

Updating the Current Population Survey Processing System

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Bridging Differences in the Measurement of Poverty

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Updating the CPS ASEC

The Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC) is the official source of poverty estimates in the U.S.

- Collected February through April of each year
- Questions on the receipt and value of 51 sources of income over the previous calendar year
- Household composition, family characteristics, and person level demographics based on the time of interview
- Poverty estimates dating back to 1959

Demographic Changes

Goal: Improve the measurement of same-sex couples

Income Changes

Goal: Improve the quality of income and program participation data

	Data Collection Changes	Data Processing Changes
Demographics	<ul style="list-style-type: none"> • expanded same/opposite-sex relationship categories 	<ul style="list-style-type: none"> • more inclusive family assignments • removal of husband/wife programming logic
Income	<ul style="list-style-type: none"> • new question wording • range follow-ups • dynamic skip patterns • dual pass data collection 	<ul style="list-style-type: none"> • new imputation techniques • new top-coding techniques

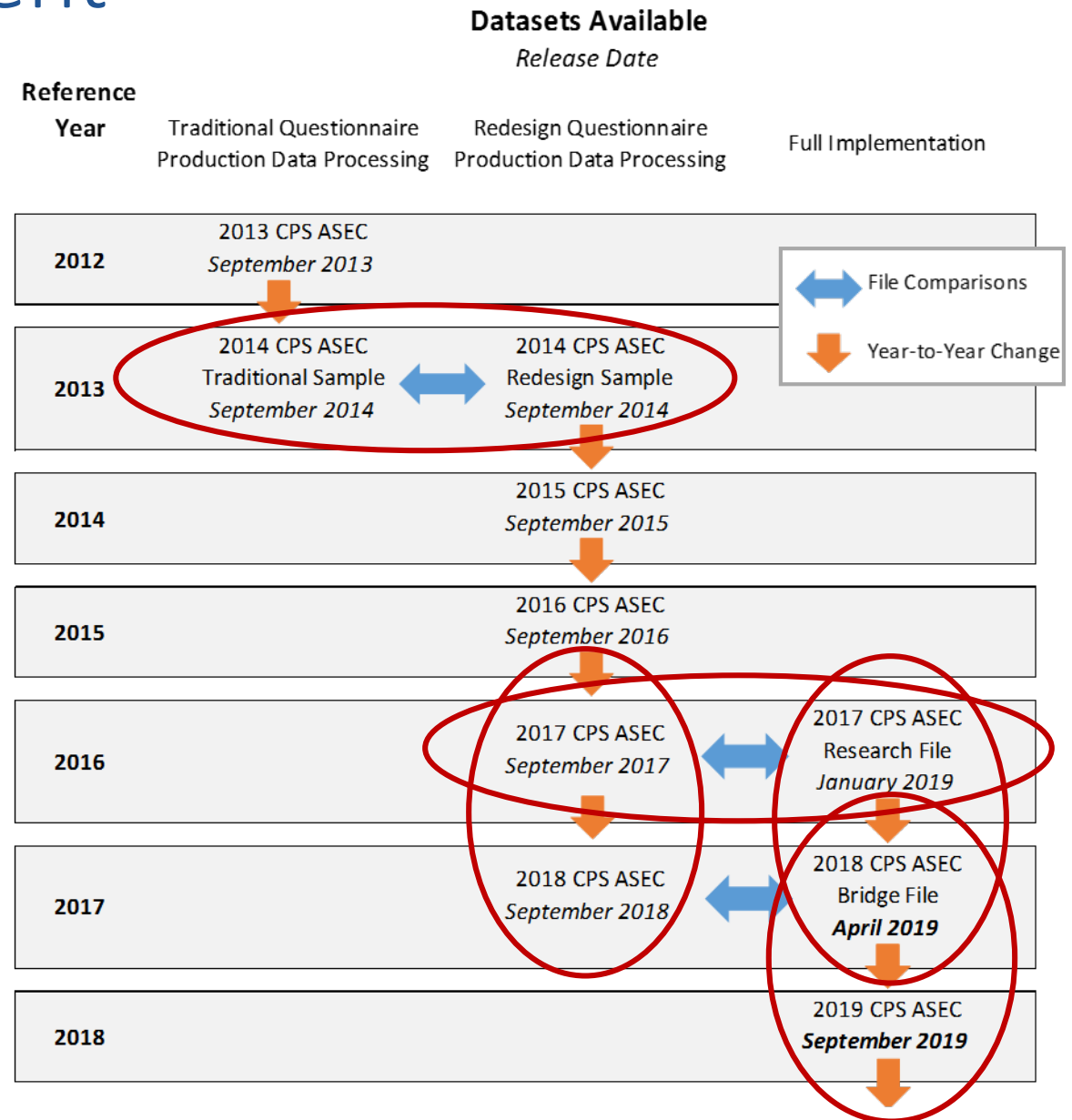
Income & Demographic Content Implementation Timeline

Income questionnaire changes implemented in the 2014 CPS ASEC through a probability split panel design

- While the data *collection* instrument was updated, the data *processing* system was not

In May 2015, the basic monthly CPS began phasing in expanded relationship categories, fully implemented in 2017 CPS ASEC

- Like income, programming logic recoded responses into the earlier relationship categories



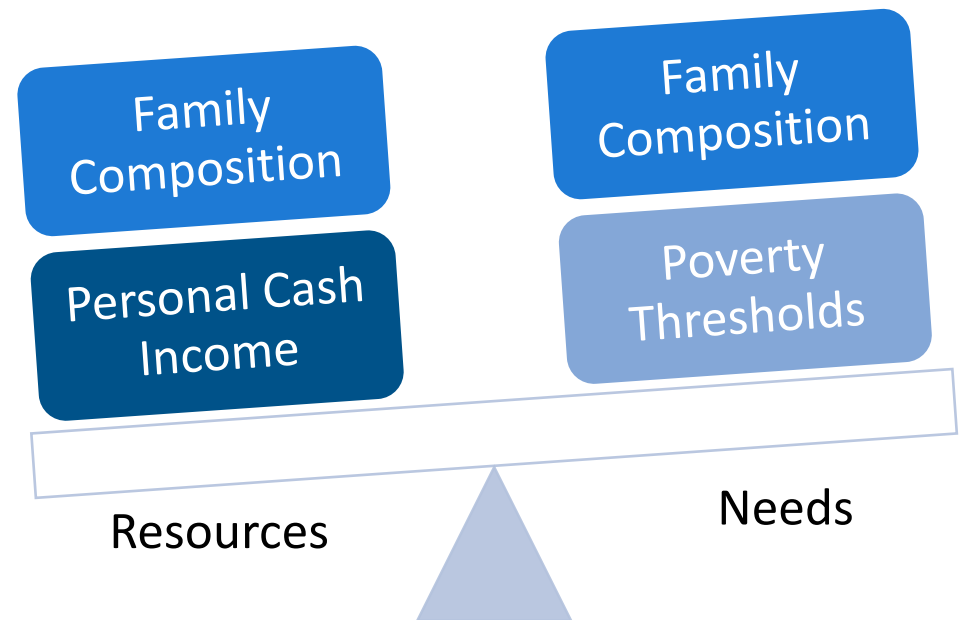
How Do Changes Impact the Measurement of Poverty?

