The TRIM3 Model
and the Measurement of Child Poverty

A Dialogue on Measuring and Reducing Child Poverty

Panel 1: Overview of the NAS Report

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Topics

- Overview of TRIM3
- Important features of TRIM3 for the panel's work
- TRIM3 estimates of SPM poverty

Overview of TRIM3

What is TRIM3?

- A comprehensive *microsimulation model* of the benefit and tax programs that affect U.S. households.

- A “static” model – focuses on the current year

- Primarily input data is each year’s Current Population Survey, Annual Social and Economic Supplement (ASEC)
  - Excellent demographic and income data
  - Does not include institutionalized or homeless people

- Funded and copyrighted by HHS/ASPE

- Used by all administrations since the early 1970s

Benefit and Tax Programs Modeled in TRIM3

Cash income

- SSI, TANF, child support (with related non-resident-parent module), unemployment compensation

Non-cash benefits

- Nutrition: SNAP, WIC
- Other non-cash: Public and subsidized housing, federally-funded child care subsidies (Child Care and Development Fund), energy assistance (Low Income Home Energy Assistance Program)

Taxes

- Payroll tax, federal income tax and credits, state income tax and credits

Proposed or hypothetical programs

- E.g., child allowances

Basic Steps in the Simulations

- Start from the representation of the U.S. population in the CPS ASEC
- Can use actual rules or hypothetical rules
- For each household
  - Apply the eligibility or tax rules
  - Compute the potential benefit or tax
  - For benefits, estimate participation

Important Feature of TRIM3 for the NAS Child Poverty Panel

Detailed Modeling of Each Program

- Uses “filing unit” appropriate to each program
- Captures state-level detail in rules
- Imputations preceding the simulations help support the simulations
  - Imputation of immigrants’ legal status
  - Statistical match with IRS Statistics of Income data
  - Allocation of annual income amounts across months of the year

Simulations Capture Cross-Program Interactions

- Examples of cross-program interactions:
  - SSI recipients are not counted in the family unit for TANF
  - SSI and TANF income part of cash income for other benefits
  - Rental payment – unsubsidized or subsidized – affects SNAP benefit

- Interactions improve baseline modeling

- In modeling alternative policies, can capture both direct and secondary impacts of the change

Correction for Under-reporting

- A key product of each year's "baseline" simulations

- Simulated caseloads include
  - Eligible people / families who report the benefit
  - A subset of other eligible people/families, selected to reach key administrative-data targets
    - Total caseload
    - Caseload by state
    - Caseload by key characteristics

Baselines & Correction for Under-reporting

2015, Selected Results			
	Annual Benefits ($ billions)		
	Reported **	Admin. Data	Simulated
SSI *	$50.7	$55.6	$56.4
TANF	$3.9	$6.5	$6.6
CCDF	n/a	$6.6	$6.6
SNAP	$36.6	$68.9	$63.0
LIHEAP ***	$1.7	$2.7	$2.7

* non-institutionalized
** includes true reports and Census-imputed reports
*** includes heating, cooling, and crisis

Ability to Impose Employment and Earnings Effects

- Type and magnitude of effect must come from existing studies
- Selected impact can be imposed in the data, including:
  - Selecting some non-workers to start working
  - Selecting some workers to stop working
  - Selecting some people to change hours of work

Computing SPM Poverty

TRIM3 Adjustments to the SPM

- We start with the Census Bureau SPM definition
  - Revised 2015 SPM as published in the 2016 poverty report, Fox (2017)
- We then substitute TRIM3 variables into the SPM resource definition
  - Ensures consistency across baseline and policy scenarios
  - Adjusts for CPS underreporting

TRIM3 Variables in SPM

TRIM3 replaces:

- CPS Reported Variables:
  - SSI, TANF, SNAP, LIHEAP
- Census Bureau Imputed Values:
  - Public/Subsidized Housing, WIC
- Census Bureau Imputed Variables:
  - Payroll Taxes, Federal and State Income Taxes

Other TRIM3 Adjustments to SPM Resources

- Child care expenses
  - Reflect TRIM3 estimated copayment for CCDF child care subsidies
- Realized Capital Gains/Losses
  - Statistically matched to TRIM3 from IRS PUF data
  - Included in TRIM3 SPM because TRIM3 captures taxes on capital gains

Effect of TRIM3 SPM Adjustments

	Children in poverty		Children in deep poverty	
	Total (1000s)	Percent	Total (1000s)	Percent
Census Bureau (published)	12,026	16.2%	3,628	4.9%
Census Bureau (calculated)	12,038	16.3%	3,636	4.9%
TRIM3 Adjustments:				
Correction for underreporting[a]				
SSI	11,462	15.5%	3,388	4.6%
+ TANF	11,205	15.1%	3,138	4.2%
+ SNAP	9,502	12.8%	2,081	2.8%
+ WIC	9,362	12.6%	2,081	2.8%
+ LIHEAP	9,324	12.6%	2,076	2.8%
Other TRIM3 Adjustments[b]				
+ Housing	9,295	12.5%	2,078	2.8%
+ Child care expenses	9,378	12.7%	2,106	2.8%
+ Taxes and tax credits	9,633	13.0%	2,136	2.9%

TRIM3 website: trim.urban.org

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