

American Community Survey: Bonanza or Booby Trap

What is the American Community Survey?

A large, continuous demographic survey

- Produces annual and multi-year estimates of the characteristics of the population and housing
- Produces *characteristics, not a population count*
- Produces information for small areas including tracts, block groups and population subgroups
- Key component of the reengineered 2010 census

American Community Survey Program Schedule

- **ACS Demonstration Period: 1996-2004**
- **ACS full implementation began January 2005**
 - **Every county nationwide**
 - **First full implementation data products: Summer, 2006**
 - **Annually updated data products every year thereafter**
 - **Group quarters coverage beginning January 2006**

Full Implementation: Every County Nationwide

- 3 million addresses every year throughout the U.S. and in Puerto Rico (Minnesota sample = 78,000)
- Provide single-year period estimates for communities of 65,000 or more starting in 2006
- Provide 3-year period estimates for communities with populations of 20,000 or more starting in 2008
- Provide 5-year period estimates starting in 2010

ACS Data Product Release Schedule

| Data Product | Population Threshold | Year of Data Release | | | | | | | |
|------------------|----------------------|----------------------------|------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| | | Year(s) of Data Collection | | | | | | | |
| 1-year Estimates | 65,000+ | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| 3-year Estimates | 20,000+ | | | 2005-2007 | 2006-2008 | 2007-2009 | 2008-2010 | 2009-2011 | 2010-2012 |
| 5-year Estimates | All Areas | | | | | 2005-2009 | 2006-2010 | 2007-2011 | 2008-2012 |

Data products are released in the year following the single-year or multi-year period in which data are collected.

ACS Data for Political Areas

- In 2006, and every year thereafter, the Census Bureau will release ACS data products for all 435 Congressional Districts.
- Beginning in 2008, the Census Bureau will release ACS data for State Legislative Districts.

ACS Data for Other Areas

| Single-Year Period Estimates | Three-Year Period Estimates |
|---|---|
| 15 American Indian / Alaska Native Areas | 41 American Indian / Alaska Native Areas |
| About 880 School Districts | About 3,200 School Districts |
| 97 Minor Civil Divisions | 592 Minor Civil Divisions |
| 449 Urbanized Areas | 969 Urbanized Areas |

ACS Data for Cities and Towns

| One-Year Period Estimates (released beginning in 2006) | Three-Year Period Estimates (released beginning in 2008) | Five-Year Period Estimates (released beginning in 2010) |
|--|--|---|
| 476 Places | 1,983 Places | 19,450 Places |

American Community Survey: Demographic and Social Data Products – Wave 1, 2 & 3

- Base Tables
- Tabular Profiles
- Narrative Profiles
- Ranking Tables
- Geographic Comparison Tables
- Thematic Maps

American Community Survey: Race, Ethnicity, and Ancestry Data Products – Wave 4

- Iterated Selected Population Profiles
(population greater than 65,000)
- Base Tables for Place of Work Geographies

Single- and Multi-Year Estimates

- Both single- and multi-year estimates can be thought of as “period estimates.” Census reflects a point in time.
 - 2005 single-year estimates are based on Jan 2005 – Dec 2005 interviews (12 months).
 - 2005-2007 three-year estimates are based on Jan 2005 – Dec 2007 interviews (36 months).
 - 2005-2009 five-year estimates are based on Jan 2005 - Dec 2009 interviews (60 months).

Multi-Year Estimates: Inflation Adjustments

- Dollar valued data items are inflation adjusted to the most recent year of the period.
- The Consumer Price Index (CPI) is used to compute inflation factors.

Bonanza or Booby Trap?

- Without Group Quarters population, comparisons with 2000 Census data are inappropriate for many data items
- Data users want numbers and may forget admonitions that this is a dataset of characteristics (but how does one differentiate?)
- How do you compare ACS period estimates
- Data for small populations are questionable
- Martha and Tom will discuss these issues!

