

# Measuring Poverty Subannually in the United States

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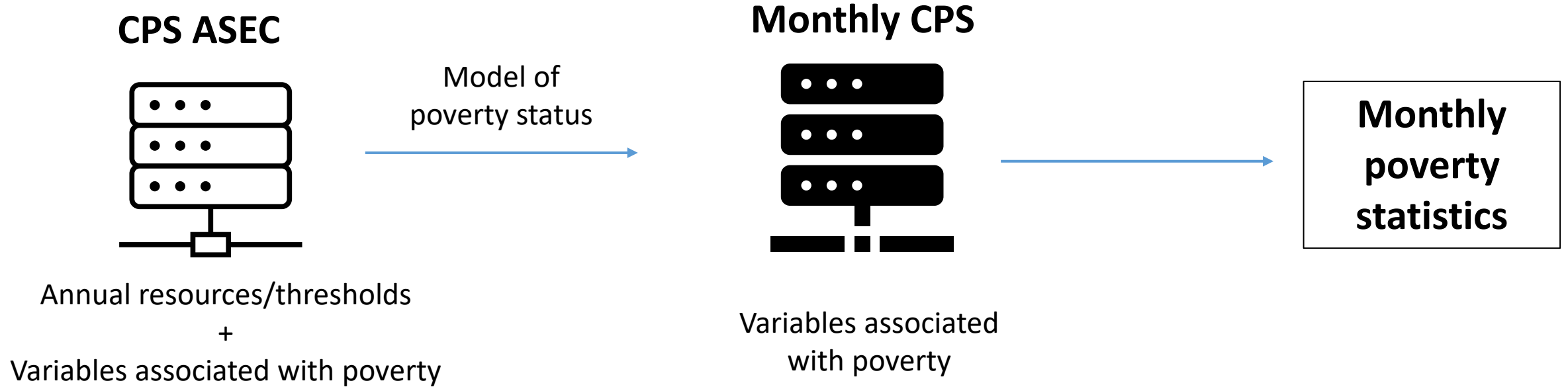
# Why subannual poverty?

- Annual poverty measures used widely to measure monetary well-being.
- Demand for more timely and frequent measures of poverty.
- Subannual: reference period and publication frequency of less than a year.
- Comprehensive data on income are not collected subannually, need to exploit existing sources.
- Goal: propose methodology that could be used for a research series by the Census Bureau.

# Data and literature

- Current Population Survey (CPS)
  - Annual Social and Economic Supplement (CPS ASEC): source of official poverty and Supplemental Poverty Measure (SPM) rates.
  - Basic monthly CPS: Official source of labor force statistics.
- Literature:
  - Orshansky (1963): tension between annual data collection and monthly benefits.
  - Ruggles (1990) used SIPP data; Citro and Michael (1995) acknowledged issue.
  - Bergmann and Coder (2010) combined CPS ASEC with monthly CPS.
  - Response to COVID-19: Han et al. (2020) and Parolin et al. (2020, 2022)
- I generalize and extend Parolin et al. (2020, 2022).

