

Strategies to Counter 2021-Specific Challenges in Producing the Supplemental Poverty Measure in the American Community Survey

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What is the Supplemental Poverty Measure (SPM)?

- Expands the definition of official poverty in 3 main ways:
 - Adds any co-resident unrelated children under age 15, foster children under age 22, and unmarried partners and their relatives
 - Examines post-tax and transfer income, including noncash benefits, taxes and credits, work expenses, medical expenses, and child support paid to another household
 - Adjusts poverty thresholds by tenure status and for geographic differences in housing costs
- Produced annually using the CPS ASEC (2009 to 2021)
- Released public use microdata research files for ACS (2009 to 2019)

Challenges for Producing the ACS SPM

- General challenges
 - Key benefit and expense variables are not on the ACS
 - Benefits: SNAP; school lunch; WIC; energy, *broadband*, and housing subsidies
 - Expenses: income and payroll taxes; medical expenses; work and childcare expenses; *child support paid*
 - Less detailed relationships among people unrelated to the householder in the ACS compared to the CPS ASEC
- Specific challenges in 2021
 - Imputing benefits/expenses from pre-pandemic world
 - Massive shutdown of economy
 - Changes to standard school lunch methodologies to adjust for school closings and the distribution of benefits on P-EBT cards
 - Expansion of SNAP program beginning in March of 2020
 - Introduction of economic impact payments (EIP)

EIP and Public Assistance

- CPS ASEC
 - Questions added that explicitly asked about receipt and amount of EIPs
 - Q59e

During 2021, how much TOTAL CASH assistance did (name/you) receive (per week/every other week/twice a month/monthly): (fill from Q59C8r)?

- ◆ Do NOT include federal stimulus payments due to the Coronavirus pandemic.
- ◆ Enter dollar amount

- CPS ASEC

- During 2021, how much TOTAL CASH assistance did (name/you) receive (per week/every other week/twice a month/monthly): (fill from Q59C8r)?**

◆ Enter dollar amount

- ACS

- No questions about EIPs - estimated for the ACS SPM using NBER's TAXSIM
- Instructions to not include EIPs in public assistance were provided in help text

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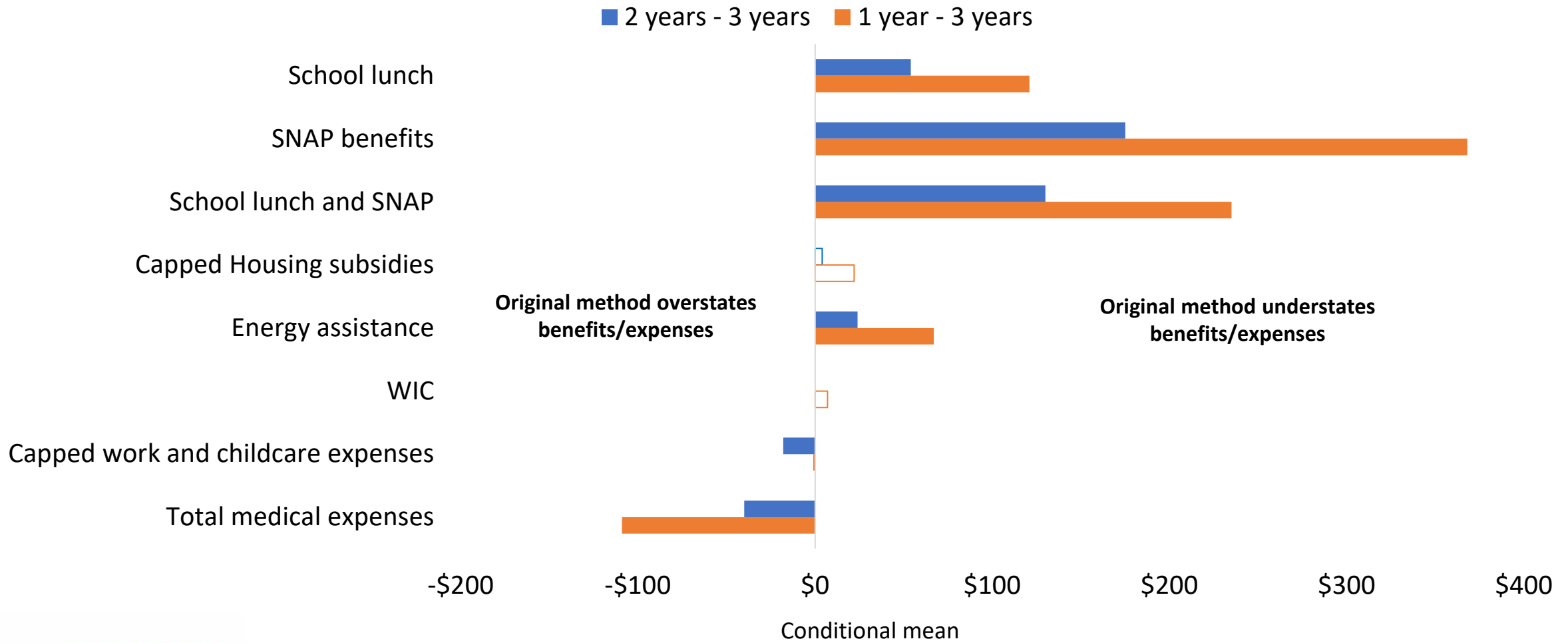
How We Address General Challenges