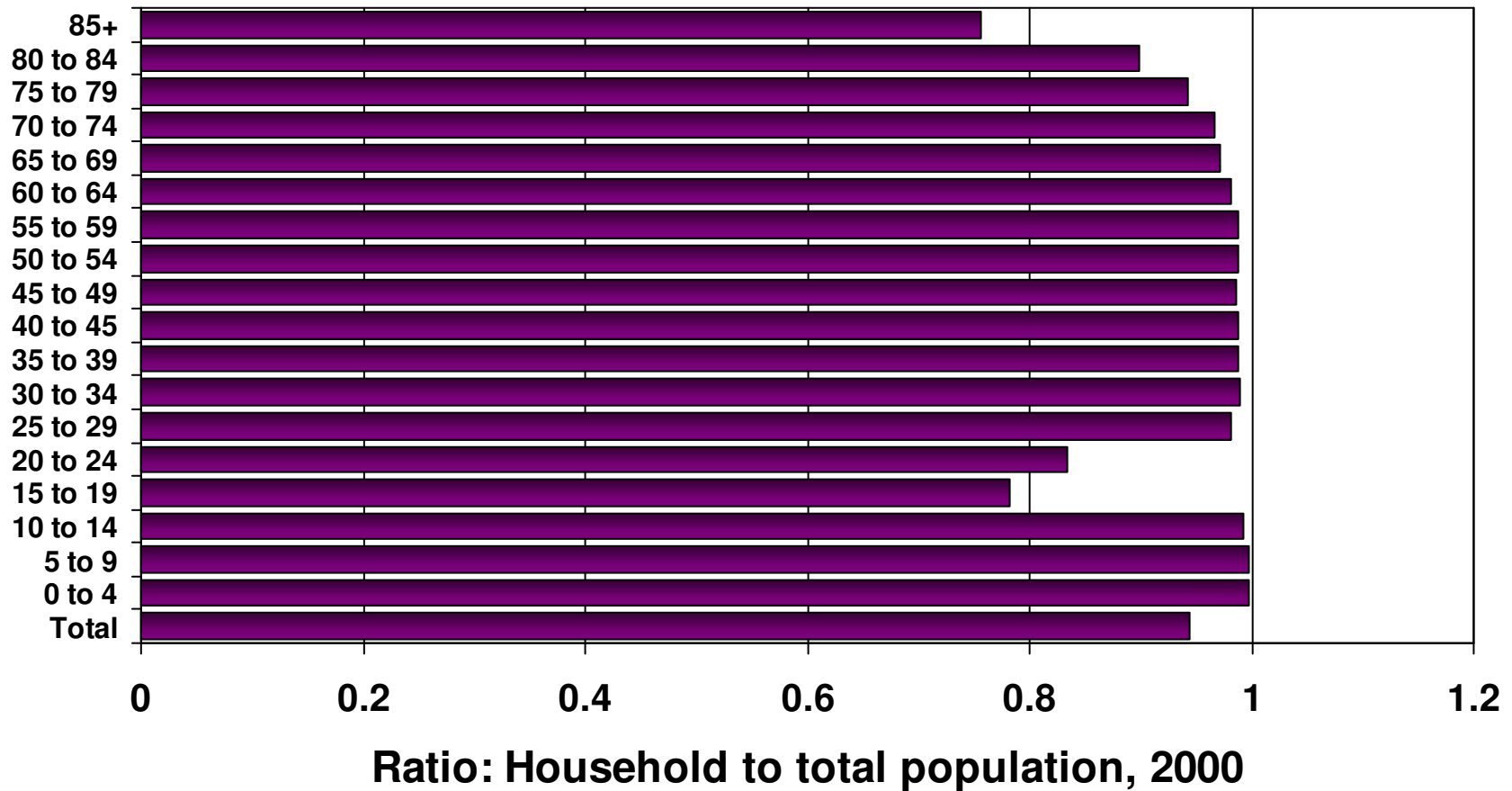
Age and Race in ACS data

The Stearns County example

Age in ACS data: what would we expect?

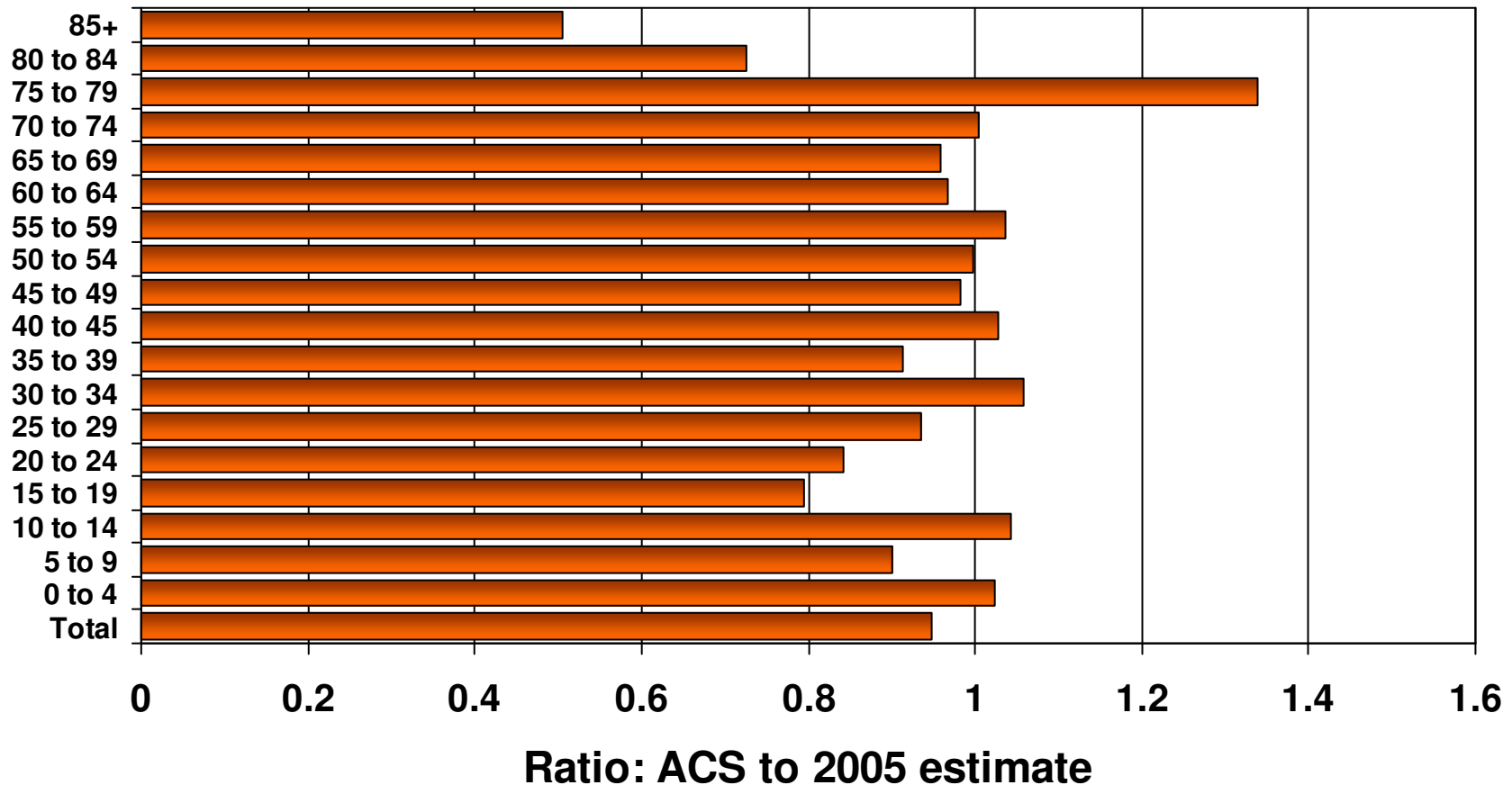
- Fewer very old people, because ACS does not count people in nursing homes.
- Fewer people in their late teens and early 20s, because ACS does not count people in college dorms.

