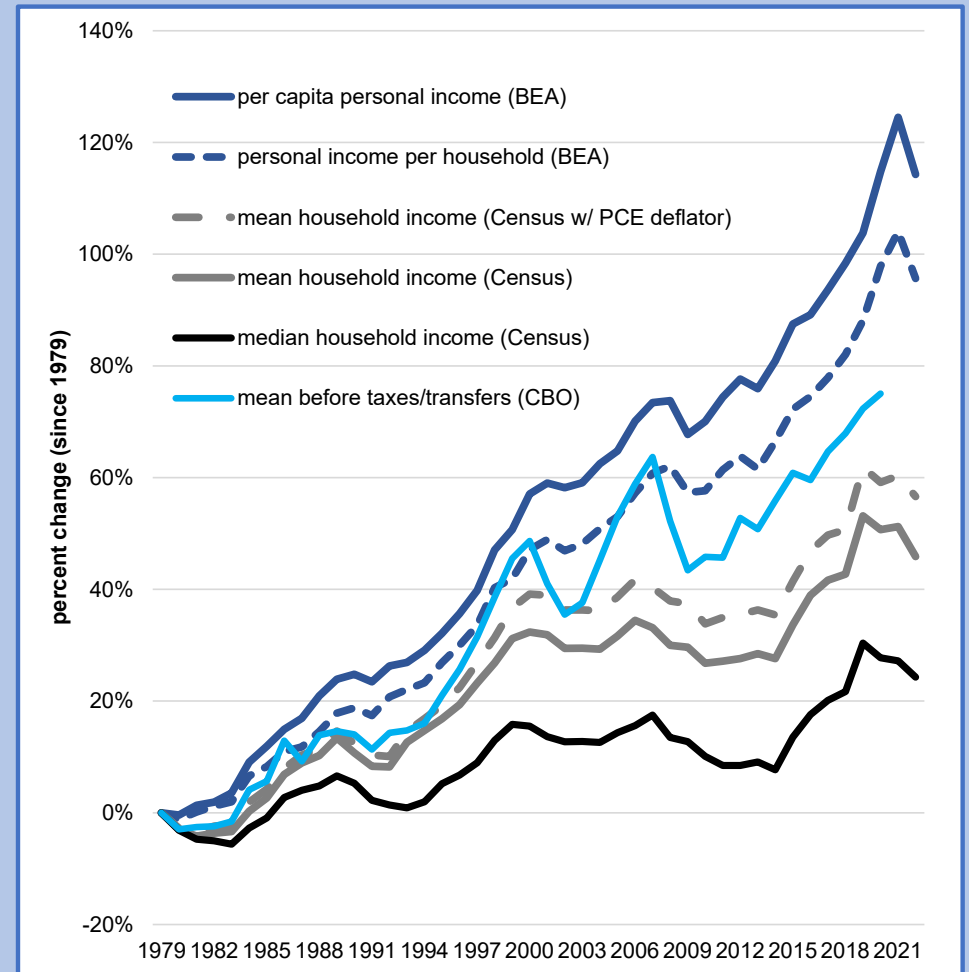


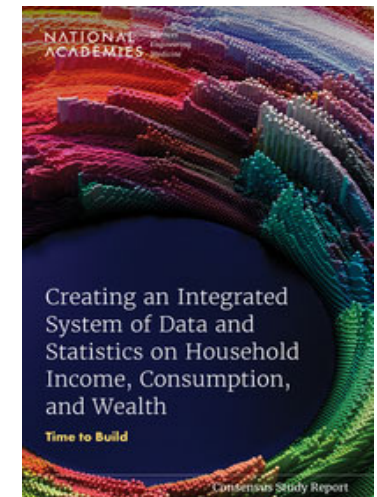
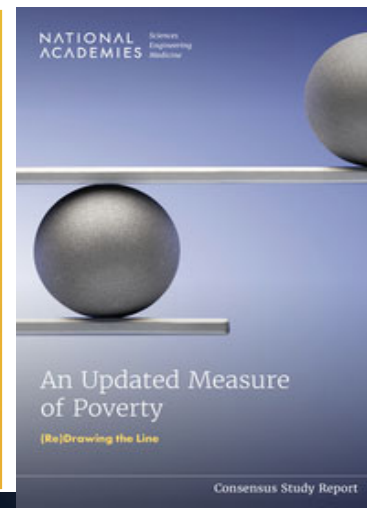
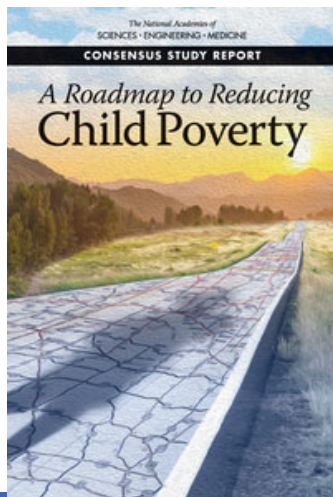
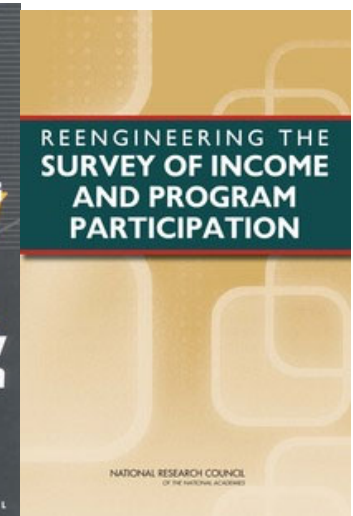
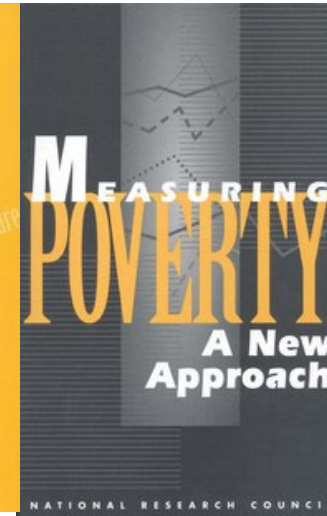
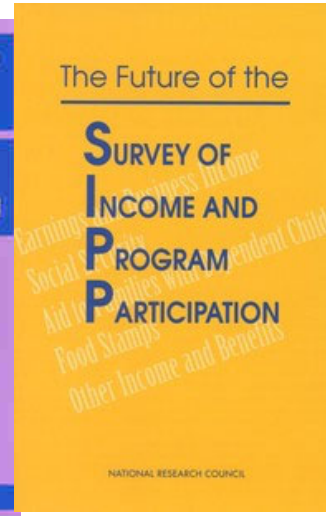
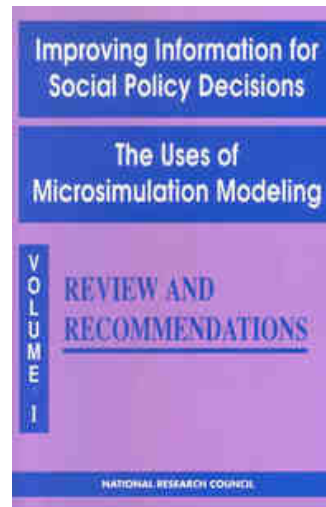
Challenges in Household Measuring Income and Poverty: Why Is It So Hard? Why Is It So Important?

