

# Benchmarking the Redesigned Survey of Income and Program Participation

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## Background

The Census Bureau reengineered the Survey of Income and Program Participation (SIPP) for the 2014 panel, aiming to reduce respondent burden and reduce costs while improving data quality.

In order to evaluate the efficacy of the redesign, the National Academy of Sciences, Engineering, and Medicine's Committee on National Statistics conducted an independent evaluation of the new SIPP (NAS 2018). That evaluation, using only one year of data from the new SIPP instrument, examined how the redesigned SIPP performed against previous SIPP Panels, the Current Population Survey, National Income and Product Accounts, and administrative records.

In this analysis, I extend the SIPP redesign evaluation by examining the full panel of the redesigned 2014 SIPP, looking at how well the new SIPP instrument performs against outside benchmarks over a four year period. In addition, the four years of data allow me to assess the extent of seam bias (the bunching of transitions at the seams between panel waves).<sup>1</sup>

## Research questions

1. How well does the SIPP perform when compared to data from the National Income and Product Accounts (NIPA) generated by the Bureau of Economic Analysis?
2. How do SIPP imputation rates compare to imputation rates from the Current Population Survey Annual Social and Economic Supplement (CPS ASEC)?
3. Does the new design of the SIPP result in seam bias (a disproportionate number of transitions that occur at the seams between panel waves)?

## 2014 SIPP redesign

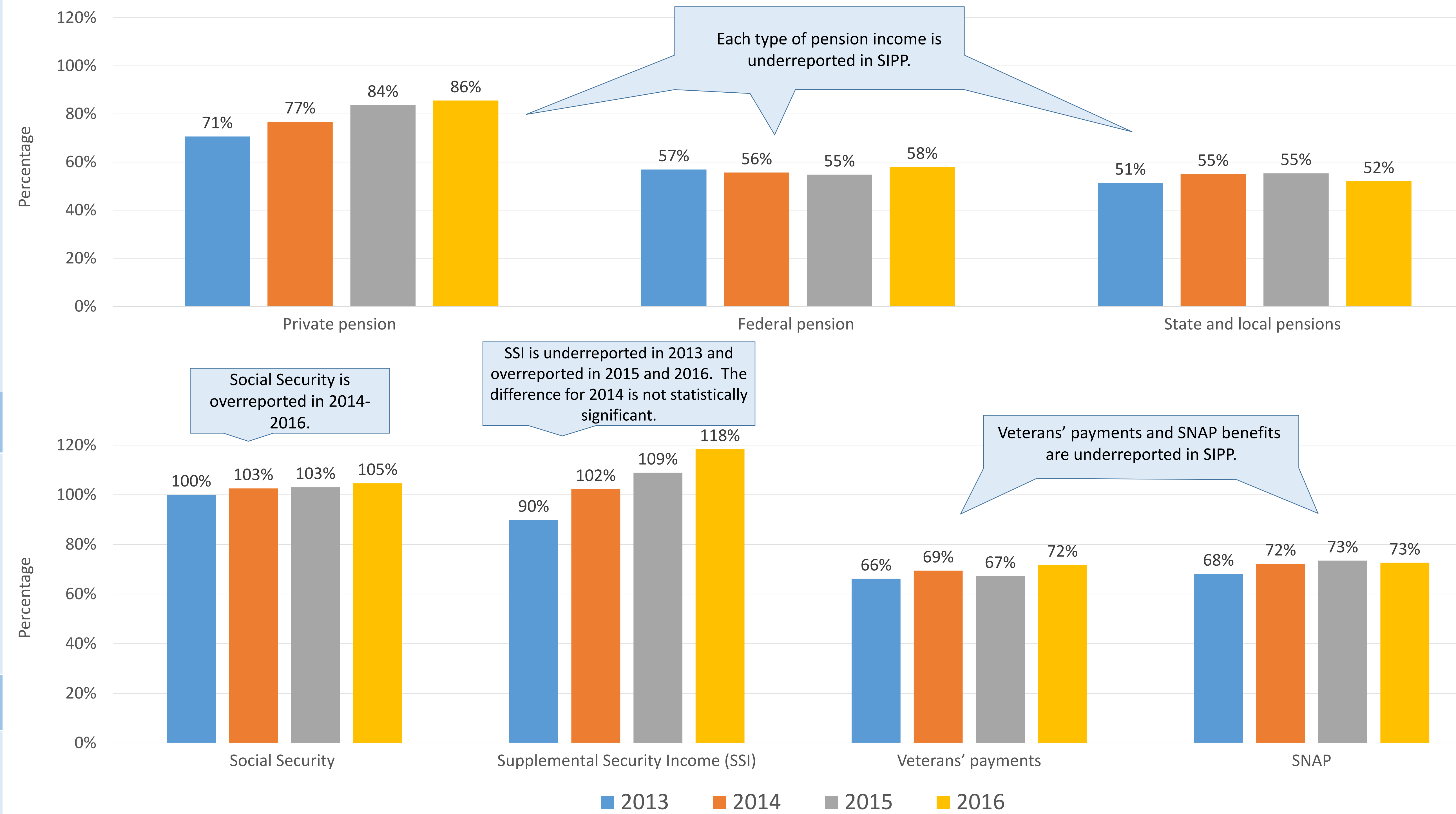
- The reference period was increased from four months to one year.
- All content is asked in each survey, rather than relying on topical modules for additional content as was done in prior panels.
- Interviews conducted in the spring, referencing the prior calendar year.
- An event history calendar was introduced to improve respondent recall.
- Data editing processes were updated to include more administrative records.