Stearns County: Ratio of 2000 Census household population to 2000 Census total population, by age



2000 Census data

Stearns County: Ratio of 2005 ACS to 2005 Census Bureau estimate, by age



U.S. Census Bureau age estimates; American Community Survey

A look at age group 75-79

| Age | Source | Number |
|------------------------------------|---------------------------------|----------------------------------|
| 70-74 (Household pop. Only) | 2000 Census | 3556 |
| 75-79 (Total) | OSD projections for 2005 | 3160 |
| 75-79 (Total) | 2005 Estimate | 3312 |
| 75-79 (Household pop. only) | 2005 ACS | 4435 (range 3548 to 5322) |

How would we expect birth data to be different in ACS and Vital Statistics?

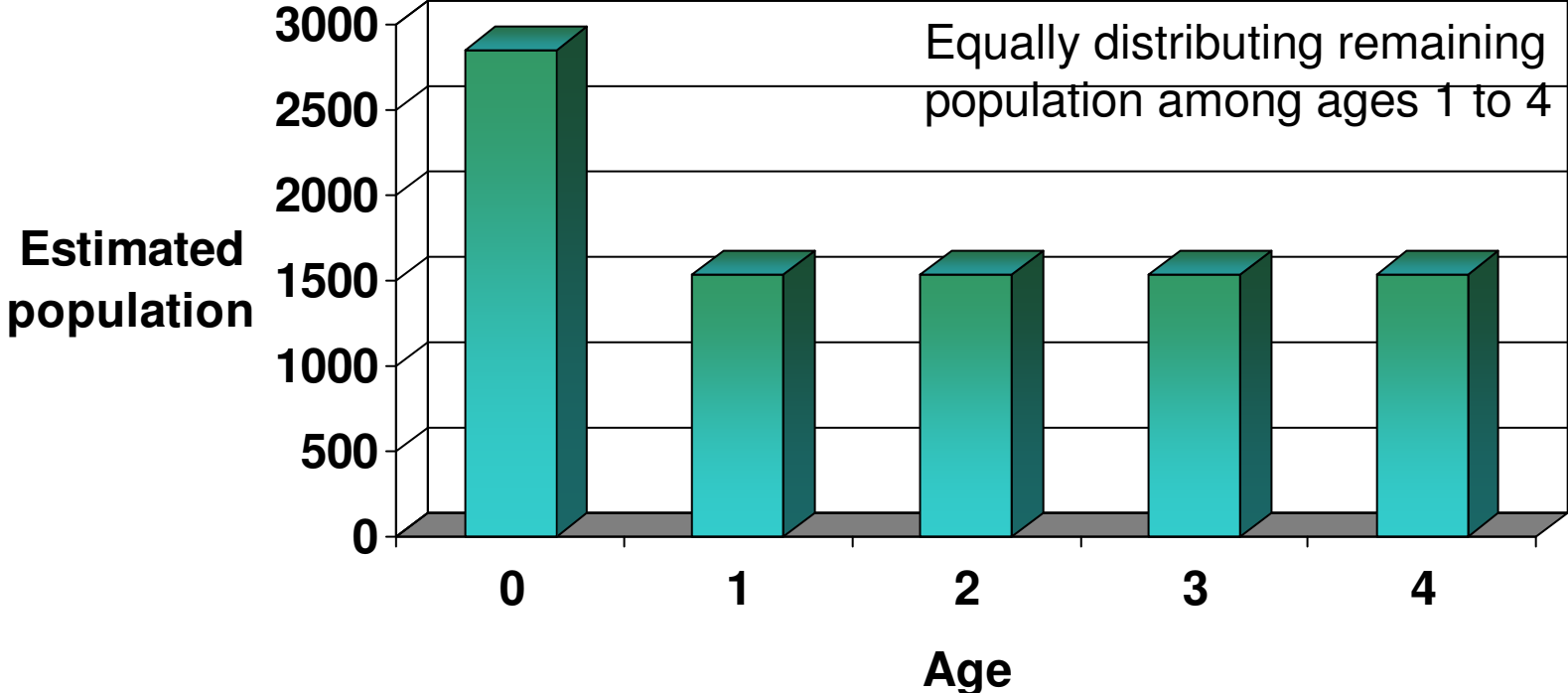
- Most women in group quarters do not have babies, so total number of births should be similar...just a bit smaller in ACS.
- Fertility rate should be higher in ACS because low-fertility college students are excluded when the rates are calculated.

How many births in Stearns County? What is the fertility rate?

| | Estimates/Vital Statistics | ACS |
|---------------|----------------------------|---------------------|
| Births | 1841 | 2848 (1967 to 3729) |
| Births/1000: | | |
| Ages 15 to 50 | 48.4 | 80 (56 to 104) |
| Ages 15 to 19 | 24.5 | 35 (2 to 68) |
| Ages 20 to 34 | 78.7 | 151 (99 to 208) |
| Ages 35 to 50 | 14.7 | 19 (8 to 30) |

What do ACS birth data imply about Stearns County age distribution for small children?