Constance (Connie) Citro
**Senior Scholar, CNSTAT/
Independent Consultant**
32nd Morris Hansen Lecture
September 26, 2024

Graph courtesy of David Johnson



My talk draws on my work at CNSTAT (& elsewhere) on income & poverty statistics & surveys (plus census, ACS, P&P) • **Views are my own** • Please do not attribute to CNSTAT or the National Academies

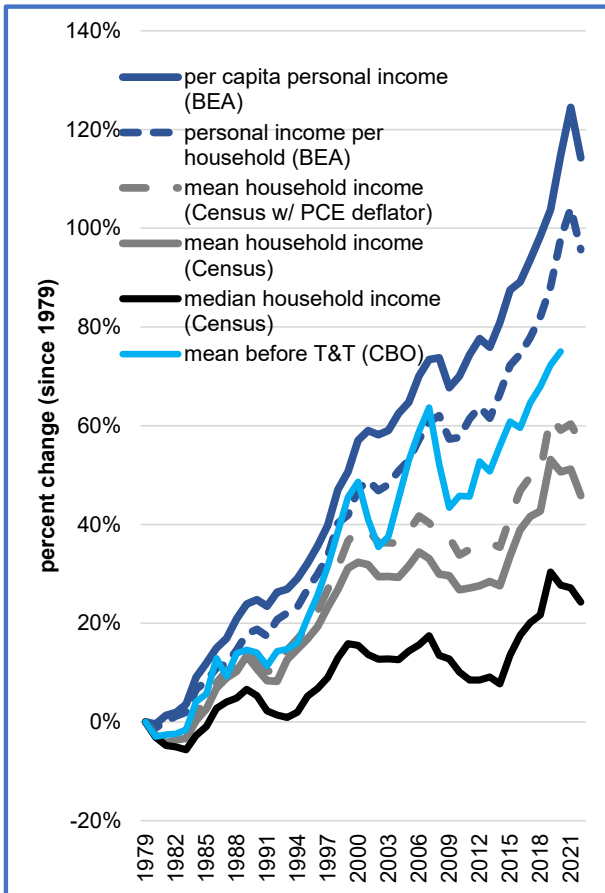


OUTLINE: TELLING A 100–YEAR STORY

- **Why & how** of household/family income & poverty statistics
- Connection to Morris Hansen • **data quality/cost-effectiveness/evidence**
- Quality problems in survey-based income statistics • present from the get-go
 - Efforts to understand/remedy problems
 - Search for robust income survey = uneven, unavailing
- **Kudos** for recent work at BEA, BLS, Census Bureau, FRB using **blended data** for improved statistics = needs \$\$\$/priority/readier access to admin. data
- Individuals can make a difference • particularly with leadership support
- **Statistical Product First** (Sallie Keller) • work from user needs for relevant, accurate, timely data back to best sources (applies to **all** statistical subject areas)

MEASURES OF ECONOMIC WELL-BEING

- Statistical systems around the world produce macro & micro measures of economic well-being:
 - Income • Consumption • Wealth • Poverty • Hardship • Insecurity • Deprivation • Subjective well-being
- Many countries use consumption as primary measure • U.S. started with income (potential consumption) • resonates with public and as policy lever/tool (e.g., fund allocation formulas)
- Income (and all other) measures pose challenging definitional, measurement, estimation issues • question: which measures are relevant? accurate? coherent with other measures?
- Spoiler alert: I won't be picking or picking apart the individual measures in David's graph • Mine is a broad story of the search for useful, robust macro & micro household income statistics, culminating in a blended data approach



MEASURES OF DATA QUALITY

- Come a long way from sampling variability and even Total Survey Error
- Broad quality frameworks gained traction in 1990s
- **FCSM** (2020) framework: 3 dimensions, 11 attributes
- **My focus:** **Relevance**, **Accessibility** (includes documentation & other aspects of *transparency*), **Accuracy & reliability**, **Coherence** (will assume other attributes are met)
- **Quality** must be viewed in conjunction with **costs & response burden** (concept of **cost-effectiveness**)