- Key benefit and expense variables are not on the ACS
 - Impute receipt and amount of missing benefits and expenses using pooled **3 years CPS ASEC** data
 - 2020, 2021, and 2022 CPS ASEC (CY 2019, 2020, and 2021)
 - Use NBER's TAXSIM for income and payroll taxes (and credits)
- Less detailed relationships among people unrelated to the householder in the ACS compared to the CPS ASEC
 - Tax units and SPM units created using spousal and parental pointers based on IPUMS methodology

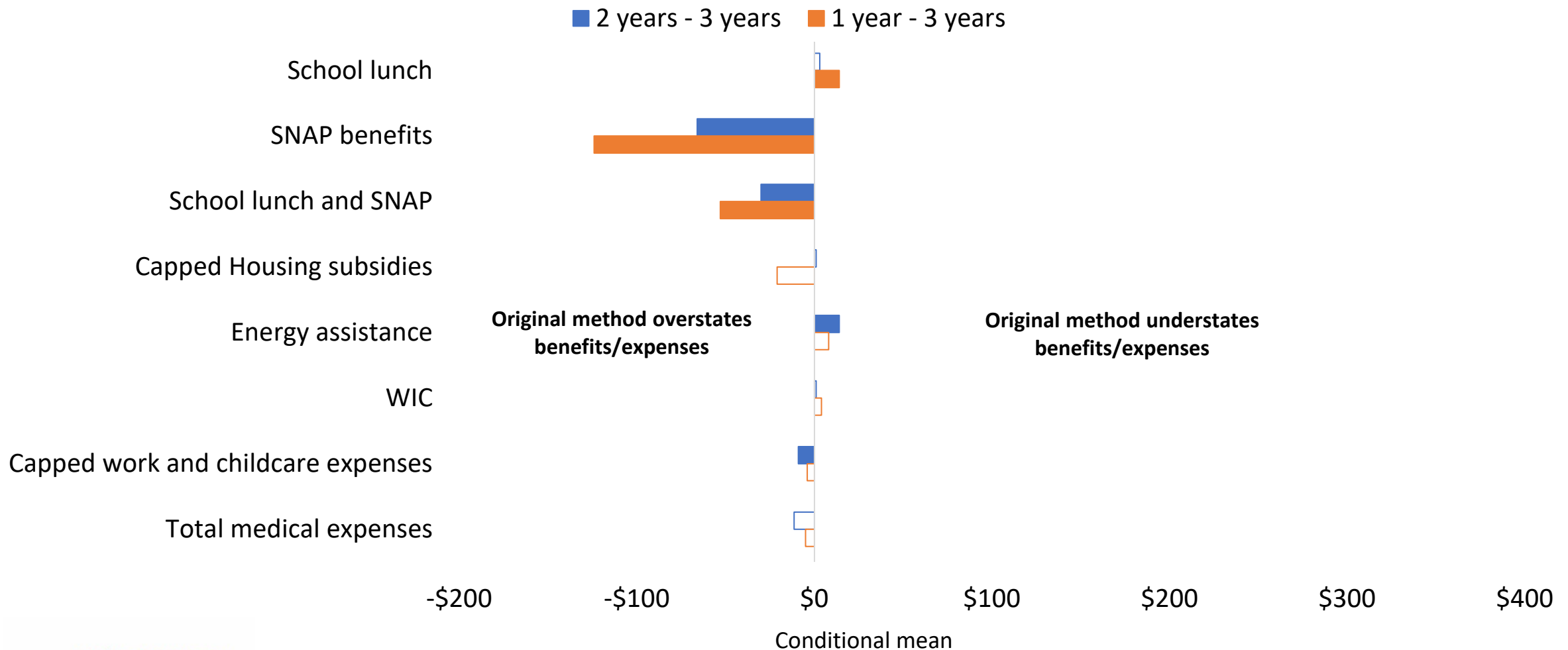
How We Address 2021-Specific Challenges

- Imputing benefits/expenses from pre-pandemic world
 - Examine the use of less than 3 years of CPS ASEC in our imputations
- Economic impact payments (EIP)
 - Explore different modifications of EIP for SPM units that report receiving public assistance

Impact of Using Fewer Years of CPS ASEC Data on Conditional Average Benefit/Expense Values: 2021



Impact of Using Fewer Years of CPS ASEC Data on Conditional Average Benefit/Expense Values: 2019



ACS SPM Rates by Years of CPS ASEC in Imputations

	3 years of CPS ASEC		2 years of CPS ASEC		1 year of CPS ASEC	
2021	Est.	Std. Err.	Est.	Std. Err.	Est.	Std. Err.
All people	9.87	0.04	9.83	0.04		
Under 18 years	7.28	0.06	7.26	0.06		
18 to 64 years	10.39	0.05	10.36	0.05		
65 years and over	11.46	0.06	11.38	0.06		

*estimate is significantly different from 3 year ACS SPM rate at the 90 percent confidence level.

Source: U.S. Census Bureau, 2019 and 2021 American Community Survey 1-year Public Use Estimates and 2018 through 2022 Current Population Survey Annual Social and Economic Supplements.

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Under 18 years	7.28	0.06	7.26	0.06	*7.03	0.06
18 to 64 years	10.39	0.05	10.36	0.05	*10.22	0.05
65 years and over	11.46	0.06	11.38	0.06	*11.29	0.06

*estimate is significantly different from 3 year ACS SPM rate at the 90 percent confidence level.

Source: U.S. Census Bureau, 2019 and 2021 American Community Survey 1-year Public Use Estimates and 2018 through 2022 Current Population Survey Annual Social and Economic Supplements.

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2019						
All people	14.23	0.06	14.25	0.06	14.32	0.06
Under 18 years	15.30	0.11	15.34	0.10	15.51	0.11
18 to 64 years	14.10	0.06	14.11	0.05	14.18	0.06
65 years and over	13.24	0.06	13.24	0.07	13.19	0.07

*estimate is significantly different from 3 year ACS SPM rate at the 90 percent confidence level.