Resources

- Removed income screener for reporting means-based cash assistance
- Efforts to improve reporting of retirement income
- Dual pass approach
- Dynamic skip patterns
- New imputation techniques
- Revised family assignments

Needs

- Revised family assignments
- New poverty thresholds



Evaluating Changes

Goal is to evaluate overall and incremental impact of the revised demographic and income edit procedure across groups in the 2017 Research File

Considerations when comparing files:

- Different sample weights
- Different universes
- Changes in imputed characteristics not related to relationship status

	2017 Production File	2017 Research File	Impact of Demo Edit	Impact of Income Edit
Family	old	new	new	old
Personal Income	old	new	old	new
Family Income	old	new	modified	modified

Recently released data from the 2018 Bridge File is also presented, allowing us to compare calendar years (CY) 2016 to 2017 across the production and redesigned CPS ASEC

Overall Impact of New Processing System: CY 2016

No significant overall change in the number or percent of people in poverty in 2016

Poverty increased for:

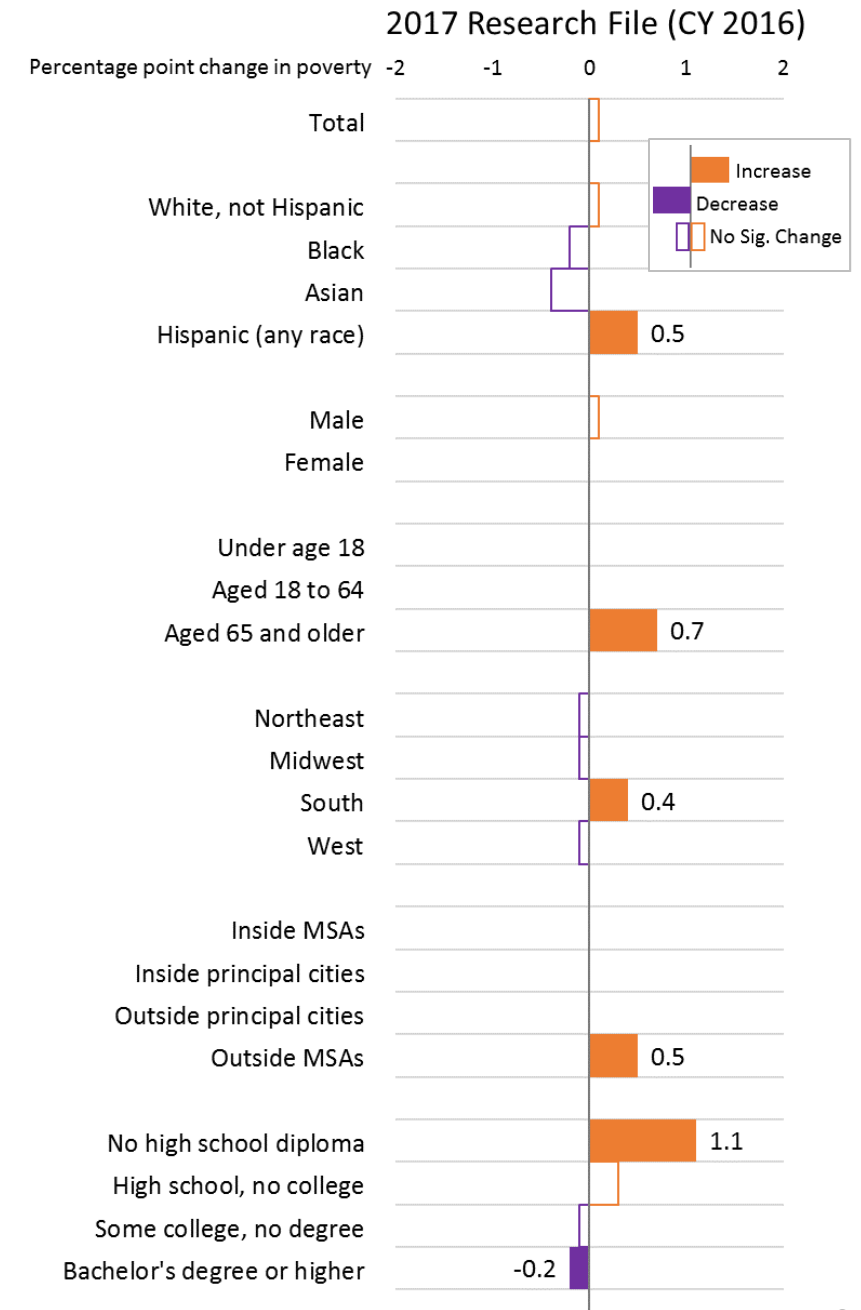
- Hispanics, those aged 65 or older, those living in the South or outside of MSAs, and for individuals age 25 and older with less than a high school diploma

Poverty decreased for:

- Individuals with advanced education—who already had among the lowest poverty rates



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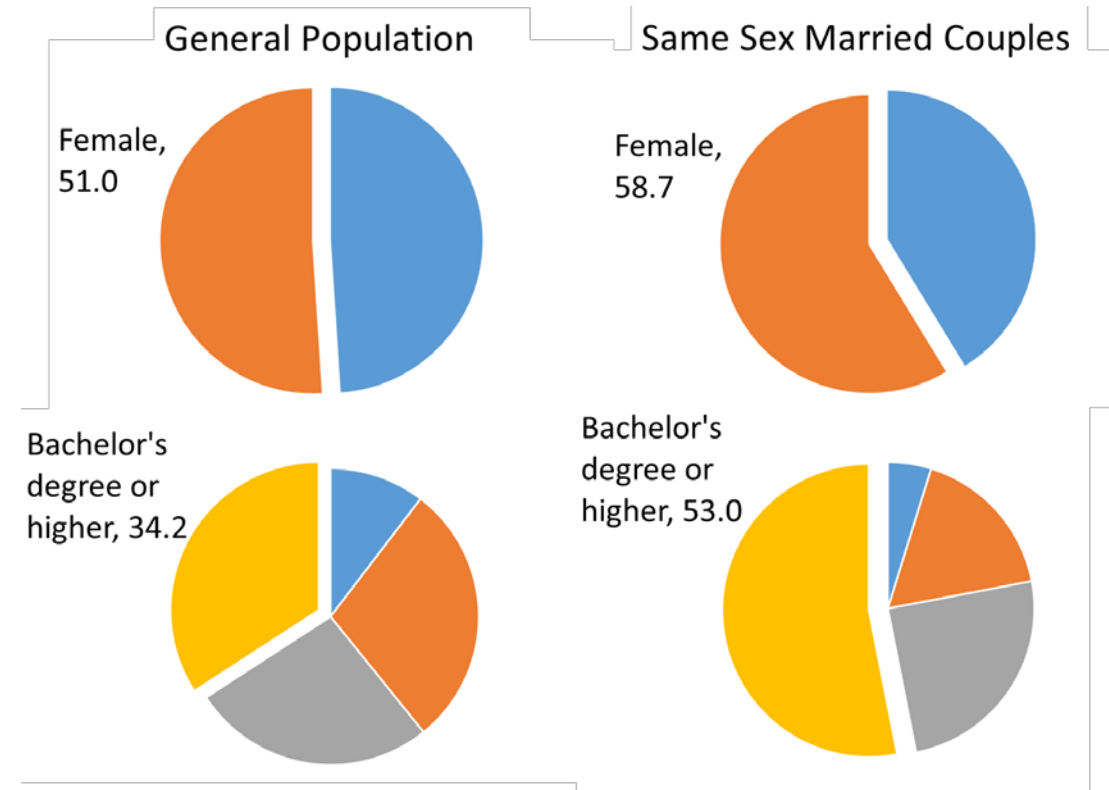
Counting Individuals in Same-Sex Marriages

In 2016, 937,000 spouses were in a same-sex marriage

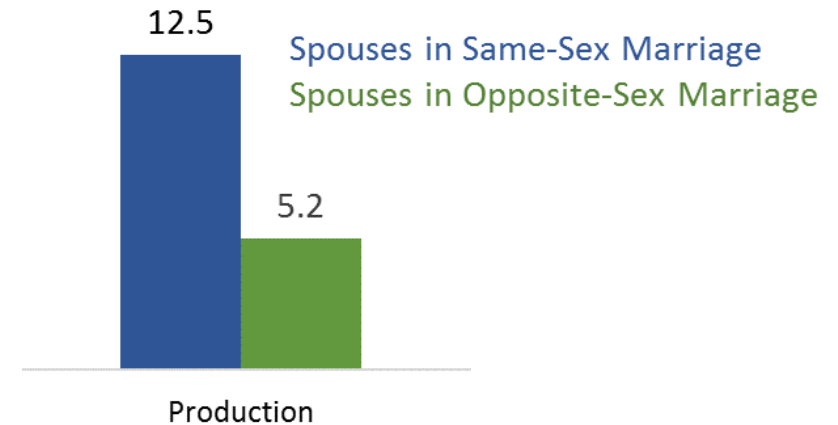
- 1.2 million people lived in same-sex married-couple families, comprising 0.5 percent of all individuals in families