FCSM Data Quality Framework

Utility—

Relevance
Accessibility
Timeliness
Punctuality
Granularity

Objectivity—

Accuracy & reliability
Coherence

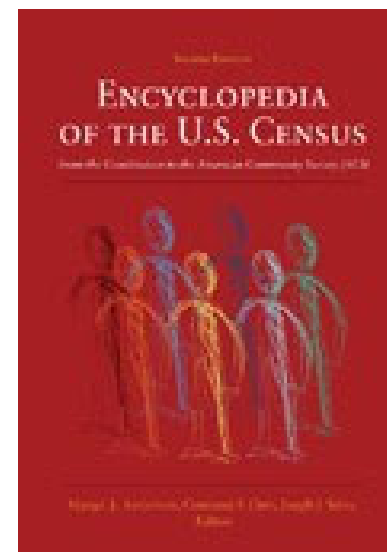
Integrity—

Scientific Integrity
Credibility
Computer/physical security
Confidentiality

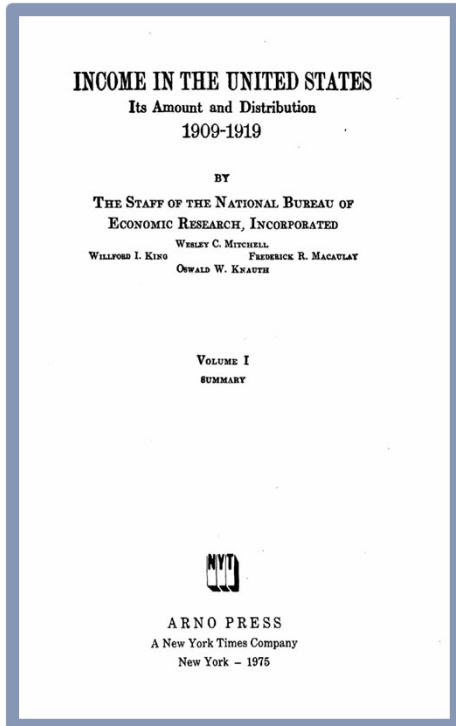
SOURCE: A Framework for Data Quality, 2020
https://www.fcsm.gov/assets/files/docs/FCSM.20.04_A_Framework_for_Data_Quality.pdf

1790–1913: ECONOMIC DATA, NO INCOME

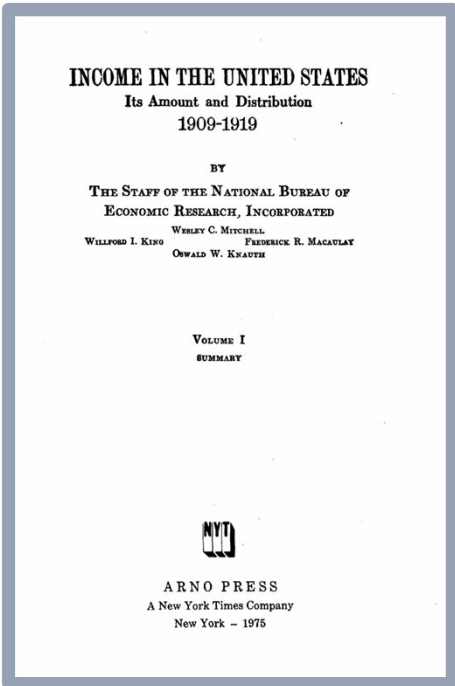
- Statistics in our DNA
 - Constitution mandates decennial census
 - Treasury Dept. kept trade statistics from get-go • tariffs/excise taxes main sources of federal \$\$ until 1913 income tax (today < 5%)
- Didn't need/couldn't easily get income data when relatively few people were wage earners (from 1820 Census, 83% agriculture, 14% manufacturing, 3% commerce)
- BLS established in 1884 (pressure from unions)
- At turn of 20th century, massive population changes (urbanization, industrialization, immigration) + frequent economic downturns fueled concern about *income adequacy* for wage workers



NBER LEADS THE WAY: 1921



- Disputes about whether labor getting fair share of the pie • some argued that corporate greed (“Gilded Age”, “Robber Barons”) had undercut labor in favor of capital income • others blamed immigration for suppressing wages • others denied major increase in income inequality • economists hurled critiques at one another
- NBER established in 1920:
From Prefatory Note: A desire to learn whether the *National Income* is adequate to provide a decent living for all persons, whether this income is increasing as rapidly as the population, and whether its distribution among individuals is growing more or less unequal, and to sift the divergencies among the current estimates led the National Bureau of Economic Research to choose this field for its first investigation.



1930s–1940s:
 NBER and
 Department of
 Commerce develop
 NIPAs

1921: NBER ESTIMATES “NATIONAL INCOME”

- National income = total income accruing to people and businesses • includes all government spending (e.g., defense) • used by World Inequality Database today but not many others
- Estimated with variety of data (new tax data post 1913 immensely helpful) by sources of production and by income received (different staffs worked on each) • achieved close agreement
- Distributed to “people receiving income” • shaky data
- **Why** distributional estimates matter:

Year / % National Income Received	Top 5% of Income Receivers	Top 5% Excluding Farmers
1913	33%	35%
1915	32	35
1917	29	32
1919	24	27

SOURCE: Mitchell et al. (1921, Table 23).

PERSONS 14 YEARS OLD AND OVER—EMPLOYMENT STATUS																
21	22	23	24	25	E	26	27	OCCUPATION, INDUSTRY, AND CLASS OF WORKER				31	INCOME IN 1939		34	
Was this person AT WORK for pay or profit in private or nonemergency Govt. work during week of March 9-15, 1940? (Yes or No)	If not, was he at work on or assigned to public EMERGENCY WORK (WPA, NYA, CCC, etc.) during week of March 9-15, 1940? (Yes or No)	If neither at work nor assigned to public emergency work. ("No" in Cols. 21 and 22)	If not seeking work, did he HAVE A JOB, business, etc. (Yes or No)	Indicate whether engaged in home basement (H), in school (S), unable to work (U), or other (O)	CODE	Number of hours worked during week of March 24-30, 1940	Duration of unemployment up to March 30, 1940—in weeks	For a person at work, assigned to public emergency work, or with a job ("Yes" in Col. 21, 22, or 24), enter present occupation, industry, and class of worker. For a person seeking work ("Yes" in Col. 23): (a) If he has previous work experience, enter last occupation, industry, and class of worker; or (b) if he does not have previous work experience, enter "New worker" in Col. 28, and leave Cols. 29 and 30 blank.				Number of weeks worked in 1939 (Equivalent full-time weeks)	Amount of money wages or salary received (including commissions)	Did this person receive in- come of \$50 or more from sources other than money wages or salary (Yes or No)	Number of Farm Schedule	Line No.
21	22	23	24	25	E	26	27	28	29	30	F	31	32	33	34	
								Trade, profession, or particular kind of work, as— frame spinner seaman laborer rivet heater music teacher	Industry or business, as— cotton mill retail grocery farm shipyard public school							