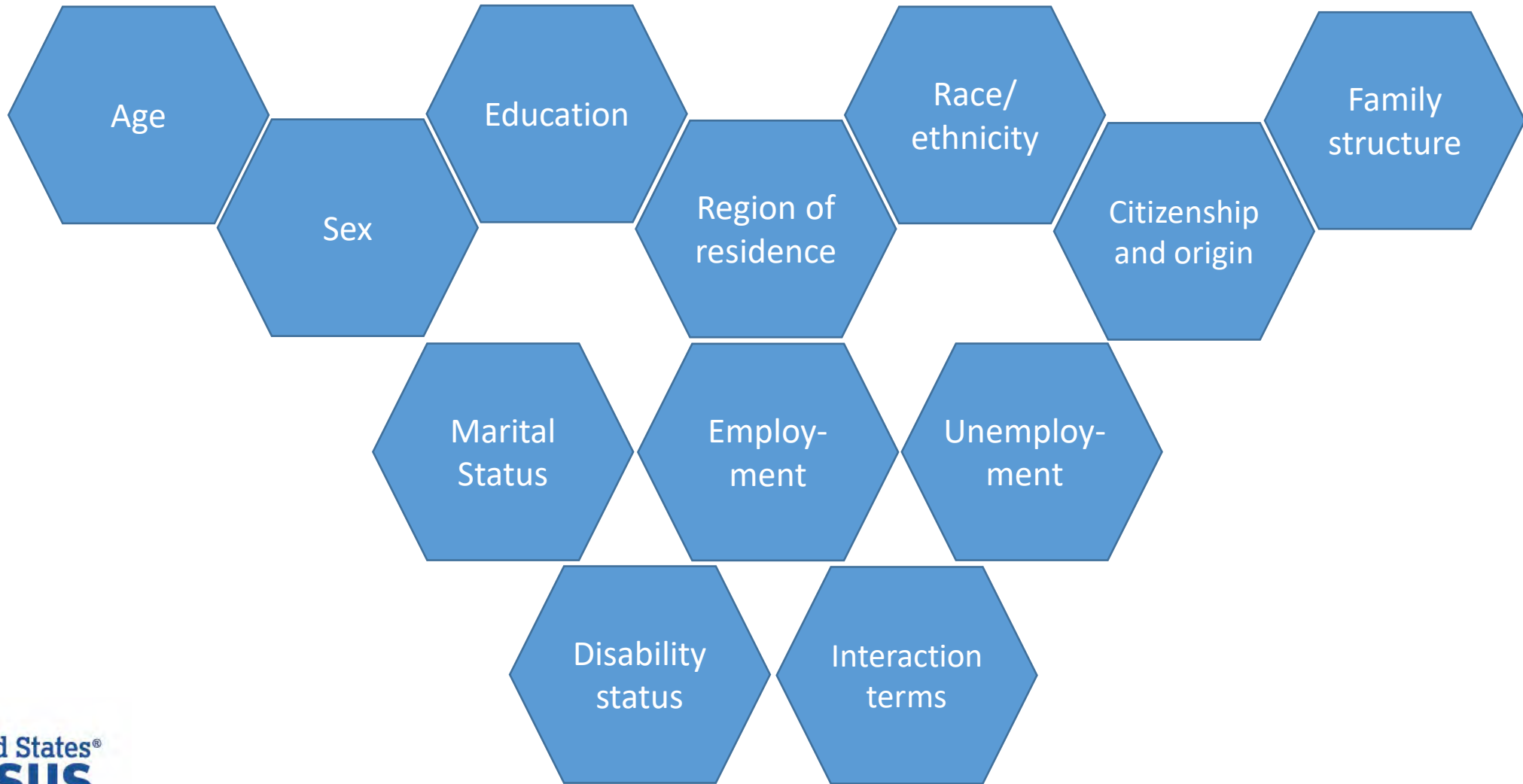
# Methodology at a glance



# Rules for converting annual resource components to their monthly values

- **Group 1:** Components that are divided by 12 (e.g., Social Security).
- **Group 2:** Components that are divided by 12 and then adjusted if an individual was unemployed recently (e.g., wage earnings).
- **Group 3:** Components that are only allocated to a single month (e.g. Earned Income Tax Credits).
- **Group 4:** Components that are allocated equally to all non-summer months (e.g., school lunch program).