Individuals reported in same-sex marriages were:

- More likely to be female
- More highly educated
- Under legacy editing procedures:
 - Treated as unmarried partners
 - Poverty rate was 12.5 percent
- With the 2017 Research File:
 - Treated as a single family
 - Poverty rate drops to 3.6 percent—not statistically different from those in opposite-sex marriages (when holding income constant)



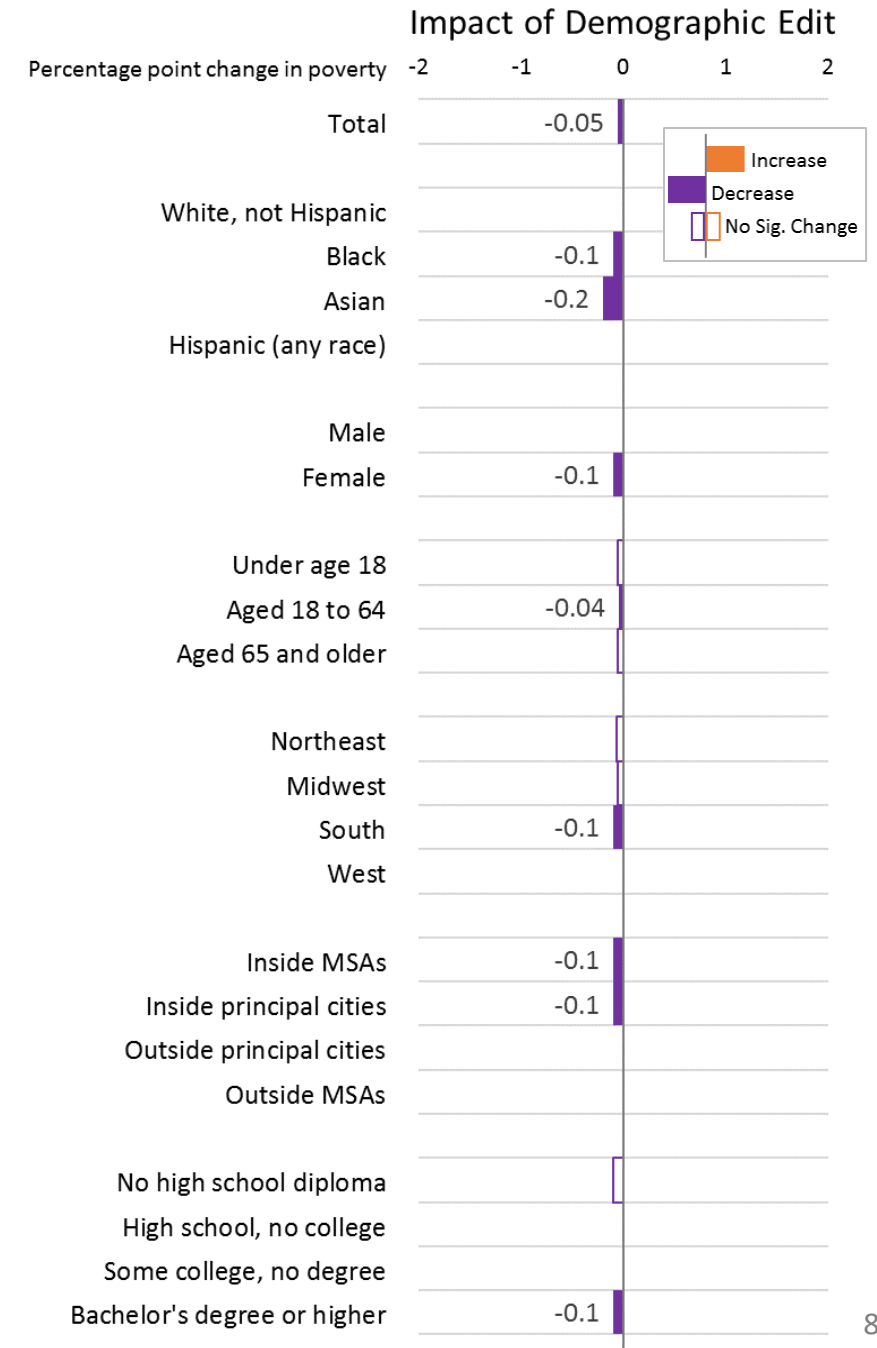
Poverty Rates Across Files



Impact of the Demographic Edits on Poverty

When holding income constant based on the Production File:

- Poverty rates decline 0.05 percentage points, with approximately 150,000 individuals no longer in poverty
- While statistically significant, point estimates of the poverty rate are consistent when rounded to the tenth decimal place
- The impact of the updated family edits across population groups is largely as expected given the characteristics of the same-sex married population

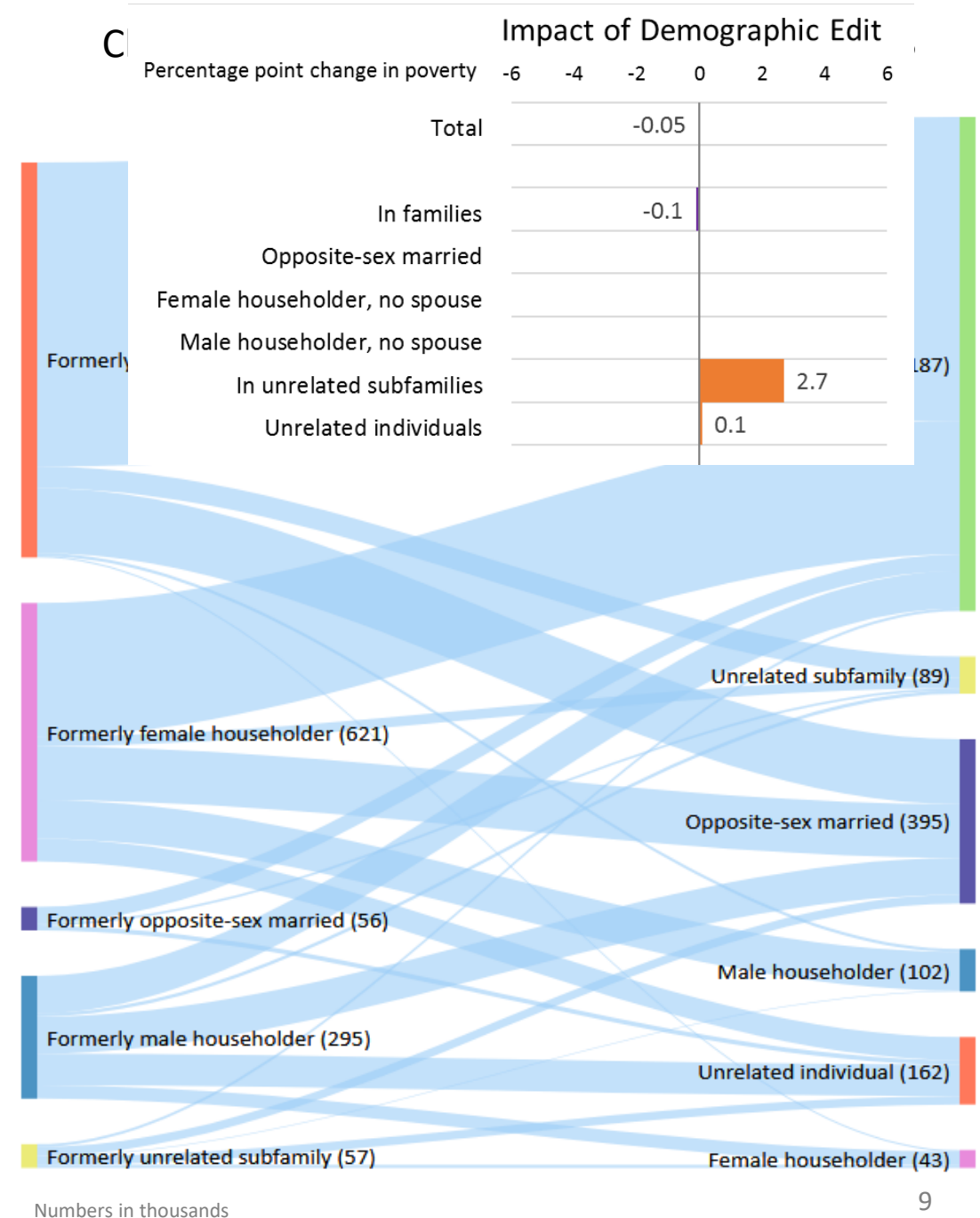


Impact of Demographic Edits on Family Assignment

By family type, poverty rates decrease for primary families and increase for unrelated individuals and those in related subfamilies