INCOME in CENSUSES & SURVEYS 1930s— 1940s

- **1937 Study of Consumer Purchases (BLS/USDA/WPA \$)** • two-stage national probability sample • 300,000 families • cash/noncash income & spending • 1935–1936
- **1940 Census** • Wages up to \$5,000+, yes/no other income >\$50 • some in Congress objected but no problems (98% response rate) • moved to long-form sample (now ACS) • now 8 sources
- **1945 CPS (May)** • 7 sources of “regular money income” • excluded in-kind income because of “**INHERENT DIFFICULTIES**” (NBER imputed in-kind income, e.g., food produced and consumed by farmers) • also excluded tax credits (not “regular”) • *consequential decision*

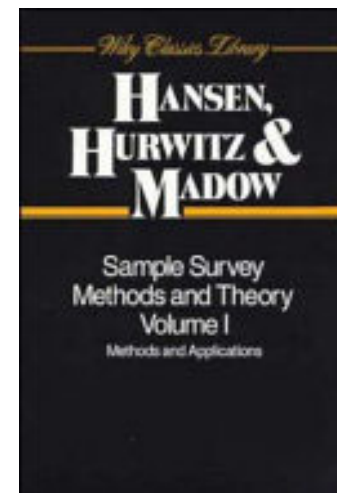
WHAT IS THE LINK TO MORRIS HANSEN?

INNOVATOR, RENAISSANCE MAN—

CENSUS BUREAU, 1935-1968

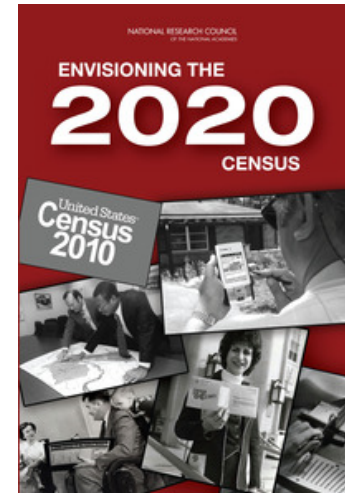
WESTAT, 1968-1990

- Developed, legitimized probability sampling • early project compared sample to postal census of unemployed • survey won • led WPA (1940) to develop what became CPS (1942)
- Camped on doorstep of academics building UNIVAC 1 so would be available to help process 1950 census • enabled hot deck imputation for 1960 census (1962 CPS)



MORRIS PUT R&D ON THE MAP AT CENSUS BUREAU

- Cared passionately about **data quality** of federal statistics in broad sense—especially *relevance, accuracy, transparency*—and *cost-effectiveness* (quality at affordable cost & response burden) • wanted **evidence** from careful research
- Classic example: Shift to self-response in the census • driven by concerns about cost & workforce & **enumerator variance**
 - Extensive experimentation with special censuses/1950/1960 censuses • feasibility of self-enumeration/household questionnaires • enumerator variance studies
 - Overall response variance in 1950 = 25-percent sample • 1960 response variance 1/3–1/4 of 1950 due to self response • more recently, **Arthur Kennickell** has pointed to interviewer effects in Survey of Consumer Finances (SCF)



Larry
Brown,
Chair •
Reviews
Census
R&D
History

EFFECTS OF VARIATION
IN FIELD PERSONNEL ON
CENSUS RESULTS
—
BARBARA A. POWELL
[BAILAR] & LEON PRITZKER
Bureau of the Census
—
DEMOGRAPHY, 1964

1940s–1950s

An Appraisal
of the 1950 Census
Income Data

STUDIES IN INCOME AND WEALTH
VOLUME TWENTY-THREE
BY THE CONFERENCE ON RESEARCH
IN INCOME AND WEALTH



A REPORT OF THE
NATIONAL BUREAU OF ECONOMIC RESEARCH, NEW YORK

PUBLISHED BY
PRINCETON UNIVERSITY PRESS, PRINCETON
1958

FAMILY PERSONAL VS. MONEY INCOME

- Personal Income (PI) part of NIPAs • OBE/BEA produced **Family Personal Income** distributions
 - For 1944-46, 1950-63, 1964, 1972 • FPI = PI *minus* non-household stuff (e.g., net nonprofit income)
- Comparing to CPS required further adjustment of FPI to **Family Money Income**
 - FMI = FPI *minus* stuff (e.g., imputed rent, food and fuel produced/consumed by farm households) *plus* stuff (e.g., net rent from roomers/boarders)
- Careful comparisons in 1958 NBER report by **Selma Goldsmith** (OBE) of FMI to CPS (also early years of SCF) • **CPS FELL SHORT**



COMPARISONS: CPS MONEY INCOME AS % OF BEA MONEY INCOME, VARIOUS YEARS, 1940s–1970s

Type of Income/ Income Year	1946	1954	1964	1972	1979
Wages/salaries	91%	91%	92%	97%	97%
Nonfarm self-employment	59%	89%	98%	87%	90%
Farm self-emp.	67%	73%	54%	59%	61%
Property income	23% (int/div) 63% rents	N.A.	34%	43%	43% (int/div) 78% rents
Social Security	N.A.	N.A.	91%	97%	91%
Public assistance	N.A.	N.A.	65% (PA + UI)	74%	69%-77% (SSI/AFDC)
TOTAL	78%	84%	84%	89%	89%

NOTE: Unnamed income types are not shown in “Other” category as content varies so much across years.

SOURCES: 1946, 1954: Goldsmith (1958, Table 2); 1964: Budd & Radner (1975, Table 12, 3rd column); 1972: Radner (1981, Table 2); 1979: U.S. Census Bureau (1982, P60-132, Table A-2).