If births=2848 and 0-4 population = 8970



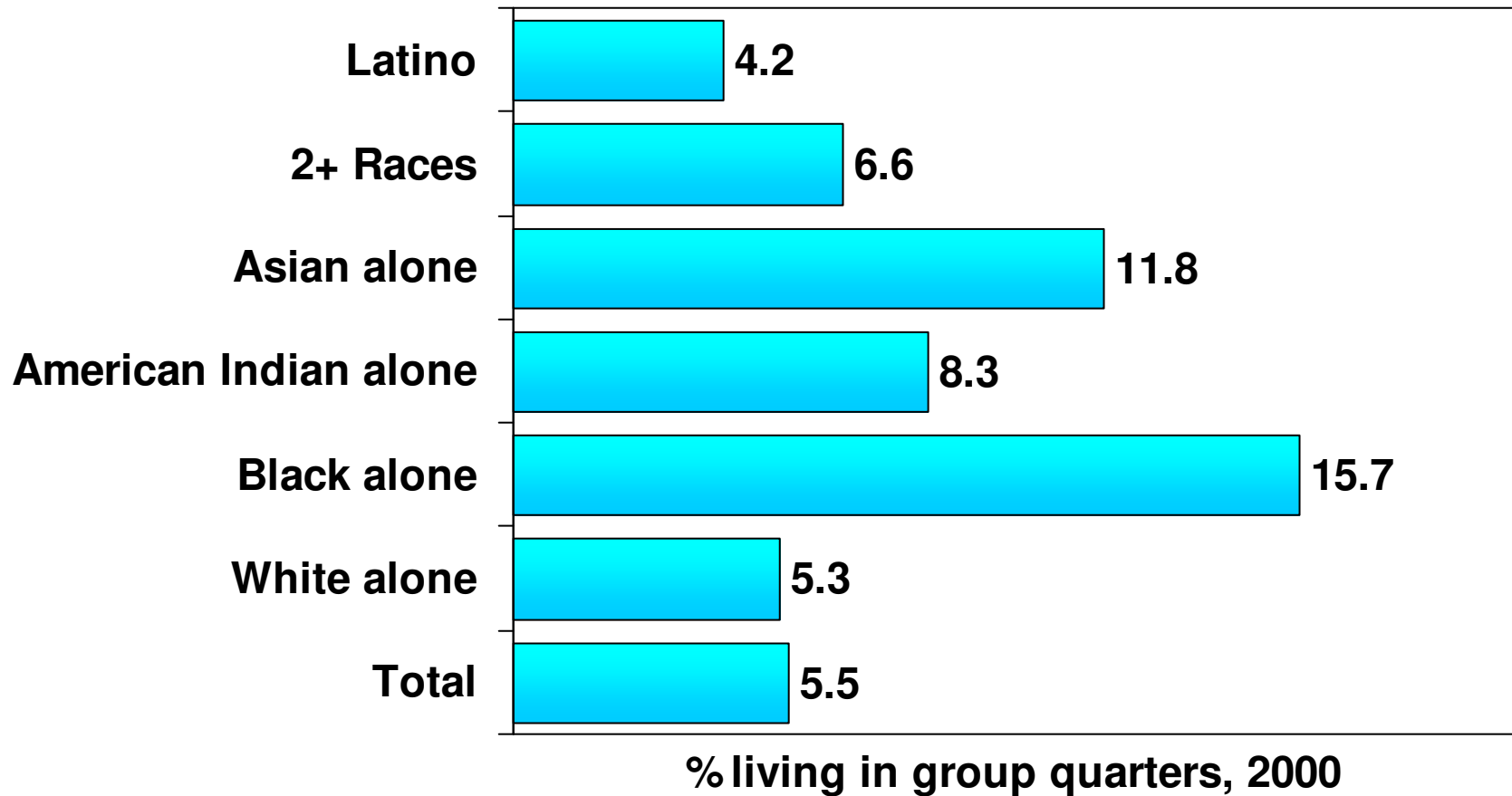
Births and 0-4 population from 2005 American Community Survey



How would we expect race data to be different in ACS?