Changes in poverty rates across family types reflect the complicated movement of individuals' family classification across files

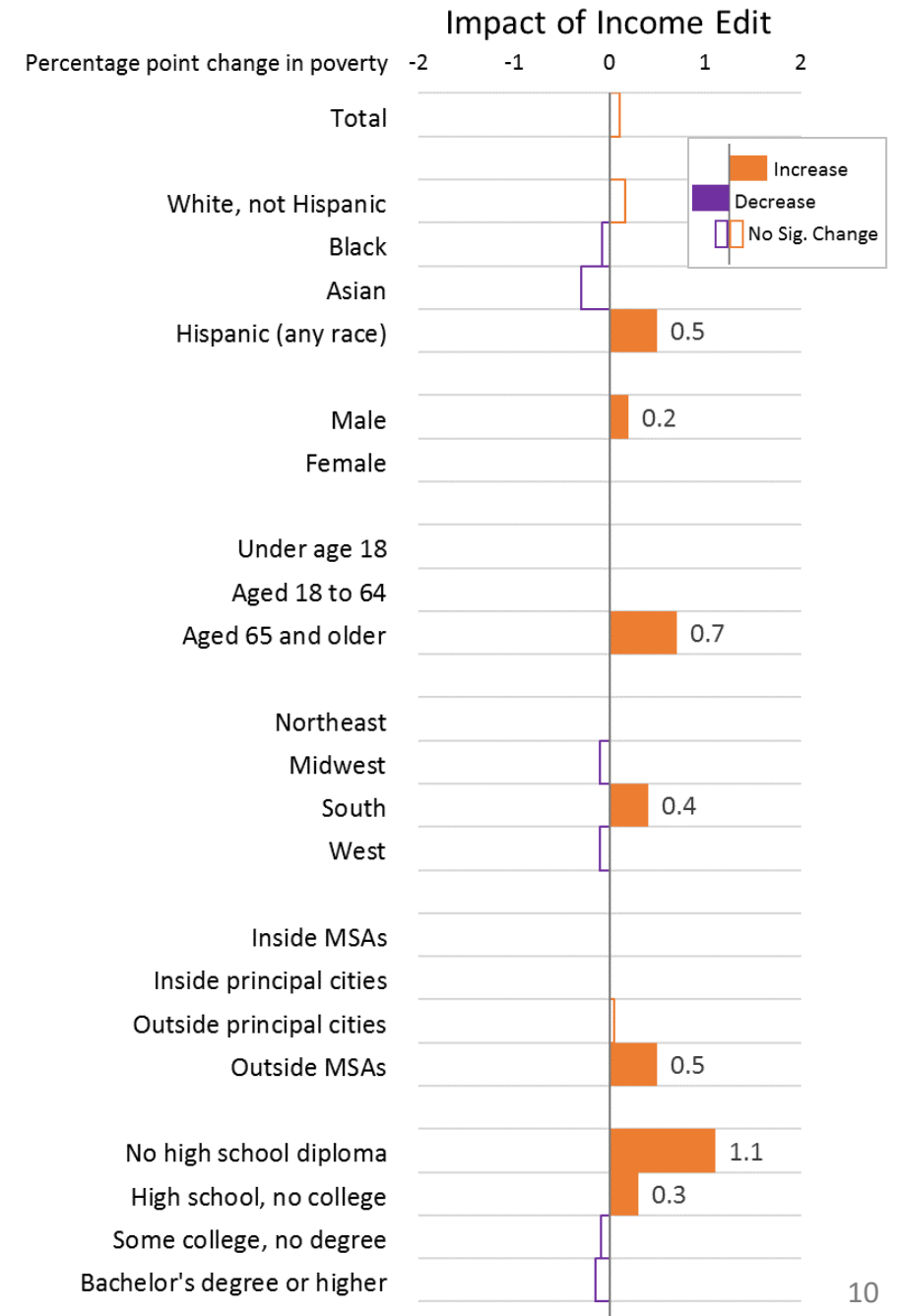
- Unrelated individuals who join primary families under the updated demographic edit had lower poverty rates than those who continued to be classified as unrelated individuals
- Those who were an unrelated subfamily but change classification in the Research File had much lower poverty rates than those newly classified as being in unrelated subfamilies, however this change is not largely driven by same-sex marriage



How Income Edits Impact Poverty

When holding family assignments constant based on the Production File there is no significant change in the overall number or percent of people in poverty

- Increases in poverty for:
 - Hispanics
 - Males
 - Those aged 65 and older
 - Those living in the South
 - Those living outside of MSAs
 - Individuals aged 25 and older with:
 - Less than a high school education
 - A high school diploma/GED, no college