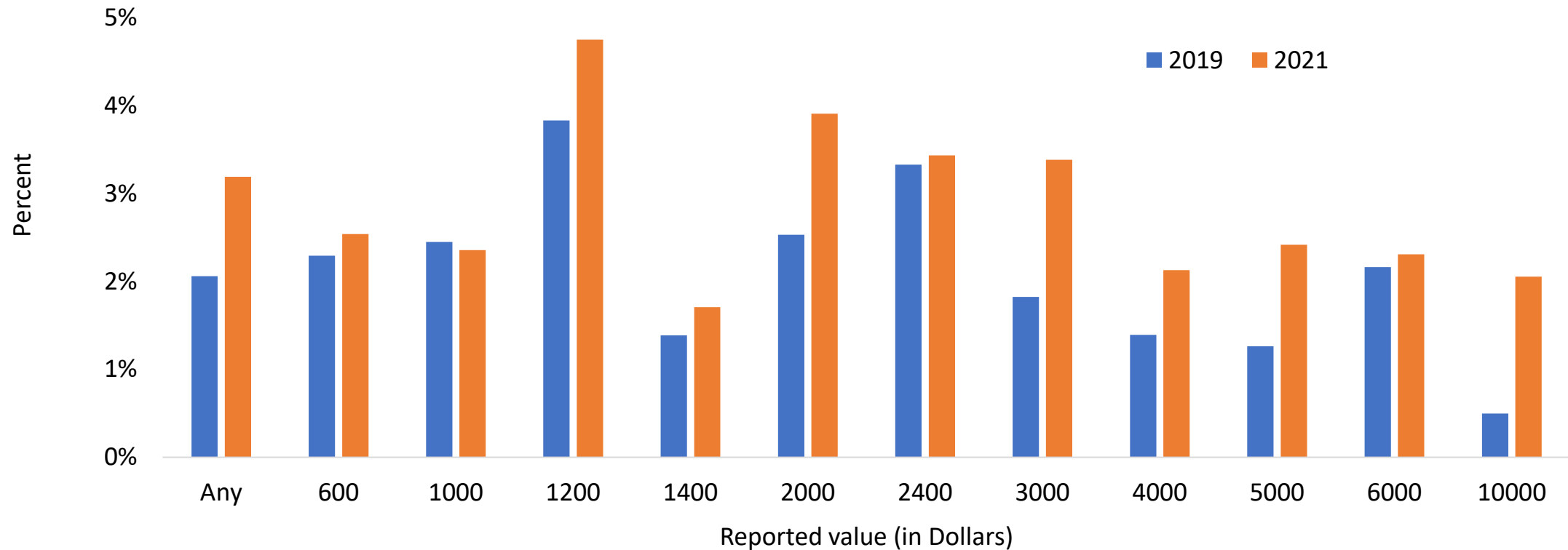
Source: U.S. Census Bureau, 2019 and 2021 American Community Survey 1-year Public Use Estimates and 2018 through 2022 Current Population Survey Annual Social and Economic Supplements.

Our Solution

- Use 1 year of CPS ASEC (2022) for the benefit and expense imputations
- Caution:
 - SNAP, energy assistance, and childcare expenses use a predictive means match by state