## Data used in this analysis

- SIPP 2014 Panel Waves 1-4 public use files (reference years 2013-2016)
- CPS ASEC public use files (reference years 2013-2016)
- National Income and Product Accounts (NIPA) from the Bureau of Economic Analysis (BEA)<sup>2</sup>
- Department of Labor (DoL) Unemployment Insurance (UI) weekly claims data (*Only weekly data are available, so I use the week that includes the 12th of the month.*)
- Supplemental Nutritional Assistance Program (SNAP)<sup>3</sup> beneficiary counts from the Food and Nutrition Service (FNS)
- FNS SNAP Quality Control Audit Sample

## What percentage of NIPA income is captured by SIPP?

Figure 1: SIPP Income as a Percentage of NIPA, 2013-2016



## Imputation rates: CPS vs. SIPP

Table 1 - Proportion of Total 2013-2016 Income Imputed by Source  
CPS ASEC vs. SIPP

Source of Income	CPS ASEC	SIPP
Social Security	0.27	0.20
Supplemental Security Income (SSI)	0.19	0.24
Unemployment Insurance	0.19	0.19
Veterans' payments	0.26	0.17
Private pension	0.32	0.17
Federal pension	0.31	0.19
State and local pensions	0.28	0.15

For each income type, figures refer to the income imputed divided by the total income for that income type. CPS ASEC whole supplement nonresponse observations omitted. Reference year 2013 uses data from the redesigned CPS.

## Conclusion

- SIPP aggregate estimates are lower than the NIPA benchmark for most program and retirement income types examined.
- Imputation rates for most program and retirement income types are lower in SIPP than CPS ASEC, suggesting that the SIPP performs better than other comparable surveys at collecting income data.
- Unemployment Insurance estimates from SIPP show evidence of seam bias, a problem common to panel studies. However, SNAP estimates show relatively little seam bias.

## Notes

<sup>1</sup> The estimates in this report (which may be presented in the text, figures, and tables) are based on responses from a sample of the population and may differ from the actual values because of sampling variability and other factors. As a result, apparent differences between the estimates for two or more groups may not be statistically significant. All comparative statements have undergone statistical testing and are statistically significant at the 10 percent significance level, unless otherwise indicated. For further information on the source of the data and accuracy of the estimates, see <www2.census.gov/programs-surveys/sipp/tech-documentation/source-accuracy-statements/2014/sipp-2014-source-and-accuracy-statement.pdf>.

<sup>2</sup>This analysis does not attempt to adjust NIPA for universe differences as in Roemer (2000) and Rothbaum (2015).

<sup>3</sup>SNAP is often referred to as "food stamps".

## References

National Academies of Sciences, Engineering, and Medicine. 2018. *The 2014 Redesign of the Survey of Income and Program Participation: An Assessment*. Washington, DC: The National Academies Press.

Roemer, Marc L. 2000. "Assessing the Quality of the March Current Population Survey and the Survey of Income and Program Participation Income Estimates, 1990-1996."