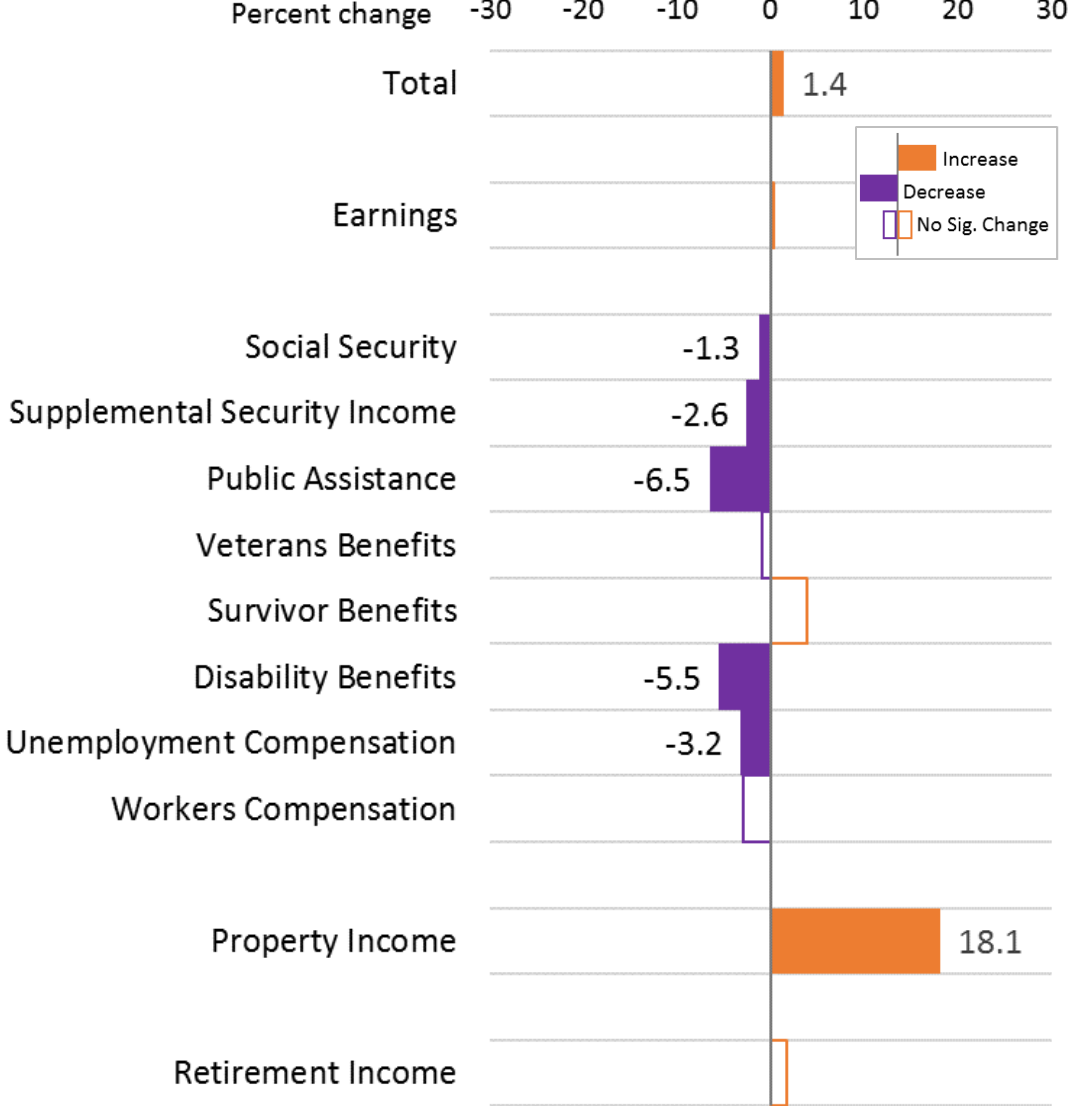
Changes in Reported Income

While mean household income increases in the Research File, poverty is stable or increasing for the studied demographic subgroups

Rothbaum (2019) shows that mean household income reporting varies between files depending on income source

This is particularly interesting for the aged 65 and older population because we see decreases in Social Security and no significant change in total retirement income, two key sources of income

Change in Mean Household Income by Source



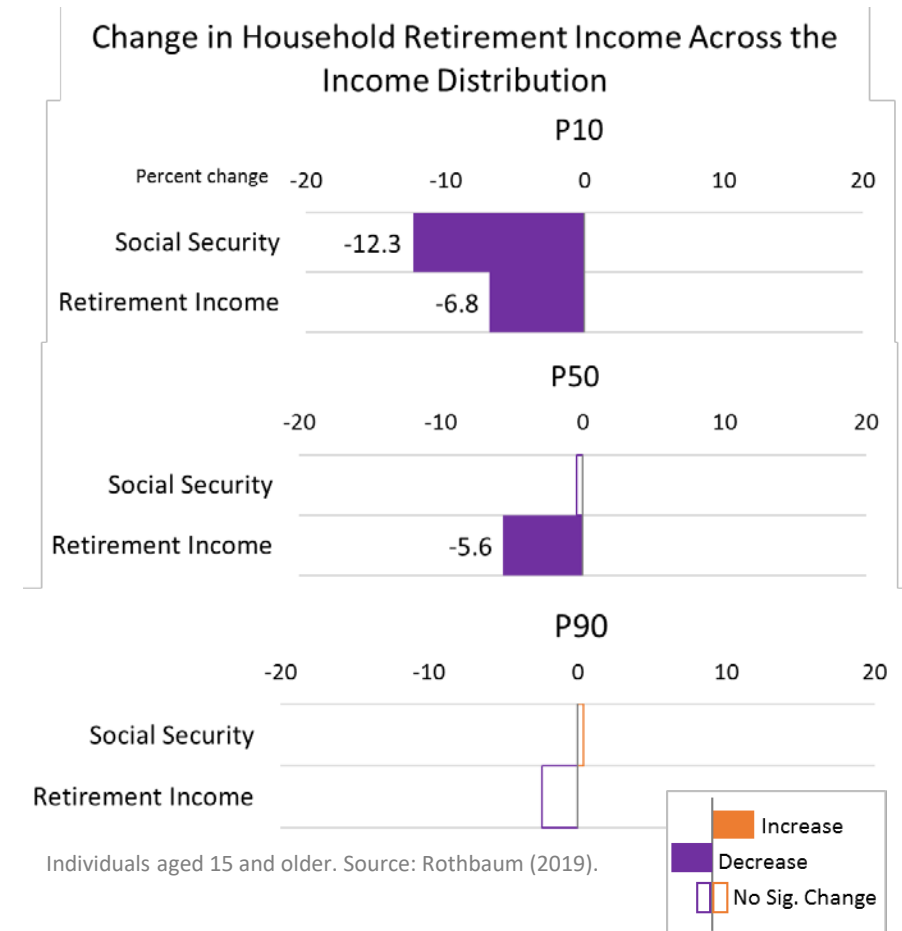
Individuals aged 15 and older. Source: Rothbaum (2019).

Changes in Social Security and Retirement Income

Rothbaum (2019) finds that changes in retirement income between the Production File and Research File vary by location on the distribution

Overall retirement income is lower at the 10th percentile and median

Individual sources vary across the distribution, but tend to be lower in the Research File at the lower end of the distribution



The 2018 CPS ASEC Bridge File: CY 2017

The 2018 Bridge File will serve as the comparison file for estimates from the 2019 CPS ASEC, which will *only* be processed using the redesigned processing system

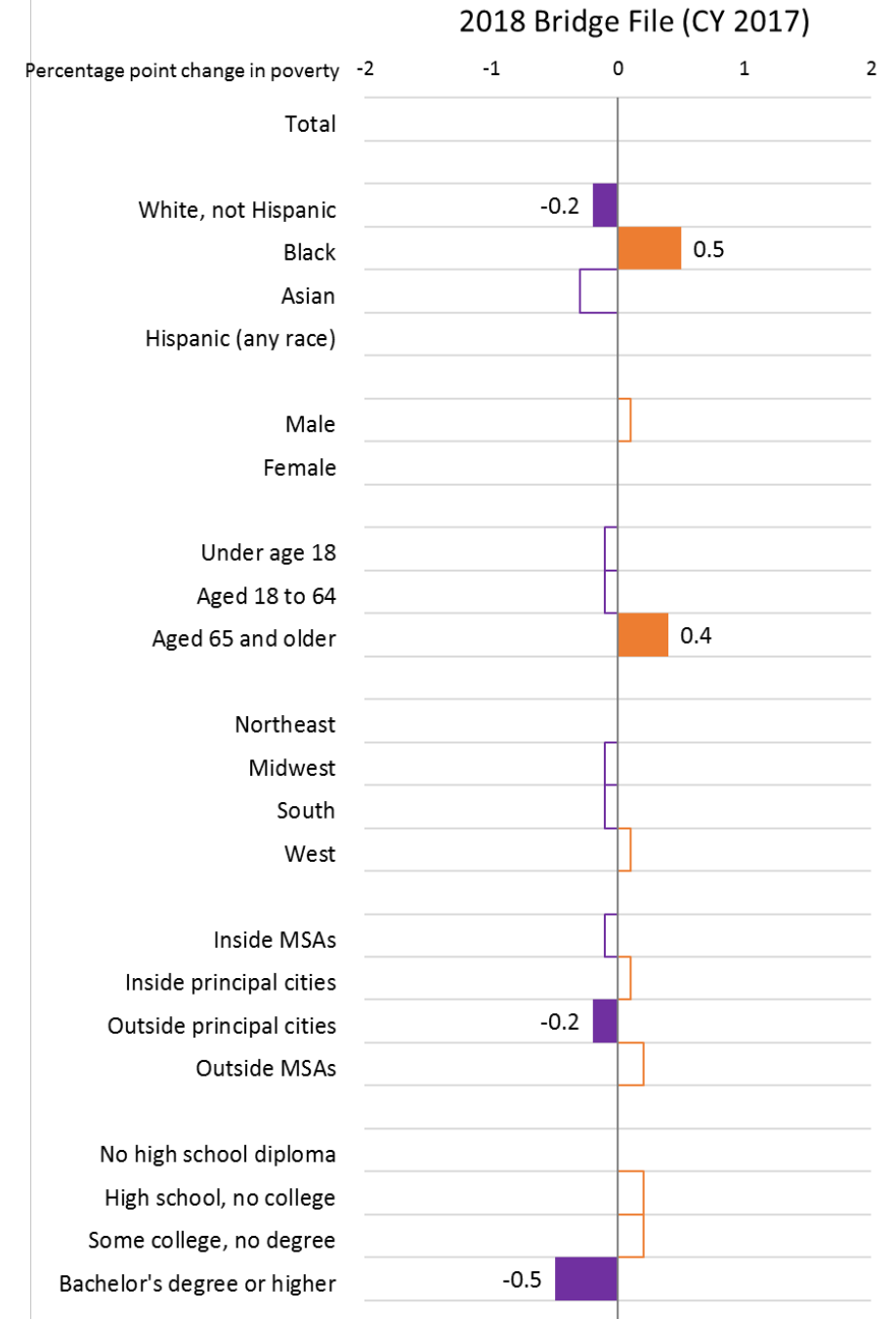
We similarly find no significant overall change in poverty rates across the Production and Bridge File