 - Other variables use logistic regression with a state variable as one of the predictors
 - The Census Bureau recommends the use of 3 years of pooled CPS ASEC for state level estimates

Suggestive Evidence of Misreporting of EIP: I

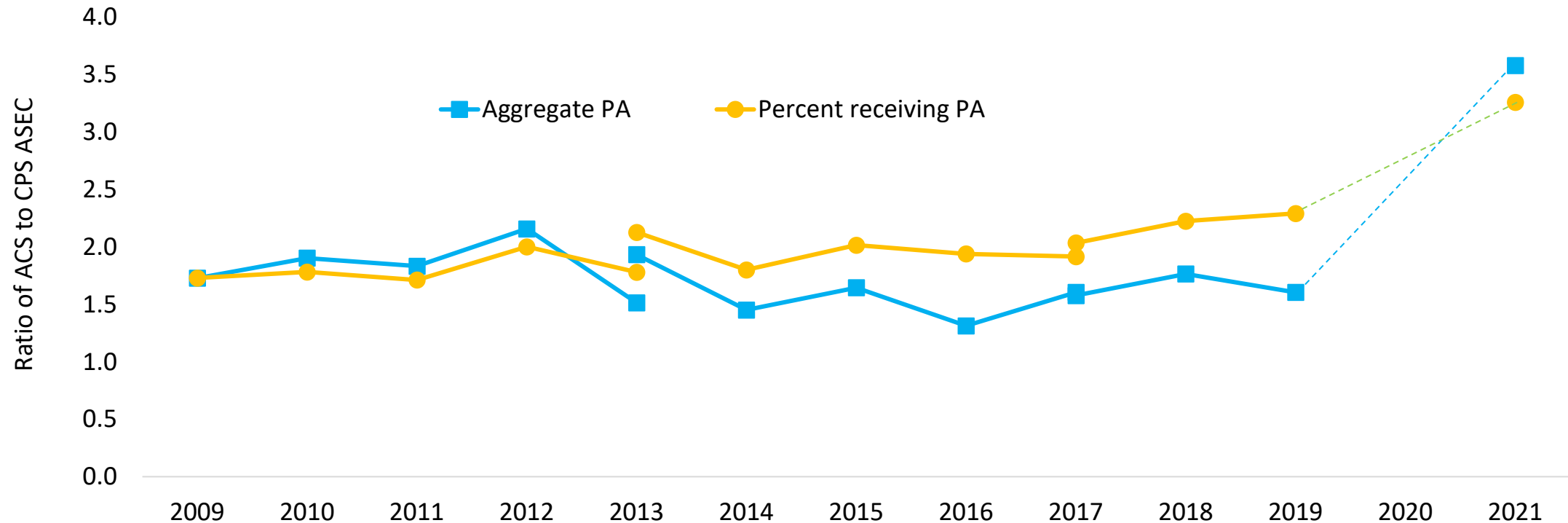
Percent of SPM Units Receiving Public Assistance By Reported Value