1960s–1970s: GOLDEN AGE

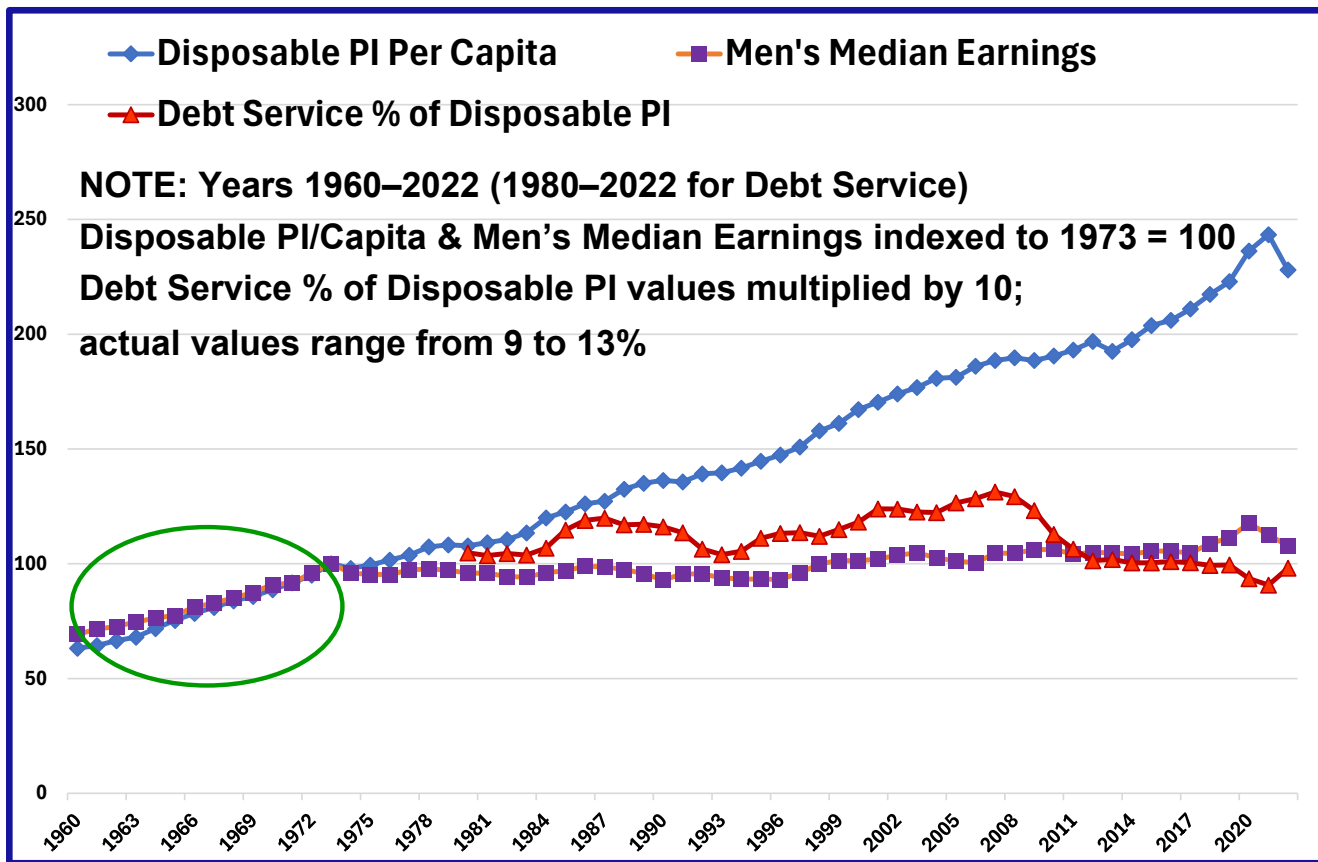
- Exploding demand—and ability—to provide data on family income and poverty
- *War on Poverty* (OEO, 1964) needed data • Orshanky poverty measure • **used CPS money income** • OFFICIAL in 1969 (OPM)
- *Benefit programs blossomed* • Food stamps permanent, 1964 • Medicaid/Medicare, 1965 • SSI, 1972 • Housing vouchers, 1974 • EITC, 1975
- *Computers* • Microdata files (first CPS income PUMS 1973) • Microsimulation models (TRIM, MATH) •
 - BEA FPI for 1964, 1972 developed using microdata (CPS income supplement, IRS, SSA) with exact & statistical matching

OMB Statistical Policy Directive No. 14

For the years 1959-1968 the statistics on poverty contained in the Census Bureau's Current Population Reports, Series P-60, No. 68, shall be used by all executive departments ... for statistical purposes. For the years 1969 and thereafter, the statistics contained in subsequent applicable reports in this series shall be used....

The poverty levels used by the Bureau of the Census were developed as rough statistical measures to record changes in the number of persons and families in poverty and their characteristics, over time. While they have relevance to a concept of poverty, **these levels were not developed for administrative use in any specific program....**

1960s: WIDELY DISTRIBUTED ECONOMIC GROWTH

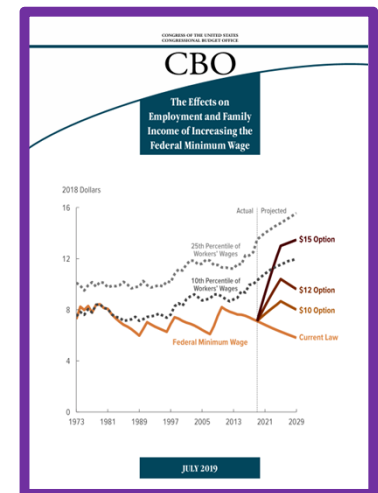
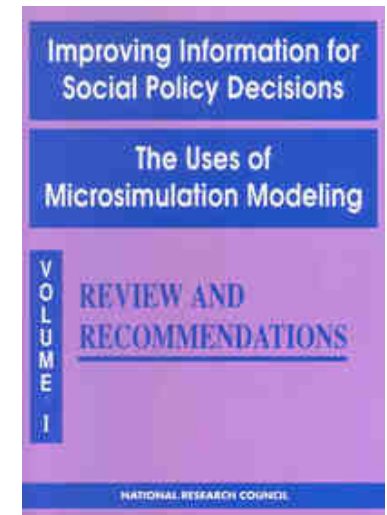


NOTES: Disposable PI (BEA) and men's median earnings (CPS ASEC) are in 2017 chained dollars • disposable PI = first quarter values • median earnings = for men ages 15+ (14+ before 1980) working full-time year-round (civilian workers only before 1989) • debt service (FRB) = mortgage + consumer debt.