Poverty rates increase for:

- Blacks
- Individuals aged 65 and older

Poverty rates decrease for:

- White, non-Hispanics
- Those living outside principal cities
- People with a bachelor's degree or higher

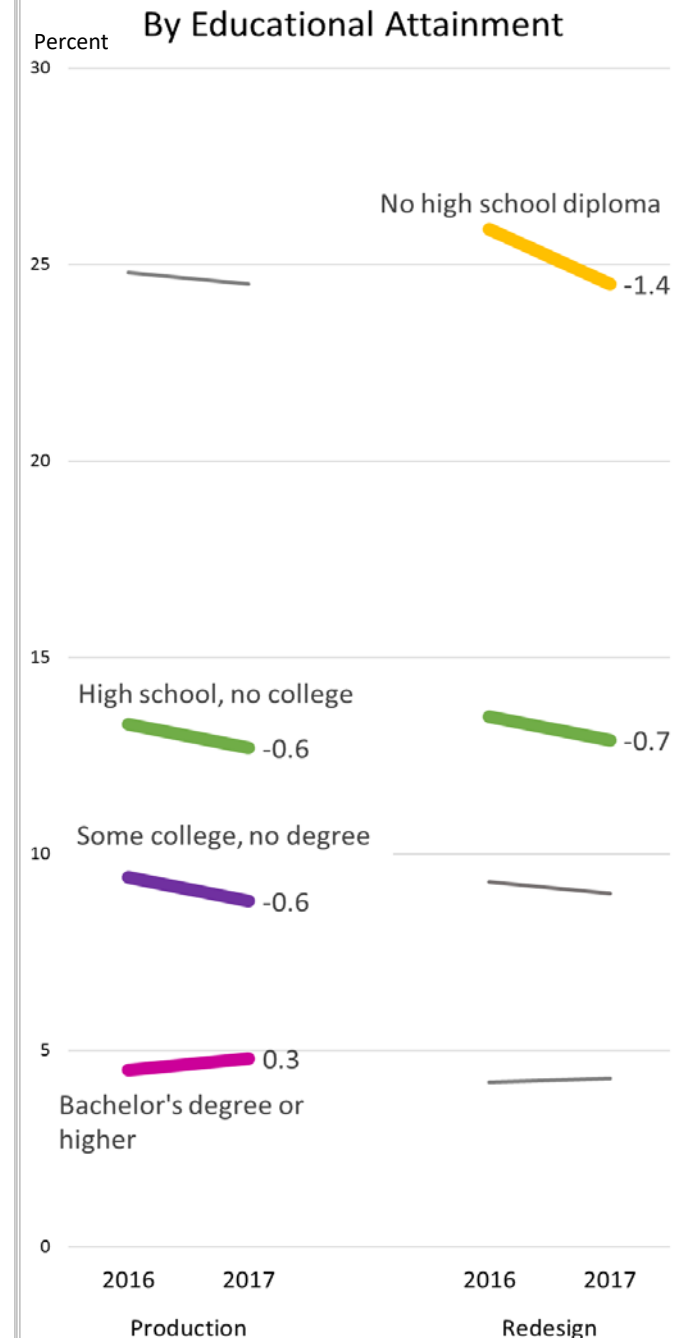


2016-2017 Poverty Changes Across Processing Systems

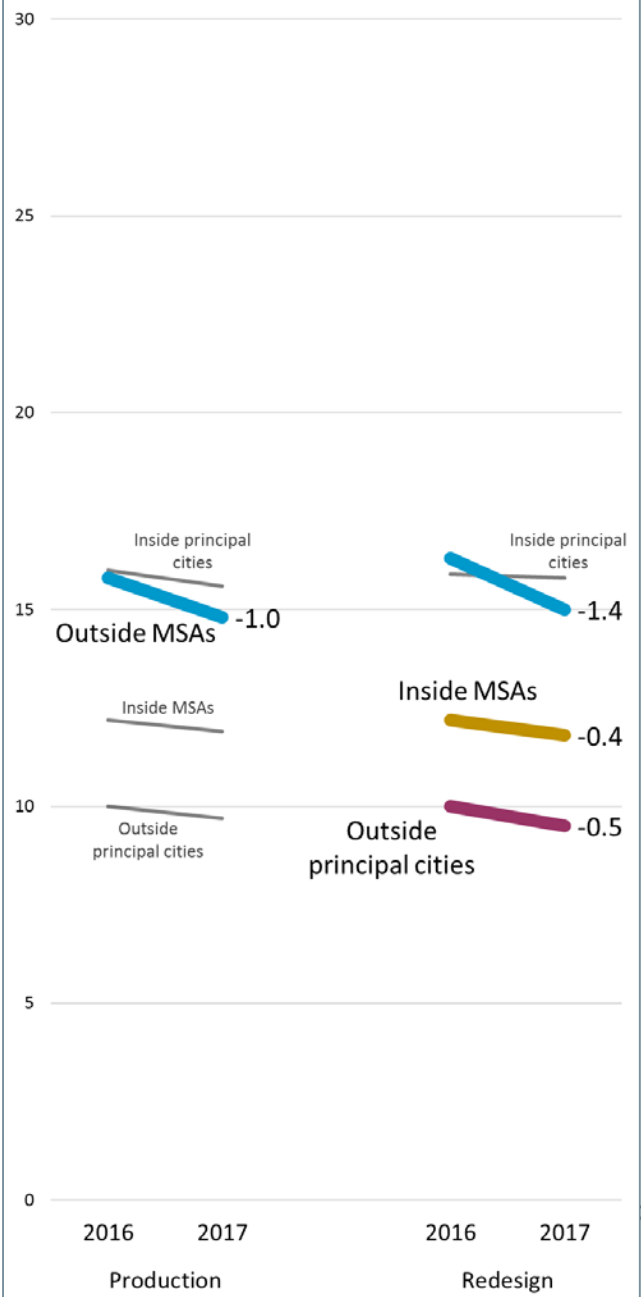
Using the legacy processing system, last year's *Income and Poverty in the United States: 2017* report showed significant drops in overall poverty as well as by demographic groups from 2016 to 2017

How does that story change if we had implemented the new processing system?