Source: U.S. Census Bureau, 2019 and 2021 American Community Survey Public Use 1-year Estimates.

Suggestive Evidence of Misreporting of EIP: II

Public Assistance: Ratio of ACS to CPS ASEC

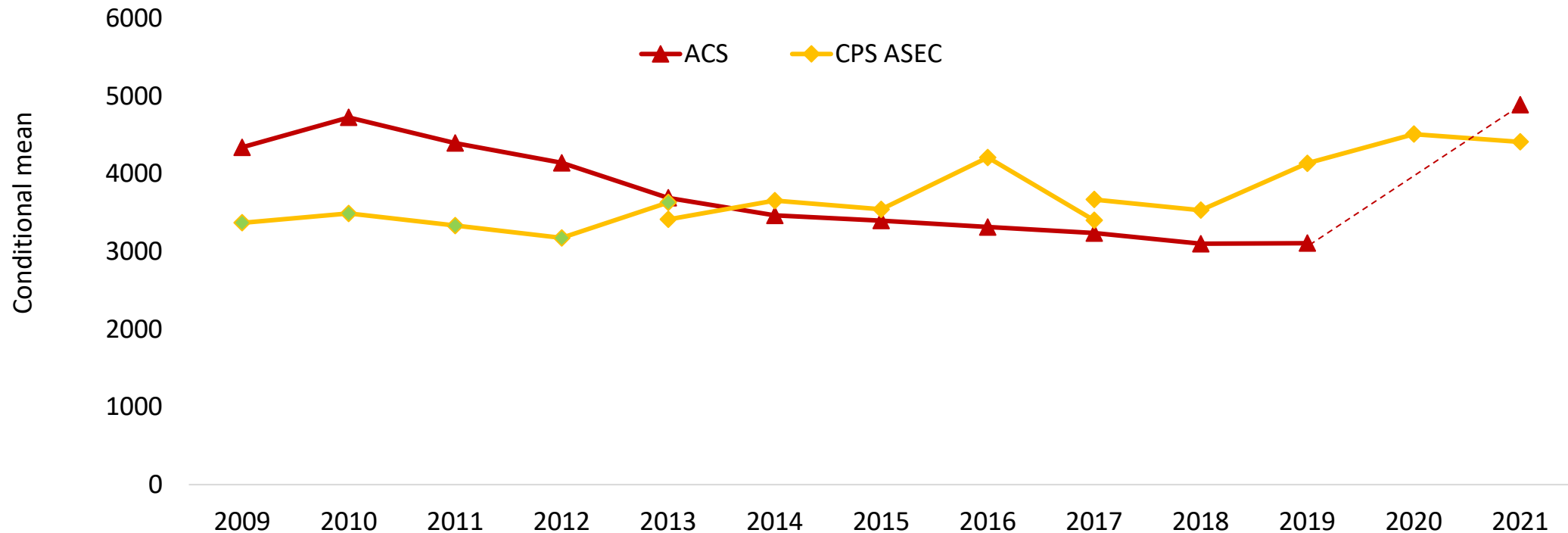


Note: No ratios are shown for 2020 due to the suppression of 2020 ACS experimental data. The data for 2017 and beyond reflect the implementation of an updated processing system in the CPS ASEC. The data for 2013 and beyond reflect the implementation of the redesigned income questions in the CPS ASEC.