# Core CPS variables used in the imputation model

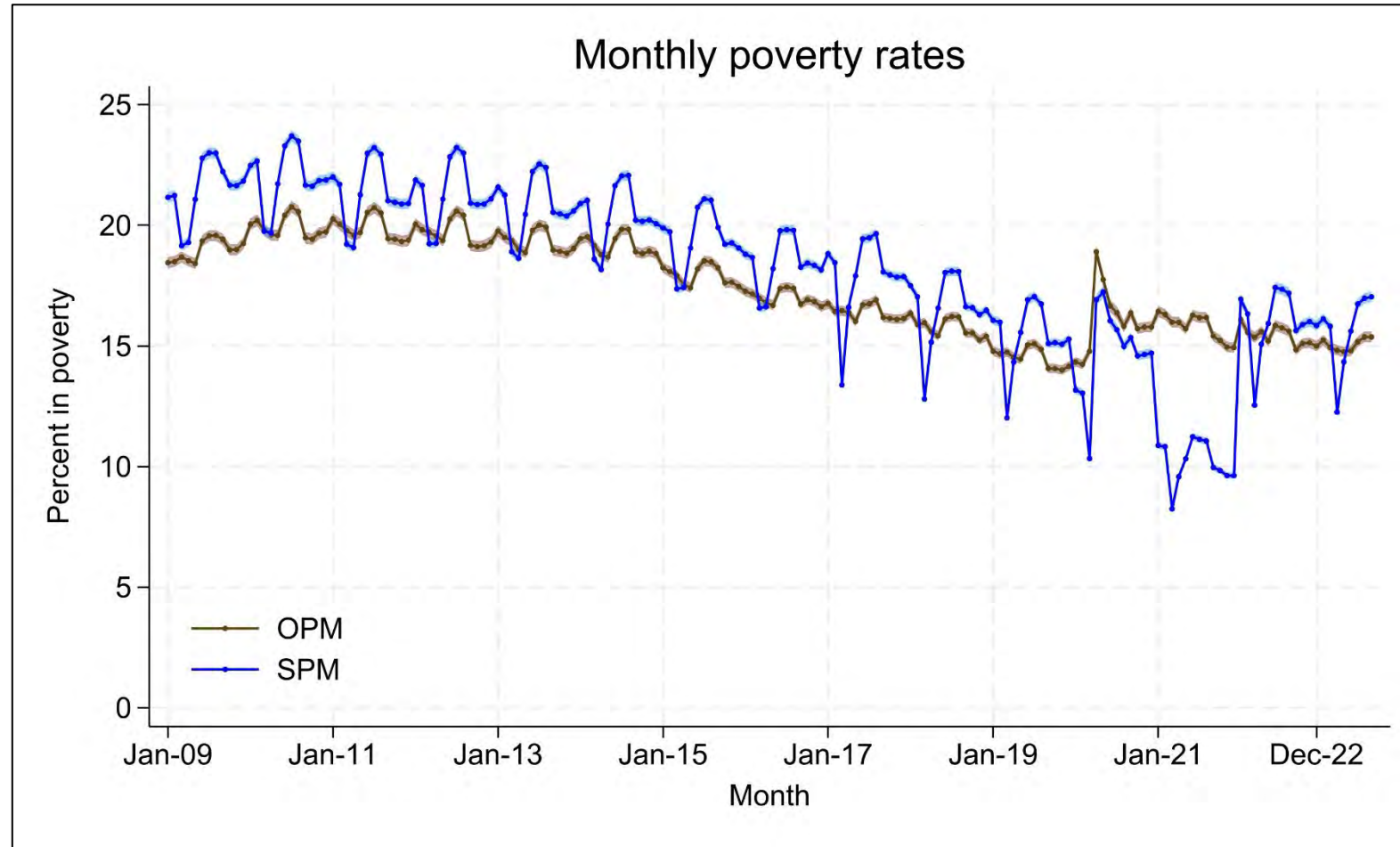


# Multiple imputation

- Combined-sample multiple imputation.
- Outcome variable in CPS ASEC: poverty status.
- Estimated using linear probability model.
- Imputed variable: probability of someone in monthly CPS being in poverty.
- Model specification based on literature.
- Mean of 10 imputations.
- I compute standard error of estimates.

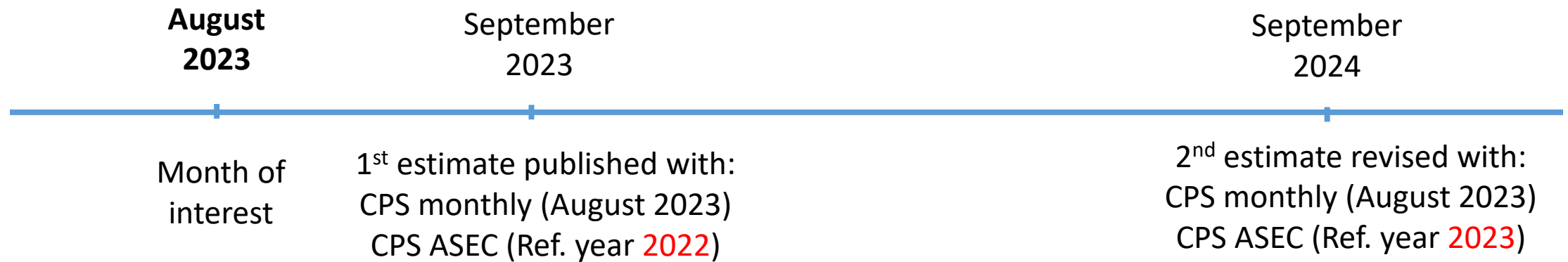
# Monthly OPM and SPM, January 2009 – August 2023