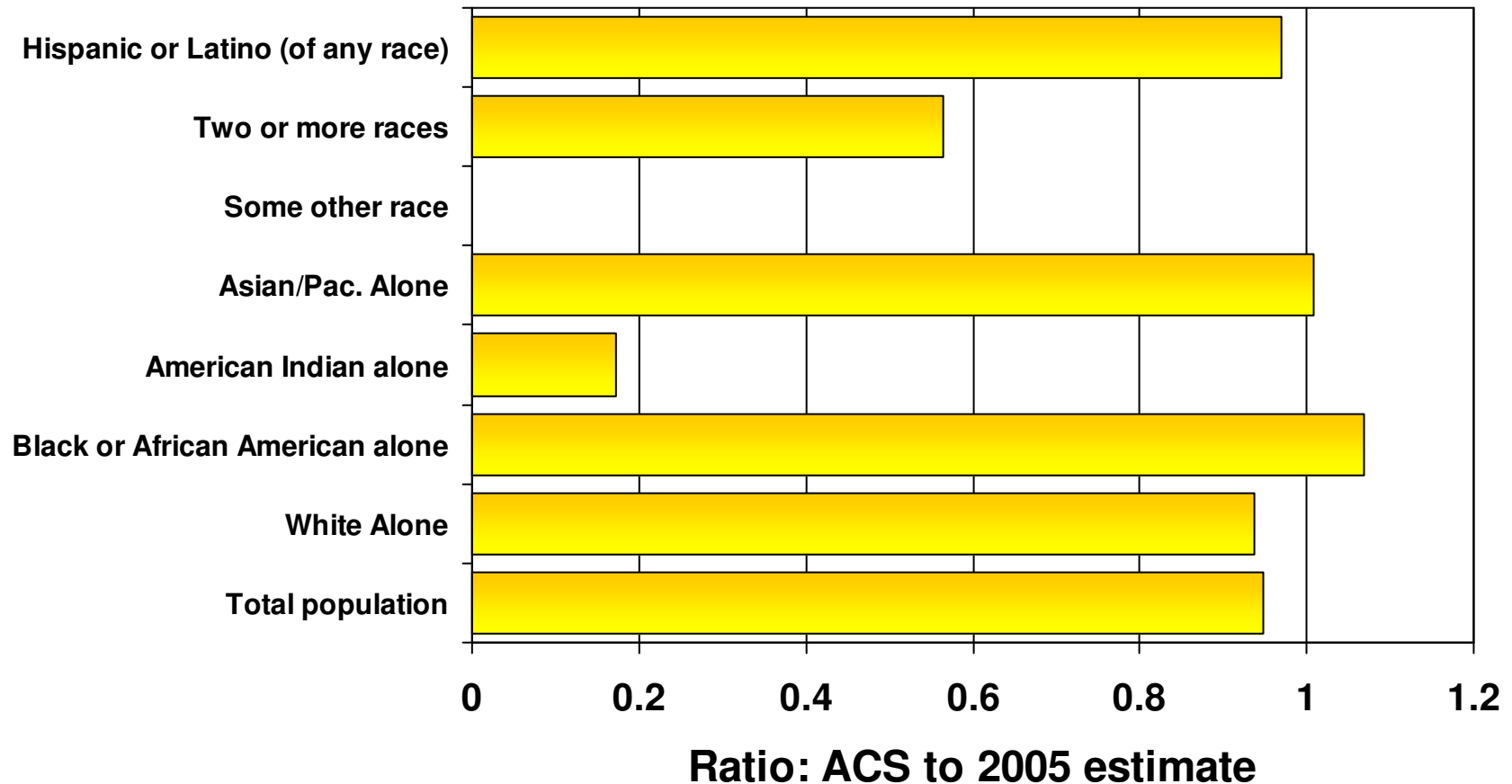
- If a large proportion of a particular race/ethnic group lives in group quarters, the population will be smaller in ACS than in the 2005 estimates.

% of population living in group quarters, Stearns County 2000



2000 Census data

Stearns County: Ratio of 2005 ACS race estimates to 2005 Census Bureau estimates



Estimates do not have a “some other race” category

How many American Indians in Stearns County?

| | Race alone | Race alone or in combination |
|-----------------------------|---------------------|------------------------------|
| 2000 Census | 351 | 742 |
| 2000 Census, household pop. | 310 | N/A |
| 2005 estimate | 405 | 776 |
| 2005 ACS | 70 (range 0 to 149) | 320(range 80 to 622) |

How has age distribution changed for the American Indian population in Stearns County?

- The ACS *does not have* age data for nonwhites/Latinos in Stearns County (except medians).
- The Census Bureau age estimates do provide this information by county, for every county.
- An alternative source is NCHS, using bridged race definitions with no multiple race option.

Stearns County Estimates of Median Age Vary Widely

| | 2000 Census | 2005 Estimate | 2005 ACS |
|----------------------------|-------------|---------------|----------------------------|
| White alone Males | 31.5 | 32.6 | 34.0 (33.5 to 34.5) |
| White alone Females | 33.1 | 34.4 | 36.0 (35.4 to 36.6) |
| Black alone Males | 24.2 | 24.2 | <i>25.3 (14.1 to 36.5)</i> |
| Black alone Females | 21.6 | 23.1 | <i>7.1 (5.4 to 8.8)</i> |
| Amer. Indian alone Males | 26.0 | 28.3 | <i>41.6 (38.7 to 44.5)</i> |
| Amer. Indian alone Females | 25.0 | 29.4 | <i>65.5 (no range)</i> |

American Indian includes Alaska Native

Stearns County Age Estimates Vary Widely (part 2)

| | 2000 Census | 2005 Estimate | 2005 ACS |
|---------------------|----------------|------------------|----------------------------|
| Asian alone Males | 24.3 | 25.5 | <i>35.2 (32.5 to 37.9)</i> |
| Asian alone Females | 23.7 | 24.8 | <i>32.3 (26.3 to 38.3)</i> |
| Two+ races Males | 15.5 | 16.9 | <i>29.1 (14.2 to 44)</i> |
| Two+ races Females | 17.3 | 17.2 | <i>26.1 (9.2 to 44.2)</i> |
| Hispanic Males | 22.5 | 24.4 | 20.2 (19.8 to 20.6) |
| Hispanic Females | 20.9 | 22.6 | 19.5 (15.5 to 23.5) |

Hispanics may be any race.

Stearns County sample size

- ACS sample size was 2100.
- In 2000, American Indian alone population was about 0.2 % of total household population in the county.
- Assuming same proportion, about 5 households in the sample would have an American Indian alone householder.