Source: U.S. Census Bureau, 2009 through 2019 and 2021 American Community Survey Public Use 1-year Estimates and 2010 through 2022 Current Population Survey Annual Social and Economic Supplements.

Suggestive Evidence of Misreporting of EIP: III

Conditional Means of Public Assistance (2021 dollars)

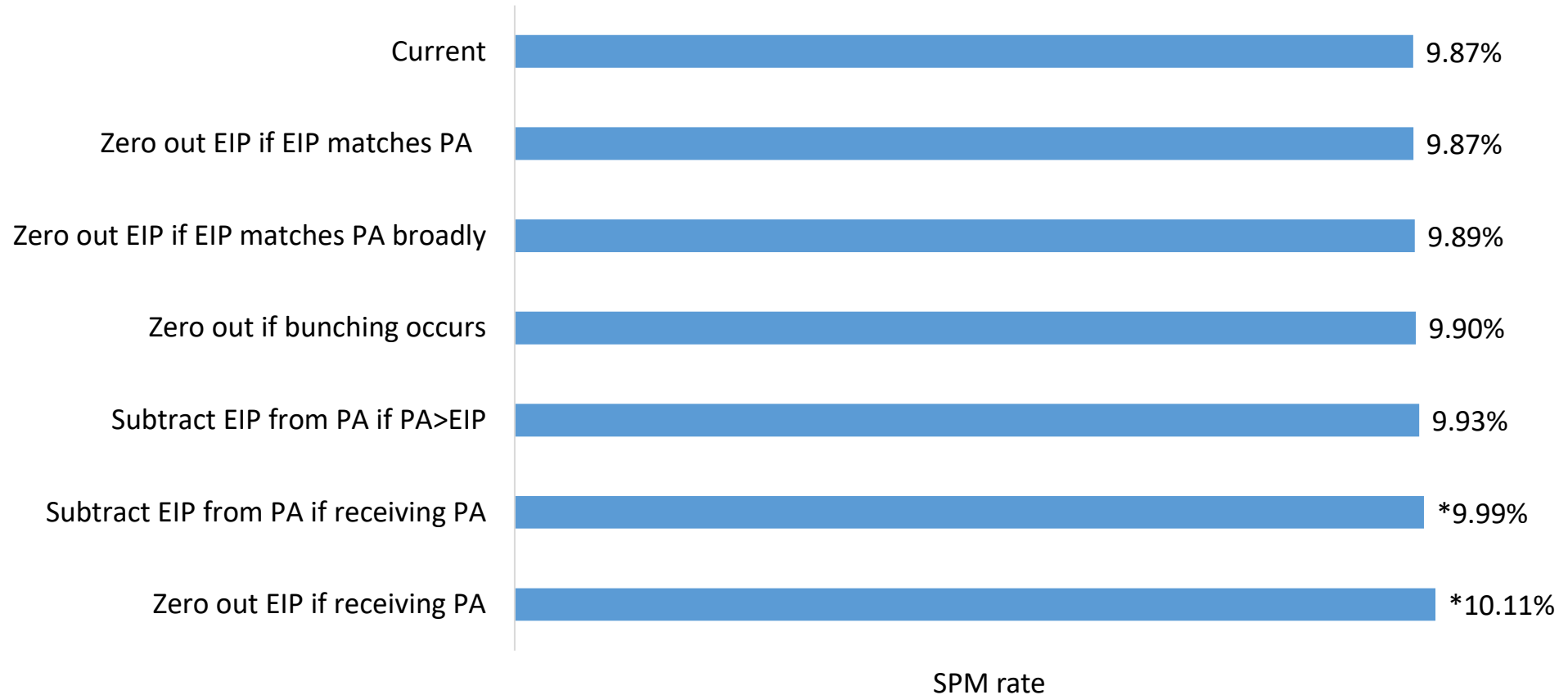


Note: No ACS data shown for 2020 due to the suppression of 2020 ACS experimental data. The CPS ASEC data for 2017 and beyond reflect the implementation of an updated processing system in the CPS ASEC. The CPS ASEC data for 2013 and beyond reflect the implementation of the redesigned income questions in the CPS ASEC.