SOURCES: [Real Disposable Personal Income: Per Capita \(A229RXO\) | FRED | St. Louis Fed](#); U.S. Census Bureau, Table P-38. Full-Time, Year-Round Workers by Median Earnings and Sex: 1960 to 2022; [Household Debt Service Payments as a Percent of Disposable Personal Income \(TDSP\) | FRED | St. Louis Fed](#)

1970s: MICROSIMULATION MODELS • CBO

- Ingest microdata, program rules, behavioral responses • Spit out costs, participants, gainers/losers
- Models regularly correct some types of income for under/nonreporting
- To inform 1977 Food Stamp Reform Act, Food and Nutrition Service (USDA) used MATH model • produced cost & distributional estimates for 200+ variations of proposed legislation
- Congress set up CBO in 1974 Budget Act to provide cost estimates and other analyses for every piece of legislation from a congressional committee



LATE '60s–1970s: SEARCH FOR BETTER INCOME DATA

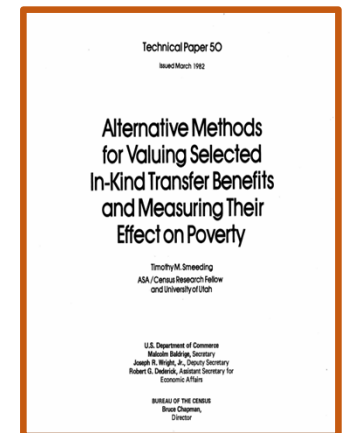
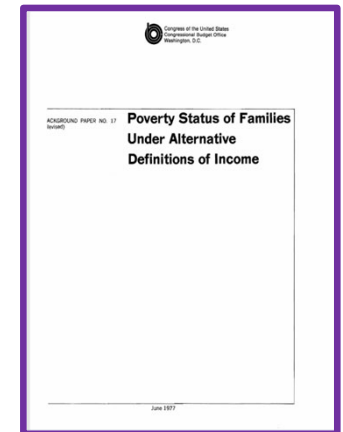
- CPS income supplement tied to main CPS • well-known problems:
 - no in-kind benefit questions until 1980
 - no assets, et al. for program eligibility
 - underreporting
 - interview family ≠ income year family
 - no part-year data
 - underrepresentation of high-income families
- Couple of stand-alone surveys:
 - 1966-67 Survey of Economic Opportunity (35K families) • led to PSID
 - 1976 Survey of Income and Education (158K families • updated Title 1 education fund allocations for disadvantaged children)
- Income Survey Development Program (ISDP) launched 1975 (ASPE/DHHS, SSA, Census Bureau)  **SIPP**

Late 1970s: ISDP • LARGE-SCALE EXPERIMENTATION

- Site Research Test • 5 cities 1977-78 • 5,500 adults from AFDC & SSI records, area frame • 1 or 2 interviews [*better data with shorter recall*]
- Nationwide 1978 Research Panel • 1978-79 • 2,350 households from area frame and SSI records • 5 waves
- Nationwide 1979 Research Panel • 1979-80 • 9,300 households from area frame & SIE • 1,000 households each from SSI & Basic Education Opportunity Grant records • 6 waves, 3 rotation groups [*better data if follow movers; household screener no help*]
- Special Frames Study • 1980 • subpopulations from 6 administrative records systems in 5 states
- In-house staff analysis • Four research centers (Mathematica, U. of Illinois, U. of Michigan, Urban Institute)

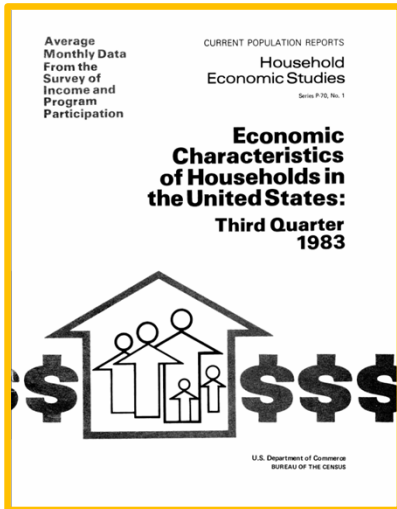
LATE 1970S: MEASURING NONCASH BENEFITS/TAX CREDITS

- Motivation • congressional interest in accounting for billions spent on noncash/tax credit programs • **BUT not in OPM or regular Census Bureau income reports**
- CBO (1977) estimated poor families with official thresholds & alternative income definitions
- Census Bureau (1980 CPS) added questions on govt. health benefits, food stamps, school lunch, housing benefits, employer benefits (plus more cash sources) • built tax model
- **Tim Smeeding** (Ph.D. dissertation, Census Research Fellow) • Technical Paper No. 50 (1982) on alternative methods for valuing in-kind benefits and effects on poverty
 - Treatment of health care benefits made a big difference (e.g., counting them at full cost made older people look richer)



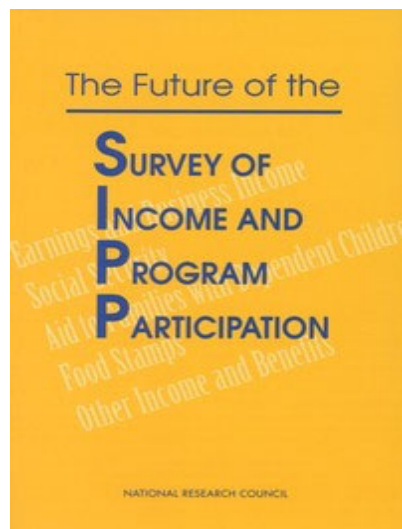
1980s: LOST DECADE FOR STATISTICS

- 1981 • ISDP analysis cut short • SIPP disavowed by SSA
- Devastating budget cuts:
 - 1980 Census long-form products delayed 2 years
 - New CPS income supplement processing system (to process big expansion of cash and noncash sources in 1980) not implemented until 1988
 - ASPE/DHHS & SSA/ORES experienced huge budget & staff cuts
 - 9 statistical agencies lost 13% budget in real terms, 1980-88
- No chief statistician, 1981-85