Rothbaum, Jonathan L. 2015. "Comparing Income Aggregates: How do the CPS and ACS Match the National Income and Product Accounts, 2007-2012."

## How much seam bias do the SIPP estimates show?

Figure 2: UI beneficiaries in SIPP as a percentage of UI beneficiaries in DoL administrative records

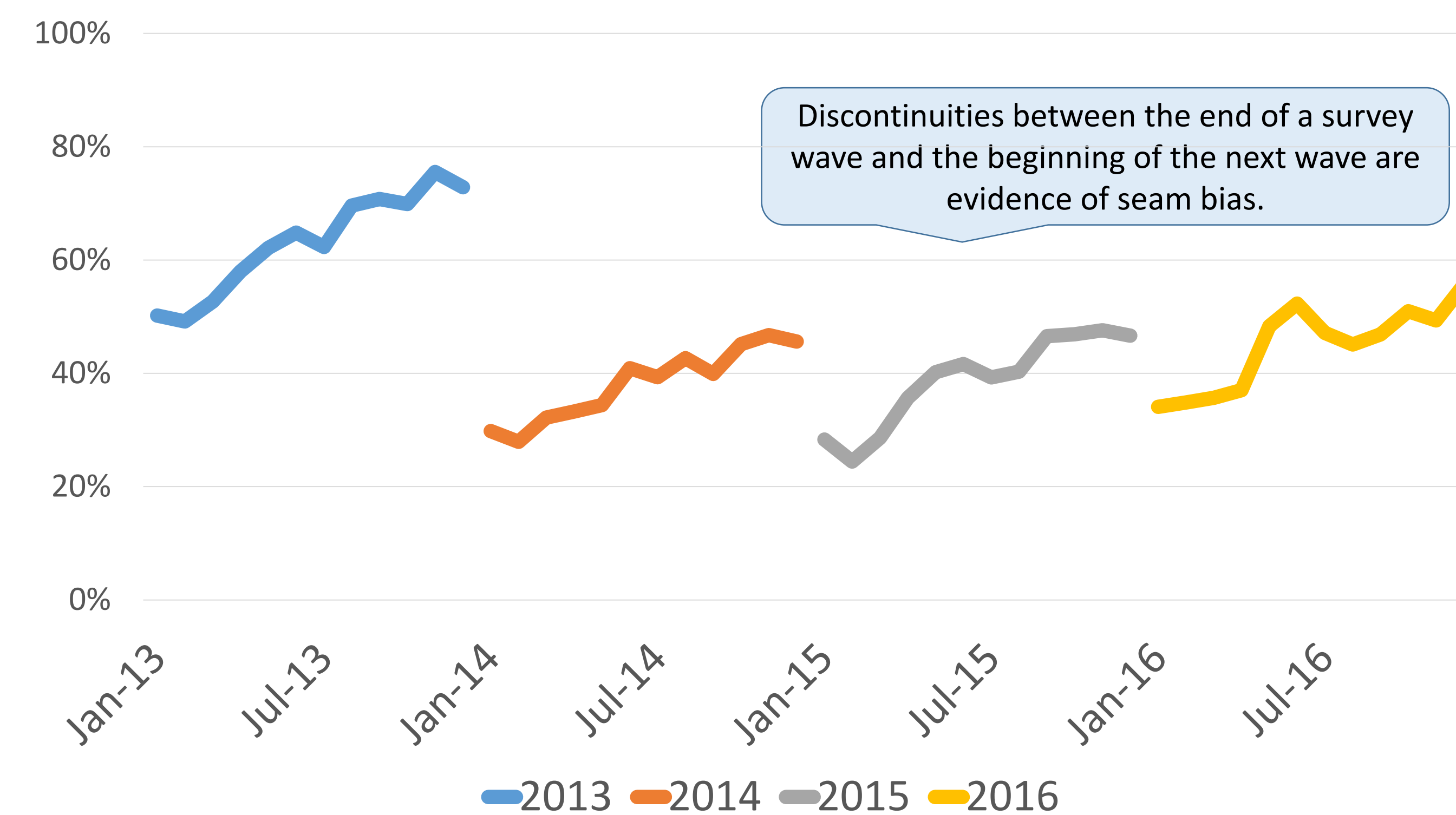


Figure 3: SNAP beneficiaries in SIPP as a percentage of SNAP beneficiaries in FNS administrative records