Source: U.S. Census Bureau, 2009 through 2019 and 2021 American Community Survey Public Use 1-year Estimates and 2010 through 2022 Current Population Survey Annual Social and Economic Supplements.

Potential Solutions

Effect of Changes to EIP and PA on the SPM Rate: 2021

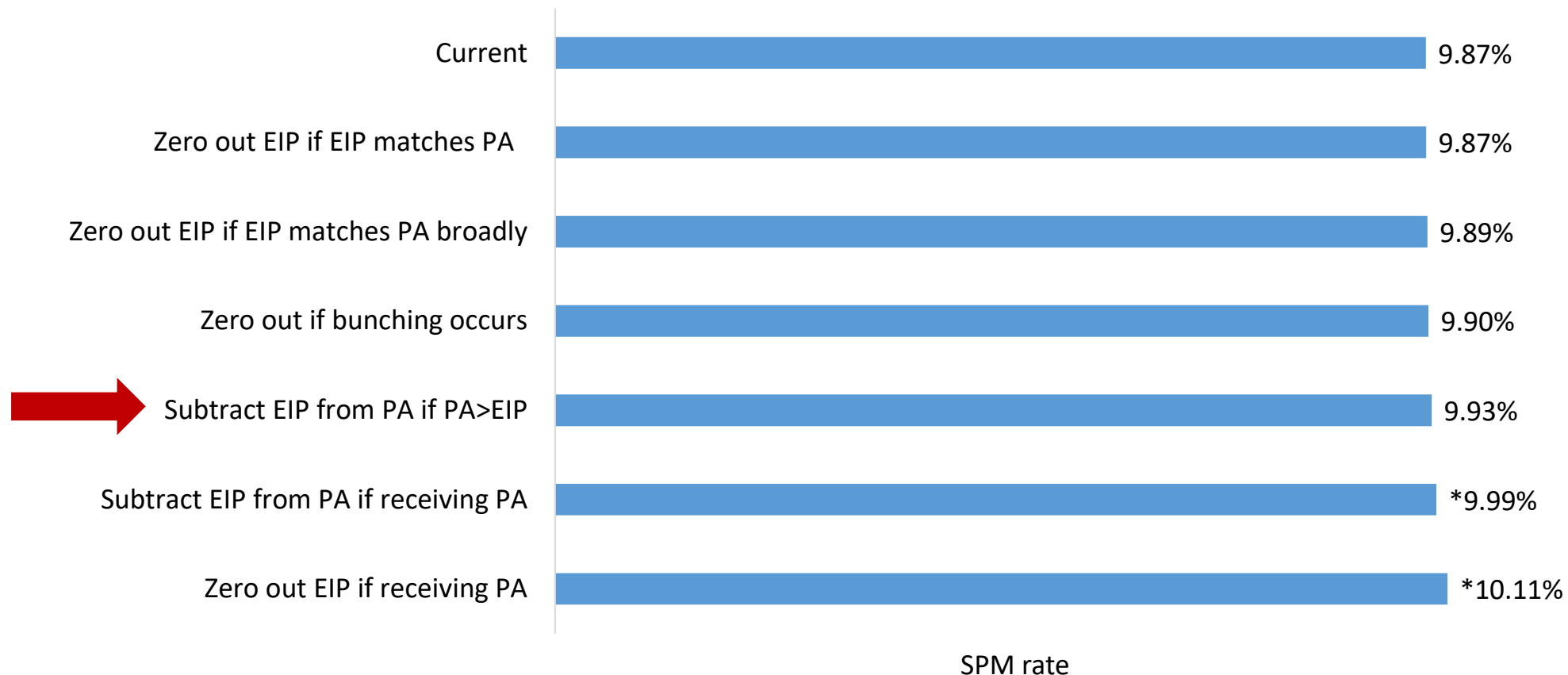


Note: An asterisk indicates estimate is different from the "current" SPM rate at the 90 percent confidence level.