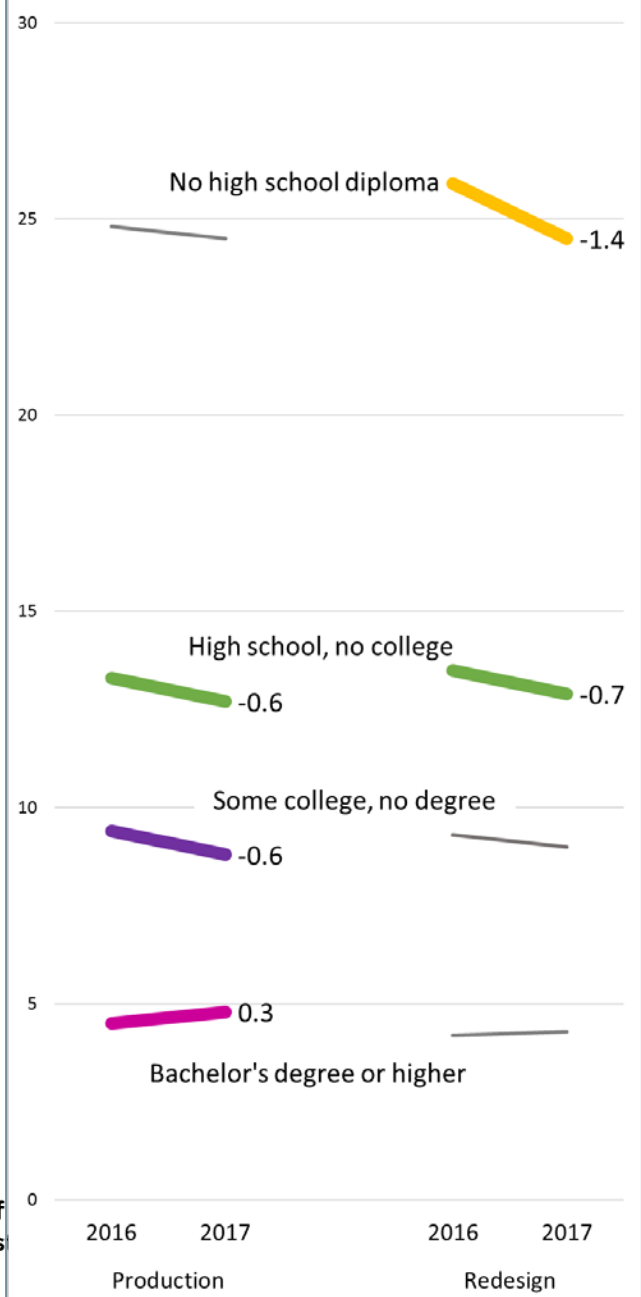
- Both files show a decrease in poverty for the overall population
- Some differences in significance of year-to-year changes across demographic groups based on files being used