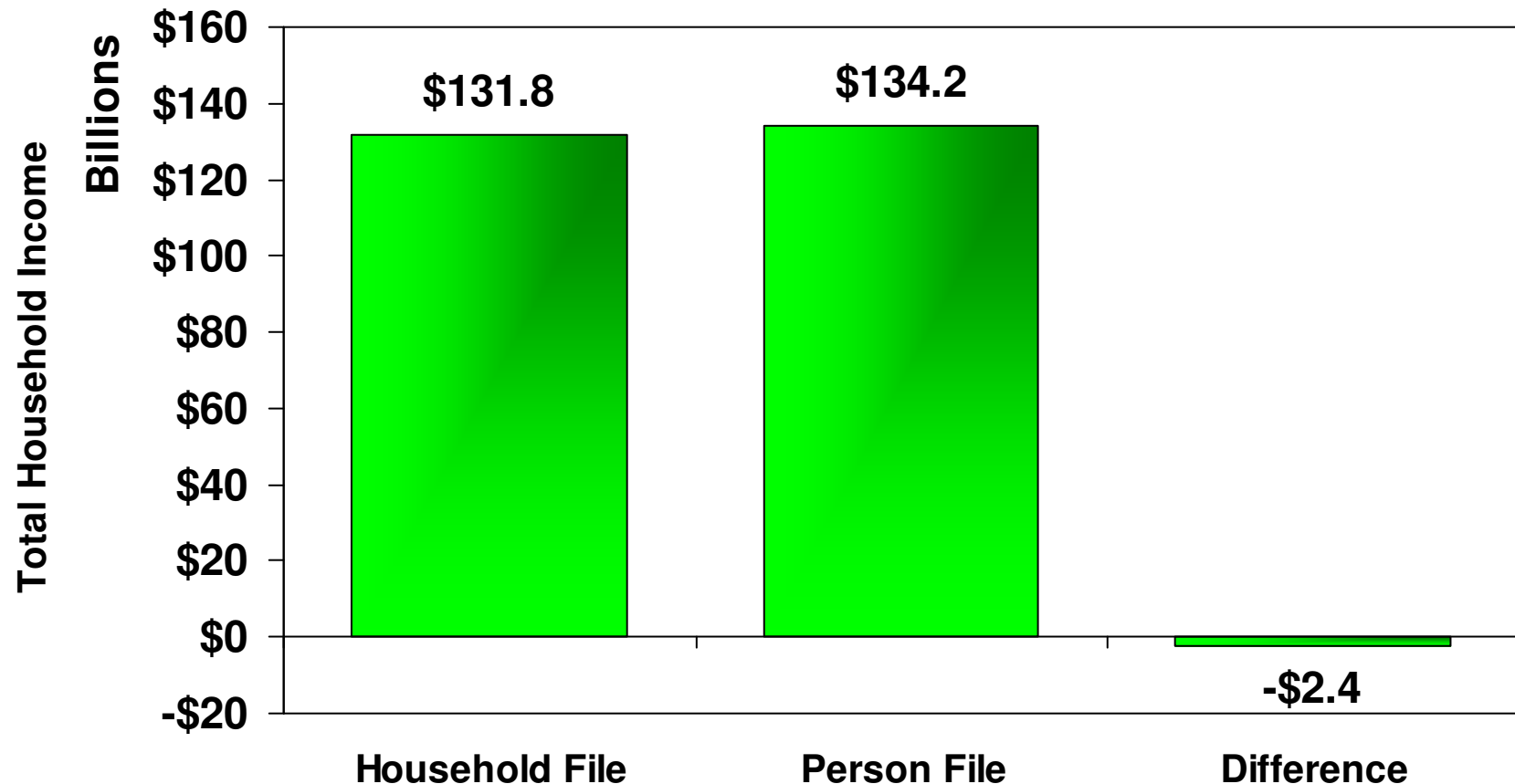


Summary: Age and Race data

- ACS data for smaller racial groups is skimpy and not reliable.
- Age data does not reflect entire population because of omission of group quarters.
- Some age data is out of line with other sources of information (estimates, 2000 Census).
- Birth data are not believable.