OPM=Official poverty measure; SPM = Supplemental Poverty Measure





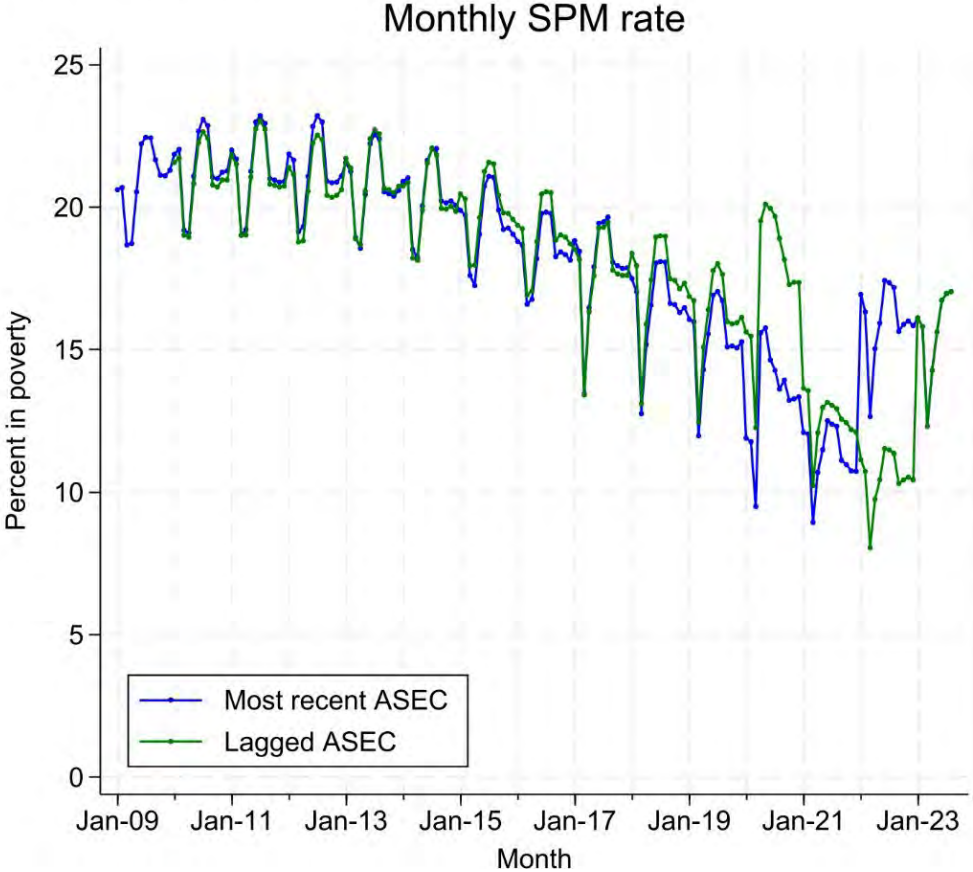