Source: U.S. Census Bureau, 2021 American Community Survey Public Use 1-year Estimates.

Potential Solutions

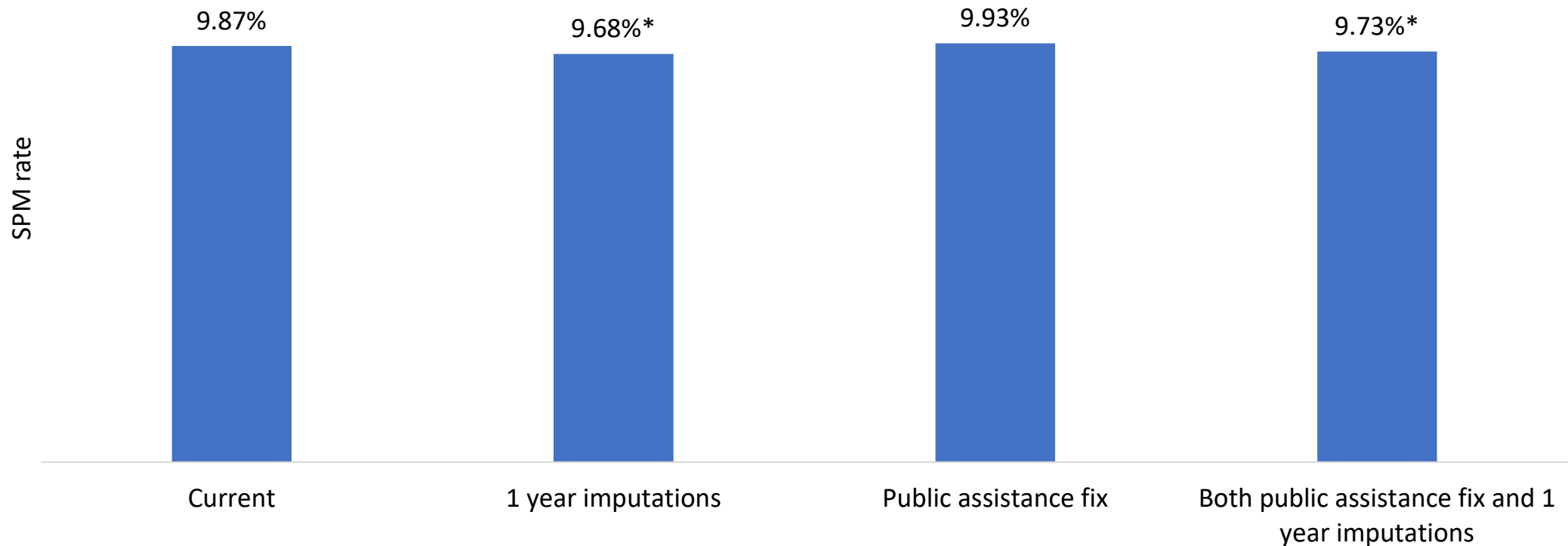
Effect of Changes to EIP and PA on the SPM Rate: 2021



Note: An asterisk indicates estimate is different from the "current" SPM rate at the 90 percent confidence level.

Source: U.S. Census Bureau, 2021 American Community Survey Public Use 1-year Estimates.

ACS SPM Rates with Both Possible Changes: 2021



Note: An asterisk indicates difference from the "current" SPM rate is significantly different from zero at the 90 percent confidence level.

Source: U.S. Census Bureau, 2021 American Community Survey Public Use 1-year Estimates.

Discussion & Next Steps

- Two changes to the production of the ACS SPM
 - Adjust for major changes to economy and benefits:
 - Use of 1 year of CPS ASEC in the benefit and expense imputations
 - Adjust for potential double-counting:
 - Subtract EIP from public assistance for SPM units where public assistance is higher than EIP
- Release of the 2021 ACS SPM public use file
- Improvement of imputation methodology
- Explore county or other small area ACS SPM estimates

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