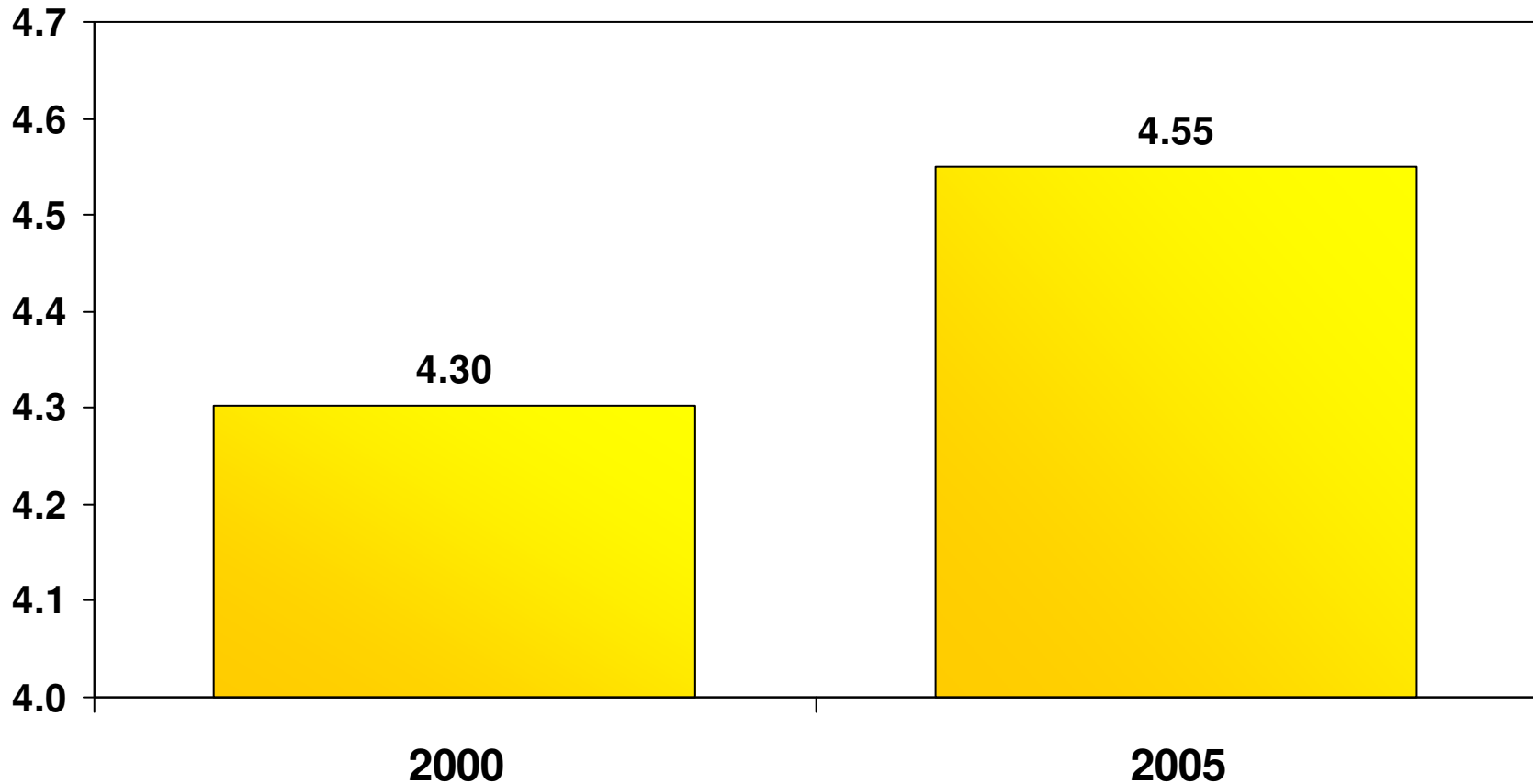
Income Data in 2005 ACS

Income Of All Members Of The Household Should Sum To Total Household Income—The Difference Is In The Weights



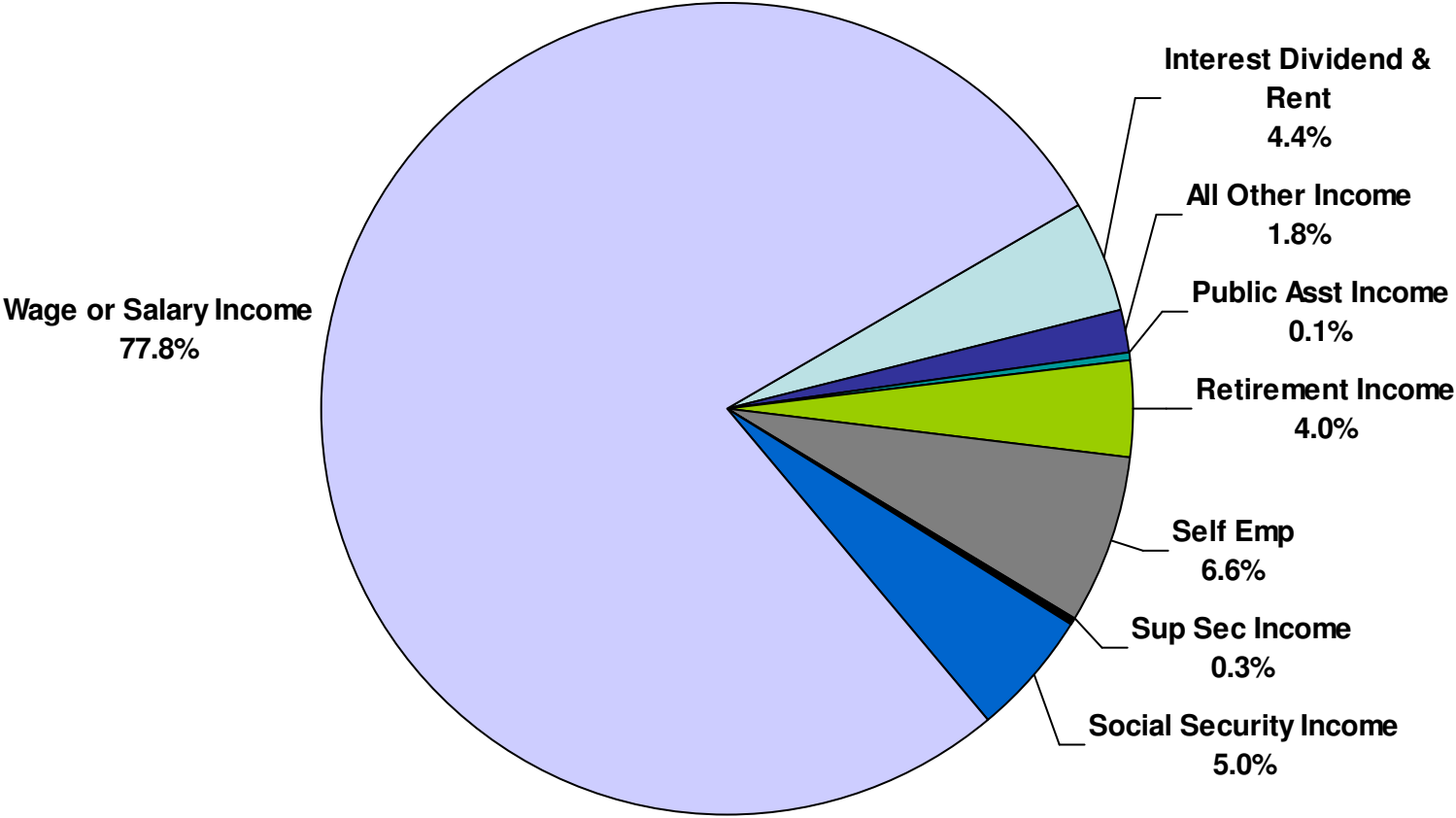
2005 ACS PUMS data. The difference is about 1.8%. Margin of Error (90% confidence) on total household income is +/- \$1.2 billion