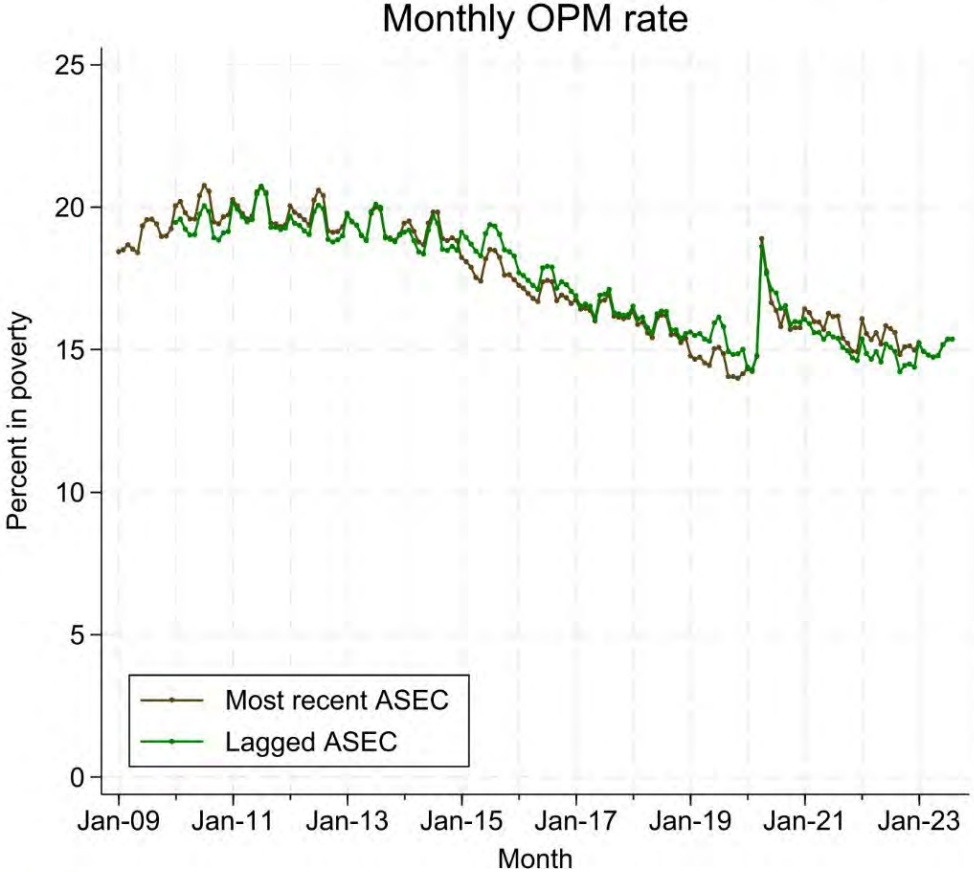
# Revising monthly estimates with the release of new CPS ASEC data