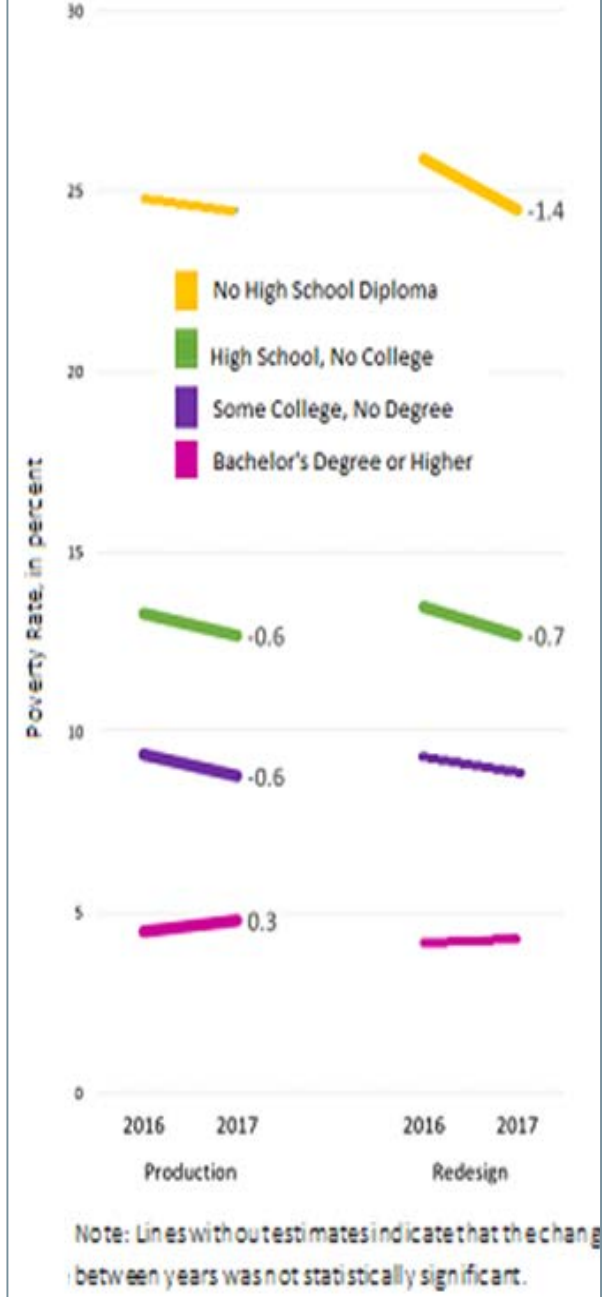
By Residence



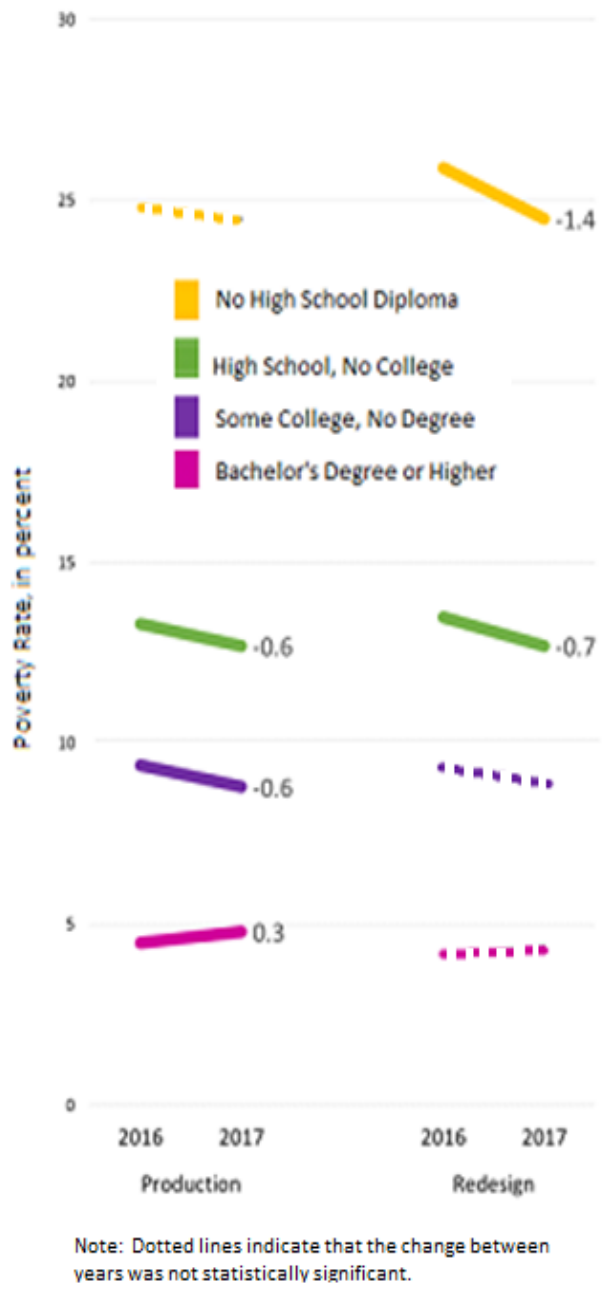
By Educational Attainment



By Educational Attainment



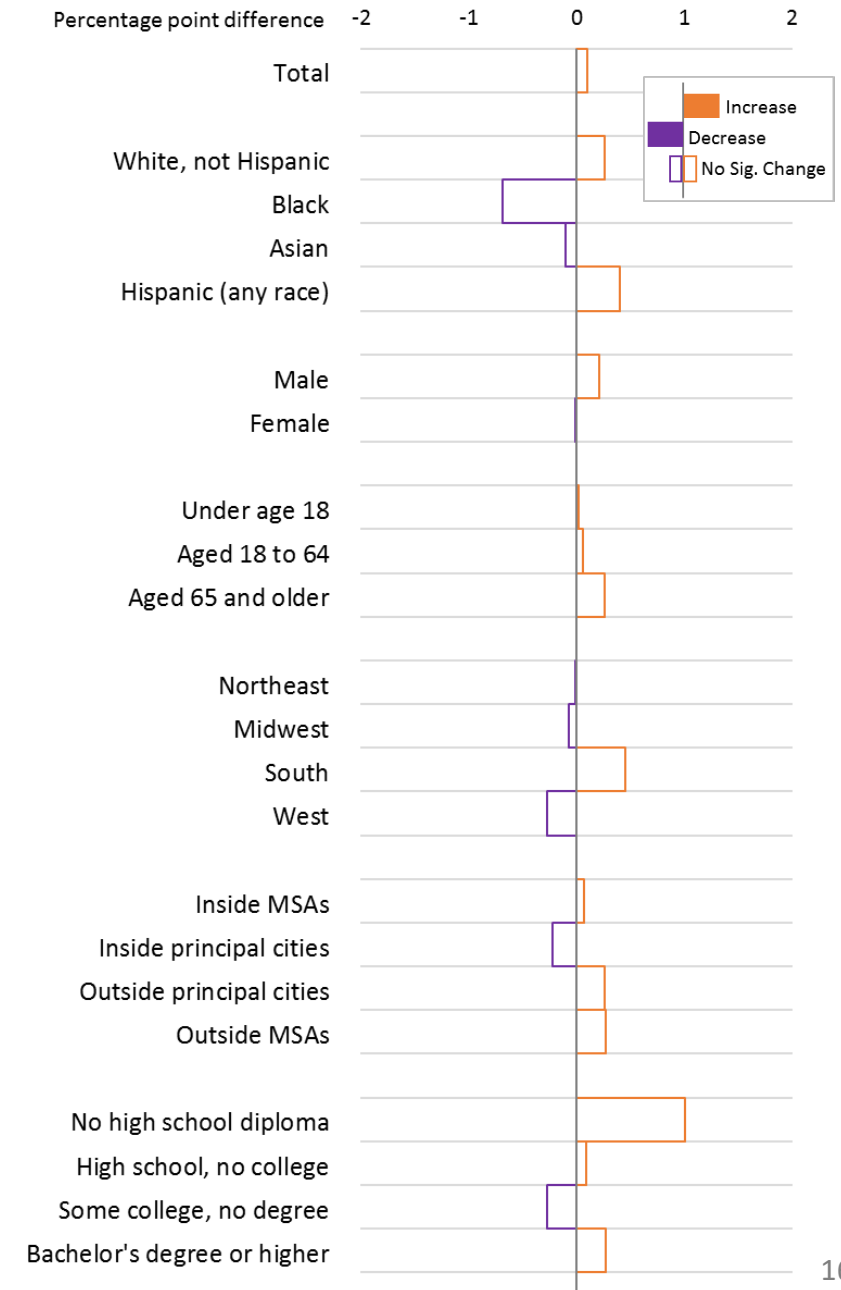
By Educational Attainment



Difference-in-Difference Across Years

Although the significance of changes in poverty rates across years does vary across demographic groups based on the files being used, the percentage point change across years is **not** statistically different across files for any demographic group

Difference in Year-to-Year Change Across Files



Discussion

No significant overall change in the number or percent of people in poverty across files for reference years 2016 or 2017

Changes in poverty from 2016 to 2017 are not statistically different across files, although some demographic groups have significant differences using one processing system and not the other

Goal: Improve the measurement of same-sex couples

- We move 1.2 million individuals into same-sex married couple families
- Individuals in same-sex marriages see an 8.9 percentage point decrease in poverty

Goal: Improve the quality of income and program participation data

- We see *increases* in poverty across a number of demographic groups based on income processing changes
- At the 10th percentile, we see declines in Social Security and retirement income

When implementing *only* the questionnaire changes across the 2014 CPS ASEC split panel, we similarly saw no significant difference in overall poverty rates based on the questionnaire used

Next Steps

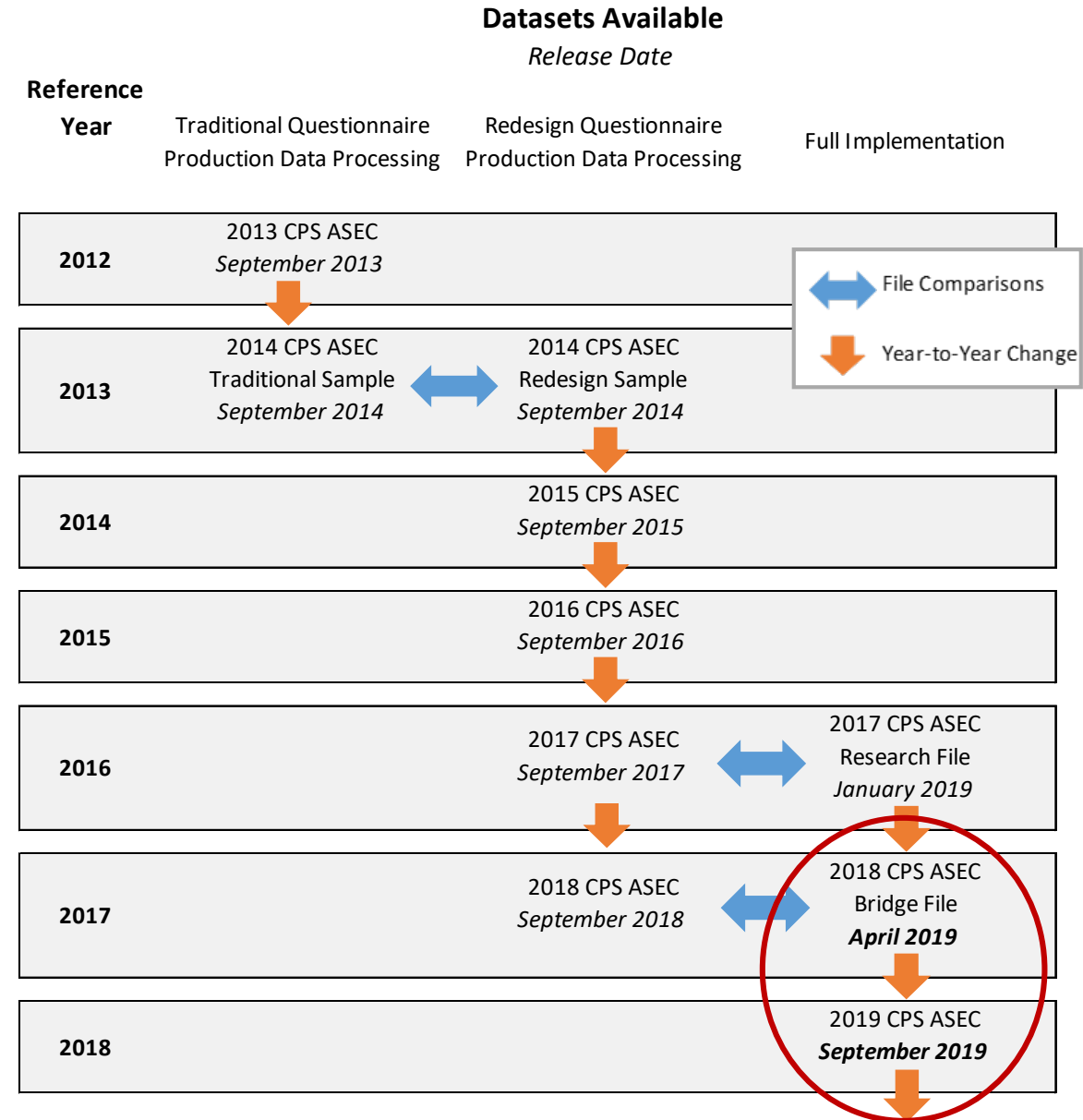
More detailed analysis

- Presentation at PAA and JSM 2019 with this information

The 2019 CPS ASEC File will be released in September 2019, reflecting all processing changes

- 2017 CPS ASEC Research File released January 2019
- 2018 CPS ASEC Bridge Public Use File released April 2019

Income & Demographic Content Implementation Timeline



Resources & Contact

For additional information see <<https://census.gov/topics/income-poverty/poverty.html>>.

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