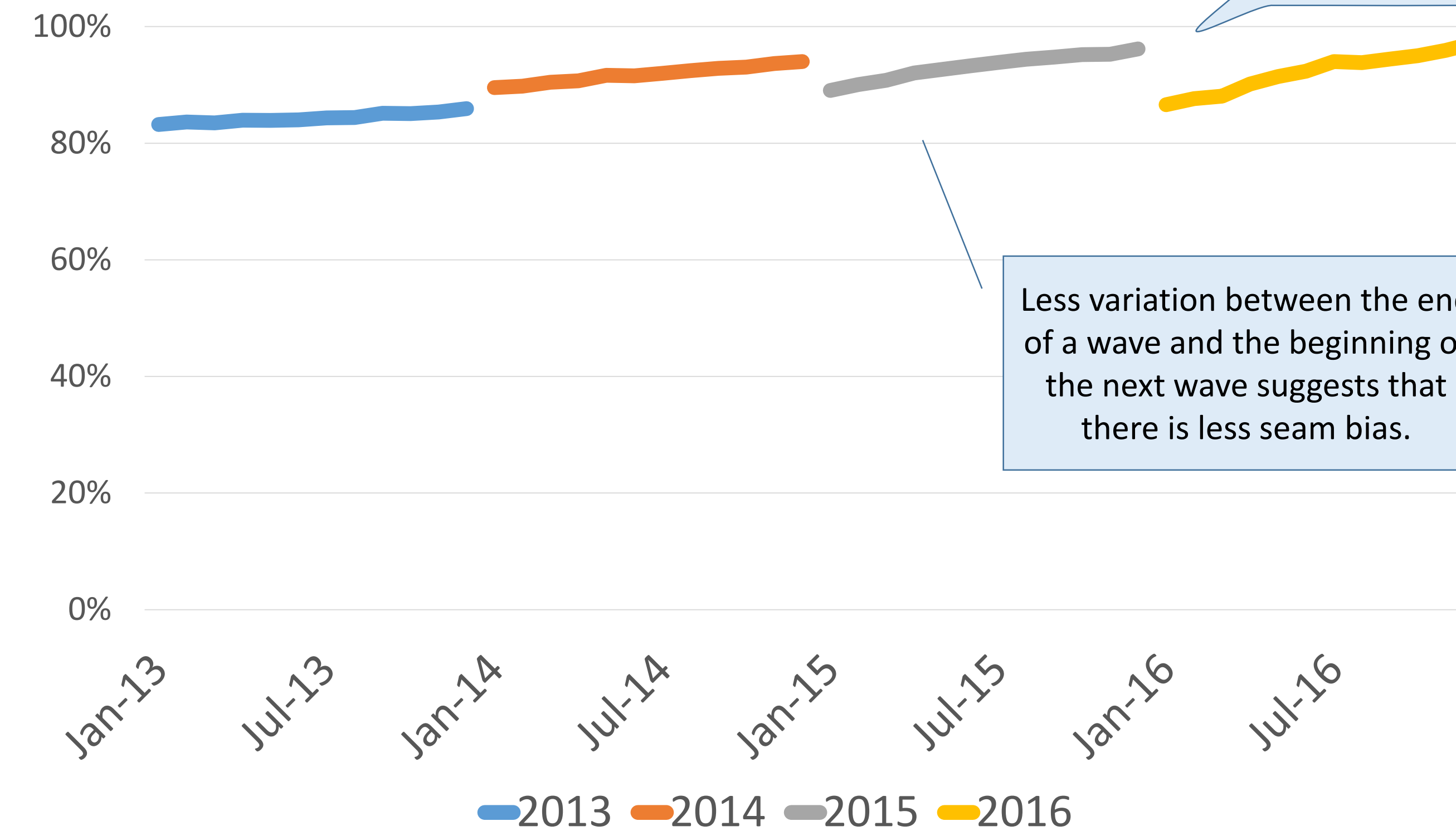


Fig. 3 compares beneficiary counts across two data sources, and Fig. 4 compares transitions into benefit receipt across two data sources.

Figure 4: Transitions into SNAP receipt – SIPP estimates as a percentage of FNS administrative records