# Will monthly estimates change when new CPS ASEC data are released?

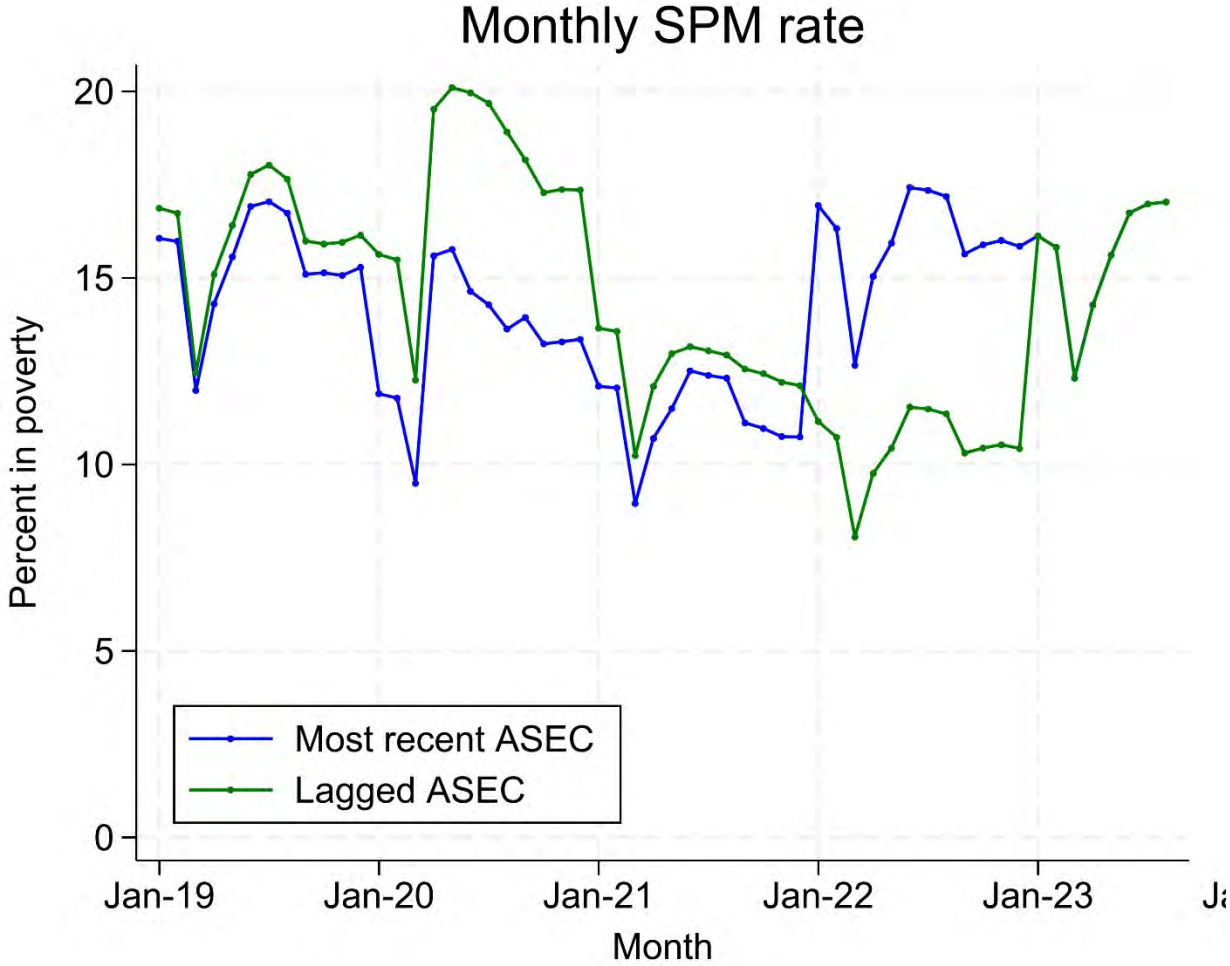
Each September, estimates for the current and previous calendar years are revised to incorporate the most recent release of the CPS ASEC.

## Most recent ASEC vs. Lagged ASEC



Source: U.S. Census Bureau, Current Population Survey (CPS) public-use data for January 2009 - August 2023, Annual Social and Economic Supplements (CPS ASEC) internal data for survey years 2010-2023.

# Annual revisions of the monthly SPM rate 2019-2023



Source: U.S. Census Bureau, Current Population Survey (CPS) public-use data for January 2009 - August 2023, Annual Social and Economic Supplements (CPS ASEC) internal data for survey years 2010-2023.

# Some pandemic-era policies can be modeled by month

Assumptions for modeling refundable tax credits

Refundable tax credits						
Month	EITC	EIP 1	EIP 2	EIP 3	CTC	CDCC
Jan-2020						
Feb-2020						
Mar-2020	X				X	
Apr-2020	X	X (60%)			X	
May-2020		X (30%)				
Jun-2020		X (10%)				
Jul-2020						
Aug-2020						
Sep-2020						
Oct-2020						
Nov-2020						
Dec-2020						
Jan-2021			X (80%)			
Feb-2021			X (20%)			
Mar-2021	X			X (80%)	X (1/2)	X
Apr-2021	X			X (20%)		X
May-2021						
Jun-2021						
Jul-2021					X (1/12)	
Aug-2021					X (1/12)	
Sep-2021					X (1/12)	
Oct-2021					X (1/12)	
Nov-2021					X (1/12)	
Dec-2021					X (1/12)	