SIPP IS RESCUED BUT ROCKY START

- 1984 panel begins with interviews in **October 1983** • 8-9 (4-month) waves, 4 rotation groups • core plus topical modules • 21,000 eligible households • **new panel each year**
- Budget cuts necessitate cuts in sample and/or number of waves, 1984-1989, 1991 panels
- Complexity, volume of data overwhelm processing system • delays in publications, microdata files, documentation
- Nonetheless, SIPP develops committed user base • analyze part-year spells (poverty, program participation, health insurance coverage) • multiple program participation • effects of assets on reducing program eligibility • family dynamics • disability • education



1980s: DATA QUALITY • SIPP vs. CPS*

- In first decade, SIPP better than CPS (& ISDP) • especially for lower income households • slipped later
- **1984 income allocation rates** • 11% SIPP vs. 20% CPS
- **1984 panel item nonresponse rates** •
 - Income reciprocity: very low
 - Income amounts: higher but lower than CPS • e.g., 16% vs. 26% for SE income
 - Asset balances: high but lower than 1979 ISDP Research Panel • e.g., 42% vs. 62% market value of stocks/mutual funds
- **Seam problem** • respondents anchor program participation/benefits at beginning of reference period = either on or off a program for all 4 months of a wave regardless of actuality

*CPS income supplement had various names • became CPS Annual Social and Economic Supplement (CPS ASEC) in 2002

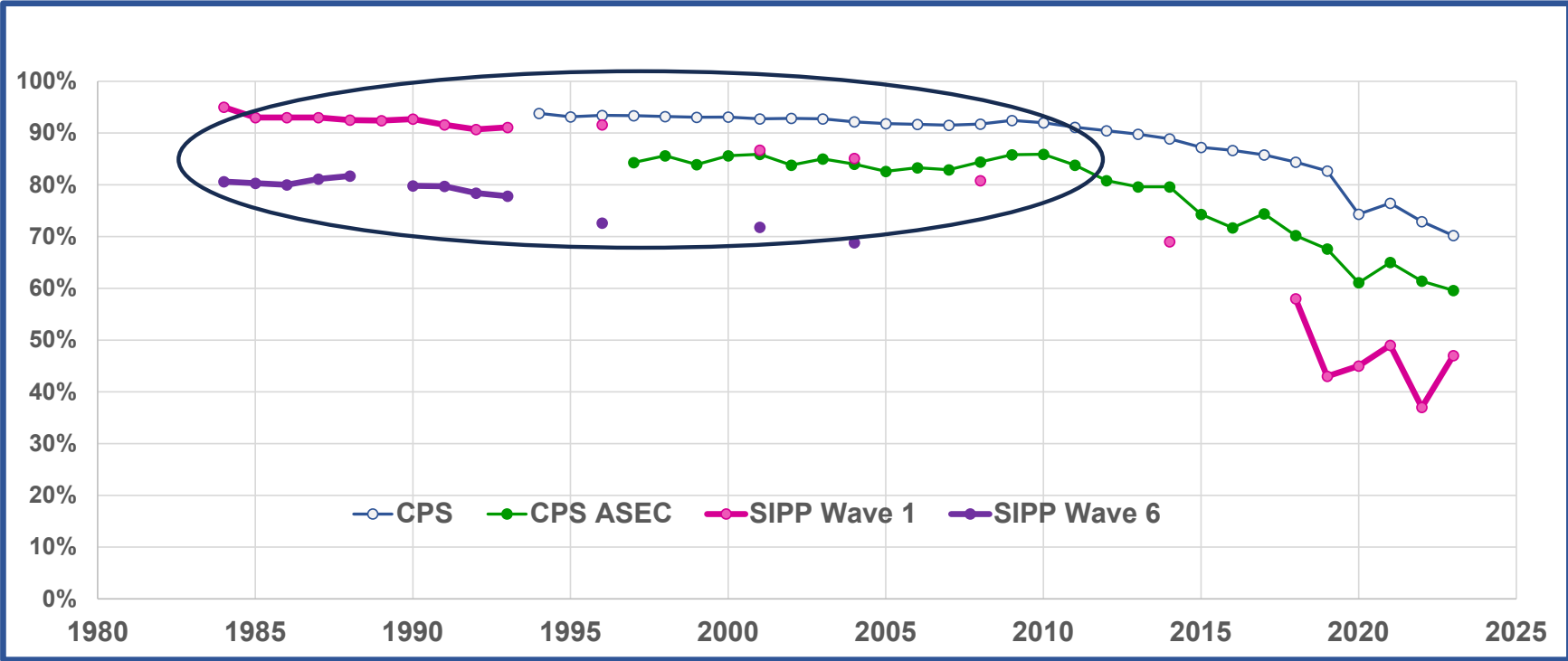
DATA QUALITY: SIPP, CPS % OF BENCHMARKS, 1984–2012

Total \$ from Income Source	1984: SIPP, CPS ASEC	1990: SIPP, CPS ASEC	1996: SIPP, CPS ASEC	2012: SIPP, CPS ASEC
Wages	91% - 97%	92% - 97%	91% - 102%	80% - 98%
Self-Employment	103% - 70%	78% - 67%	69% - 53%	65% - 32%
SSI	89% - 85%	95% - 89%	101% - 84%	124% - 89%
Social Security	96% - 92%	98% - 93%	88% - 92%	93% - 90%
AFDC	84% - 78%	70% - 72%	76% - 68%	35% - 17%
Veterans' Compensation	82% - 60%	84% - 78%	73% - 90%	64% - 68%
Unemployment Insurance	76% - 75%	84% - 80%	63% - 82%	61% - 68%
Interest	48% - 56%	53% - 61%	50% - 84%	10% - 72%
Dividends	66% - 52%	46% - 31%	51% - 59%	11% - 98%

NOTE: Estimates for the same survey & year differ somewhat among sources.

