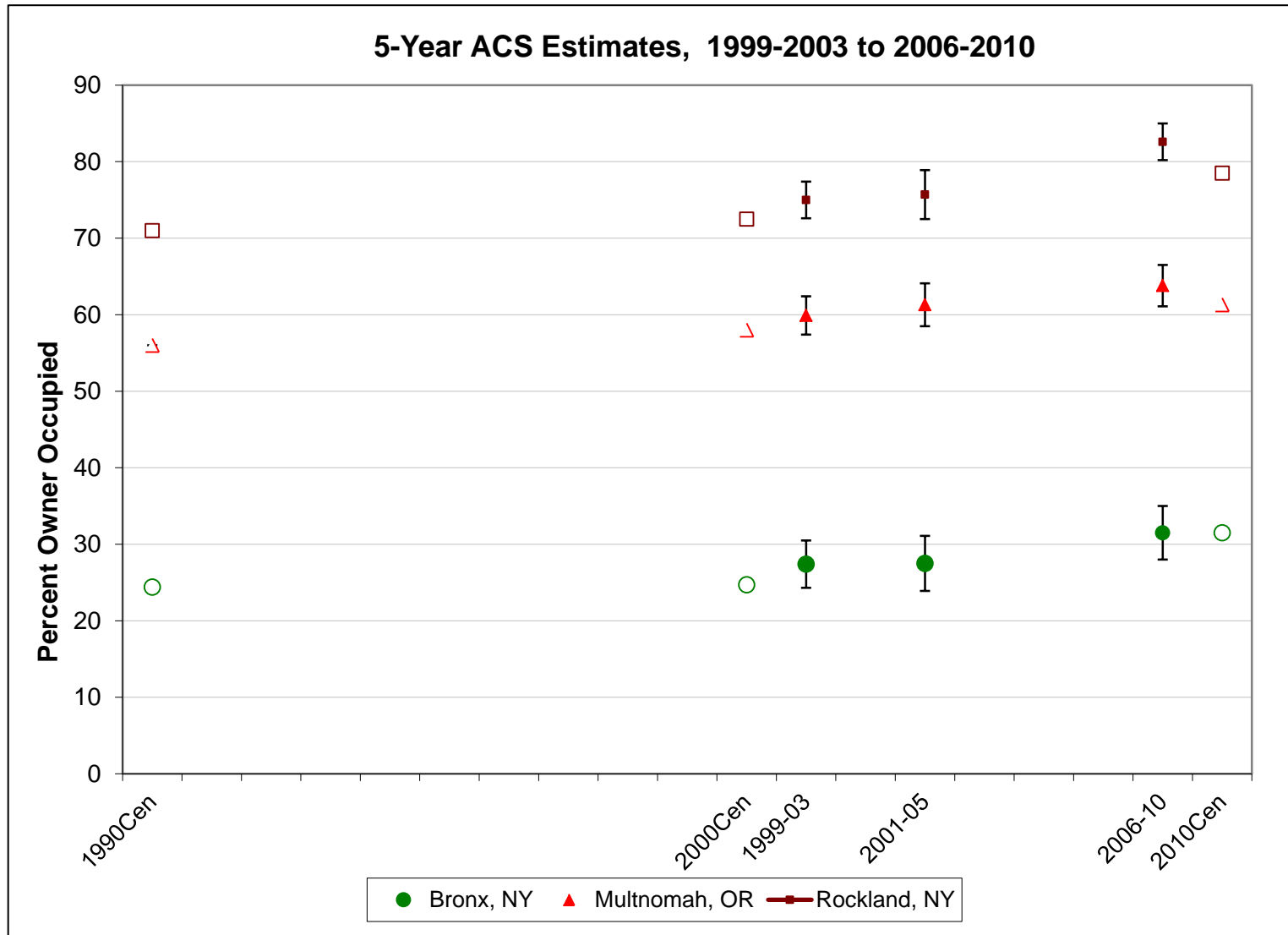


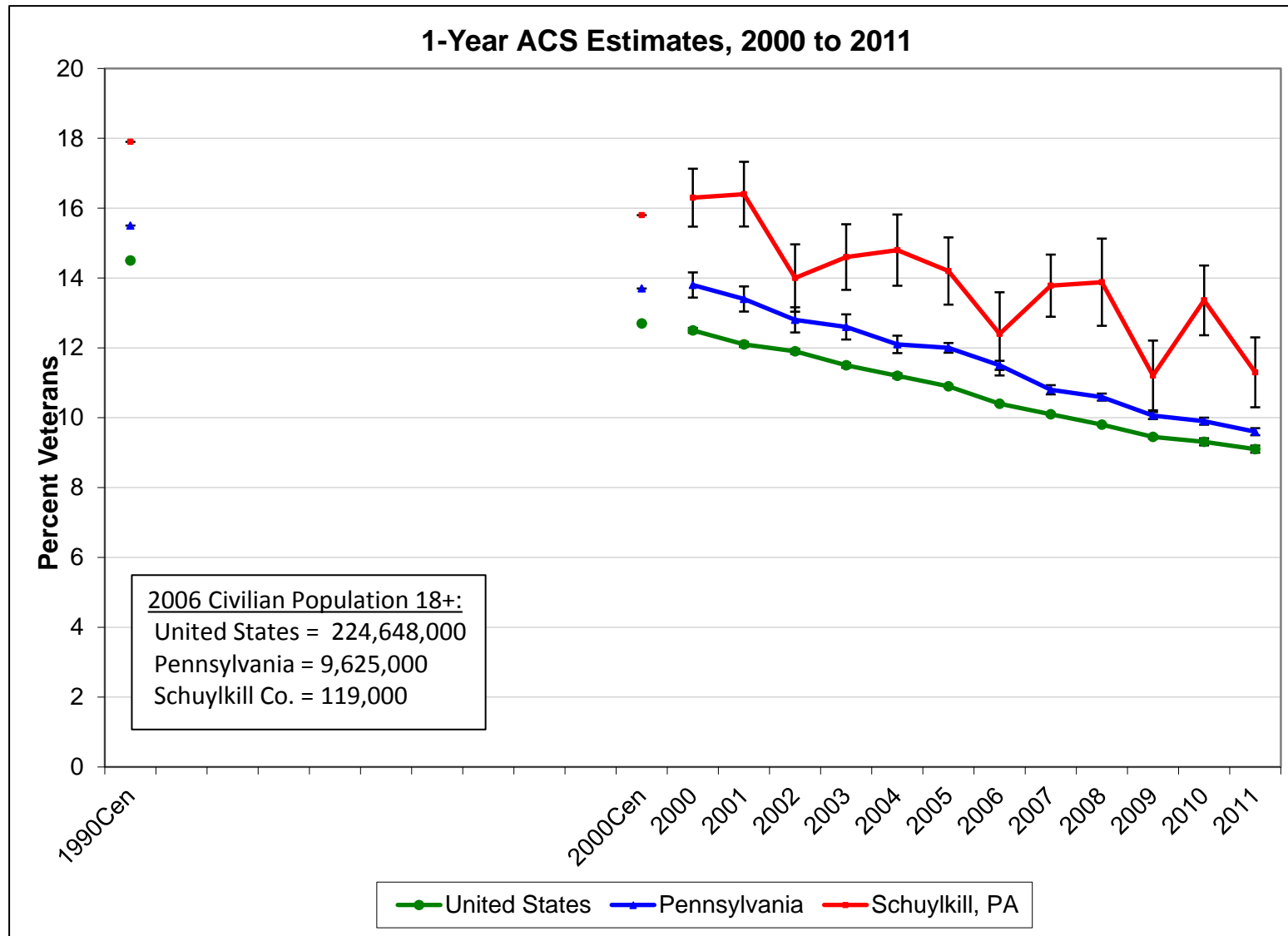
Figure 8. Percent Owner-Occupied Units Based on Census Data (1990, 2000, 2010) and 5-Year ACS Estimates: Asian Alone Population for Selected Counties



Percent Veterans – 1-Year Estimates

- The volatile trend in the percent veteran population in Schuylkill County--compared to the expected downward trend seen for larger areas--is a concluding case study of the impact of sample size on the stability of implied change in ACS estimates. Three-year ACS estimates would likely smooth out the variability.
- Despite the inconsistent year-to-year change, the differential proportion of veterans in Schuylkill County compared to the United State holds in each year.

Figure 9. Percent Veterans of the Civilian Population Ages 18 and Over: Census and ACS data



Summary and Next Steps

- Using this “case study” evaluation of race/Hispanic origin as an example, the ACS estimates for demographic subgroups can be systematically analyzed, including more characteristics and providing summary measures of consistency (such as CVs).
- Working with the detailed demographic data will help focus on the use, presentation, and interpretation of the ACS 1-year and multi-year estimates.

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