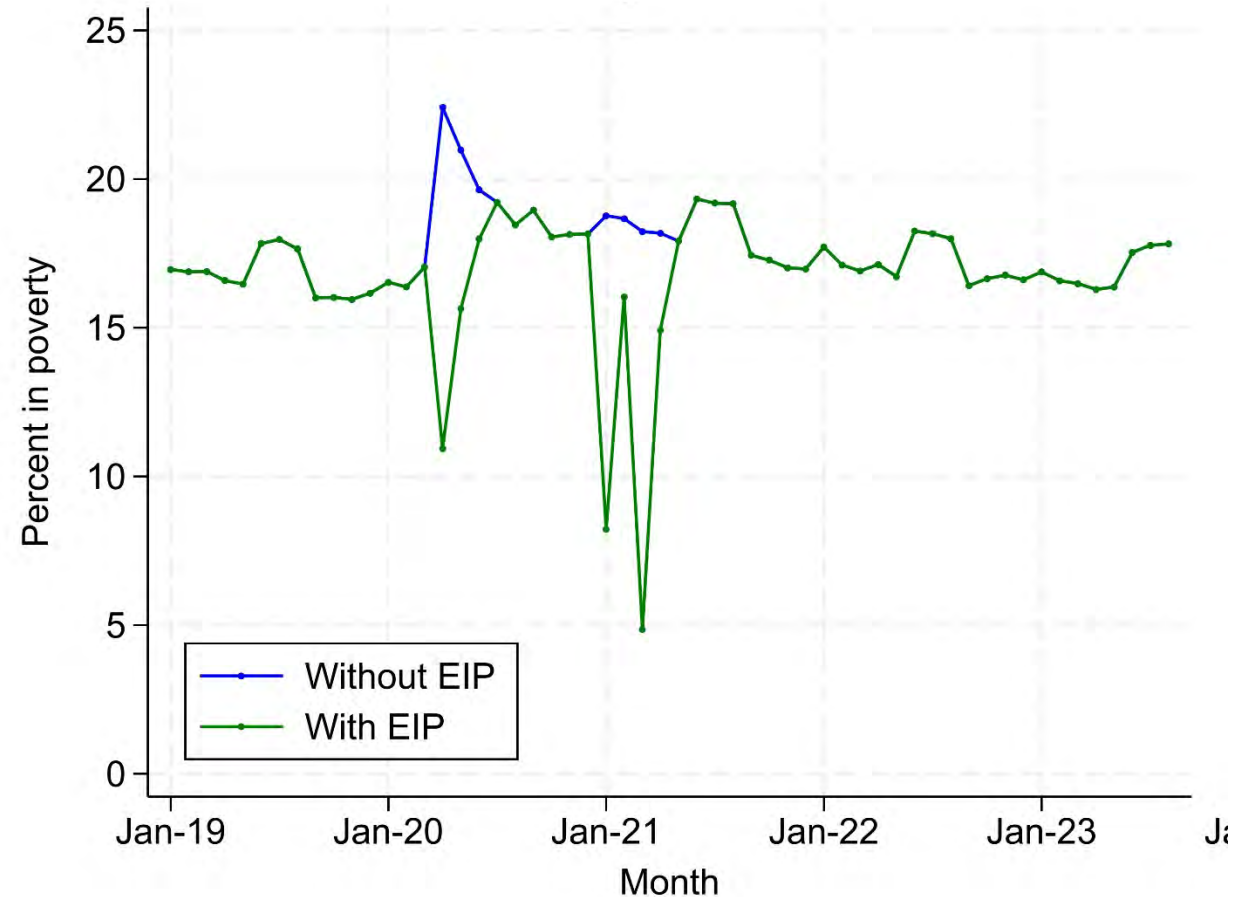


Notes: EITC = Earned Income Tax Credit; EIP = Economic Impact Payments; CTC = Refundable portion of the Child Tax Credit; CDCC = Child and Dependent Care Credit

# EIPs can be allocated to specific months of 2021 and 2022

EIP = Economic Impact Payments

Monthly SPM rate with and without EIP



# Conclusion

- Subannual poverty could be a part of a suite of measures of well-being to supplement existing annual measures.
- Next steps:
  - Modify how refundable tax credits are allocated across months.
  - Updated working paper with improvements to methodology.
  - Tableau dashboard to publish these estimates.
- We are looking for feedback on:
  - Are there better ways to model refundable tax credits?
  - Should estimates be revised over time (like GDP growth)?
  - Anything else we should be considering in these estimates?