Ratio Of 90th To 25th Percentile Household Income—Minnesota



2000 Census 5% PUMS data & 2005 ACS PUMS

Total Minnesota Income Reported In The Person File By Type Of Income—2005 ACS



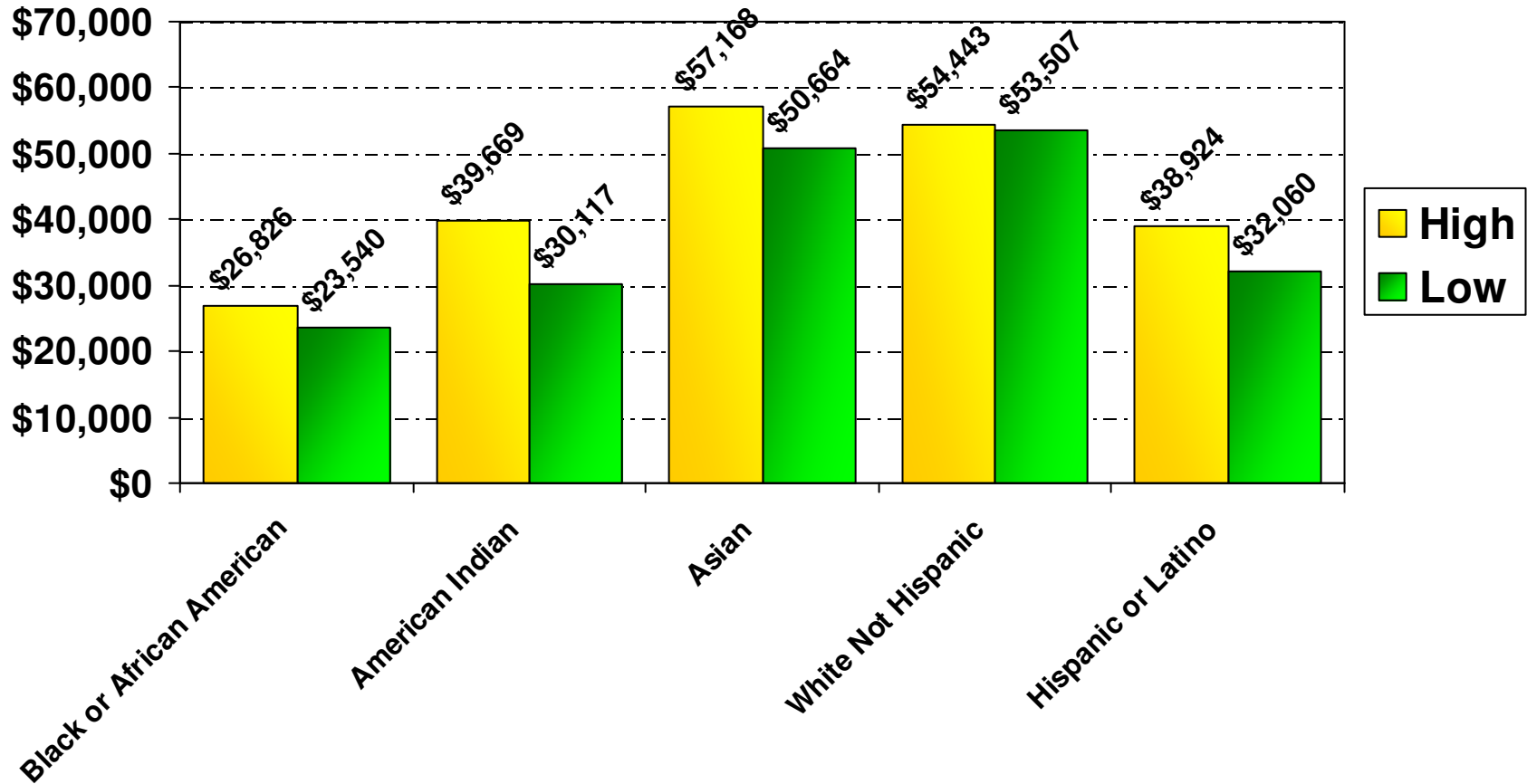
2005 ACS PUMS data

Sources Of Income Are Consistent Between Census 2000 and 2005 ACS

| | 2000 | 2005 |
|-------------------------------------|-------|-------|
| Wage or Salary | 77.2% | 77.8% |
| Self-employment* | 5.9% | 6.6% |
| Interest, dividends, or net rental* | 6.2% | 4.4% |
| Social Security | 4.6% | 5.0% |
| Supplemental Security | 0.3% | 0.3% |
| Public assistance | 0.2% | 0.1% |
| Retirement income | 3.9% | 4.0% |
| Other Income | 1.7% | 1.8% |

2000 Census 5% PUMS and 2005 ACS PUMS data

90% Confidence Interval Of Median Household Income By Race & Ethnicity



2005 ACS detailed tables

90% Confidence Interval Of Median Earnings By Educational Attainment For Persons Age 25+