SOURCES: 1984, 1990: U.S. Census Bureau (1998, Table 10.2—from Coder and Scoon-Rogers, 1996, Table 2); 1996: **John Czajka** in National Research Council (2009, Tables A-1, A-2—from Roemer, 2000); 2012, SIPP: National Academies (2018, Table 7-1); 2012, CPS ASEC: Rothbaum (2015, Table 7).

DATA QUALITY: RESPONSE RATES, CPS, CPS ASEC, SIPP



SOURCES: CPS, CPS ASEC: Katharine Abraham & David Johnson from Census Bureau staff (earlier years not available); SIPP (Wave 1 rates): National Research Council (2009), Table 2-1; U.S. Census Bureau (2023), 2022 SIPP Users' Guide, Figure 1-2; SIPP (Wave 6 cumulative rates): National Research Council (2009), Table 2-1 (later panels not available or not comparable).

SPARSE LITERATURE ON WHO/WHY MISSING INCOME

Jeffrey Moore, Linda Stinson & Edward Welniak, Jr. (1997), *Income Measurement Error in Surveys: A Review*

- Problems evident for income measurement from comparisons/matching with admin data
 - Consistent, often large shortfalls in survey estimates vs. independent benchmarks
 - Considerable level of nonresponse
 - Bias & random error in individual respondents' reports of both income sources and amounts (wages and salaries reasonably okay; many other sources not)
- Cognitive literature suggests that “field is a long way from having final and definitive information on how respondents understand ... and form answers to income questions”
 - Many possible contributors to inaccurate reporting: lack of knowledge, misunderstanding, other definitional issues, recall problems, confusion, sensitivity
 - “[A]sking respondents to report their income is taxing ... although no single cognitive issue seems predominant.... [D]aunting ... that so many problems must be solved in order to significantly improve measurement quality....”

1990s: EXPERIMENTS TO IMPROVE SIPP INCOME DATA

- **Record Check Experiment** (Marquis & Moore, 1990) • 1st two SIPP waves matched with records for four states for Social Security, SSI, federal pensions, AFDC, Food Stamps, veterans' benefits, unemployment insurance, workers' compensation • serious reporting errors: e.g., 25-40% true program participation months *not* reported
- **Cognitive Research Evaluation Experiment** (Moore, Marquis & Bogen, 1996) • follow-up designed to see if getting respondents to use their own records would help
 - Placed highest priority on accuracy even if increased costs or decreased response rate • emphasized in interviewer training, supervision, questionnaire design, et al.
 - Could only afford small pretests (e.g., 100 addresses)
 - Had to use “kitchen-sink” approach rather than testing one or two changes at a time
 - 810 cases each experimental and control groups; hoped for 350 interviews ditto • cases drawn from AFDC, SSI, UI, food stamps, employers (so could match responses to records)
 - 2 waves of interviewing (May 1992–March 1993)

1990s SIPP EXPERIMENT: OPERATIONAL RESULTS

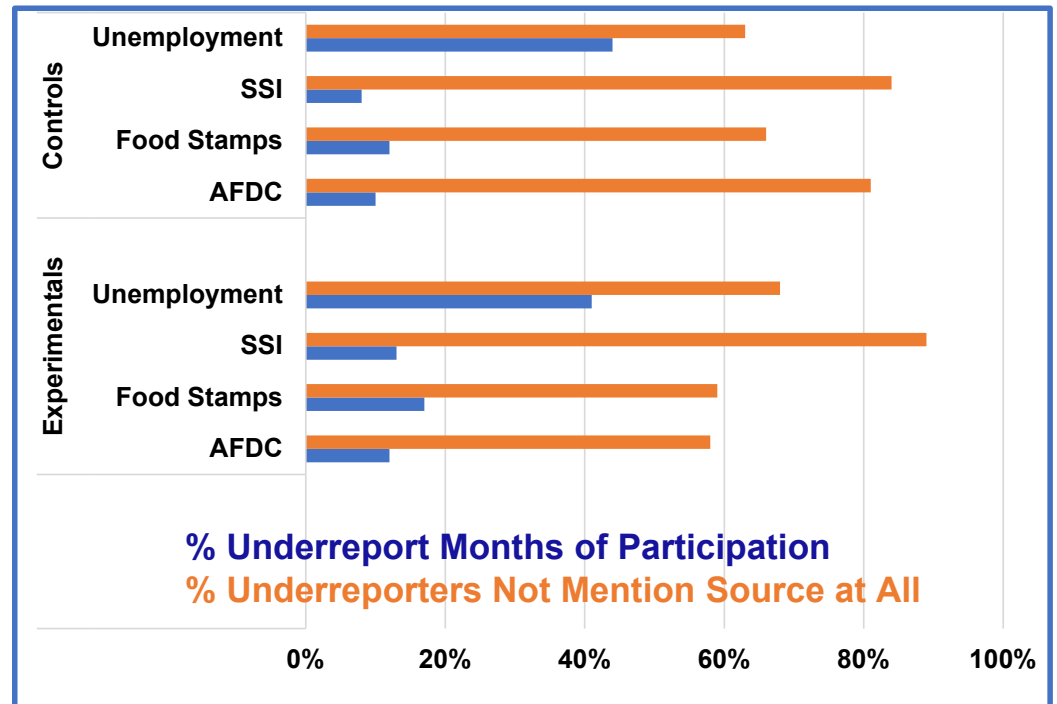
Attribute/ Group/Wave	Experimental Group		Control Group	
	Wave 1	Wave 2	Wave 1	Wave 2
Used Records	71-74%	84-87%	25%	22%
Sample Loss	N.A.	27%	N.A.	8%
Costs/Case	\$51	\$49	\$24	\$18

- Conclusion: Experiment successfully got respondents to use records • BUT could not cost-benefit justify new approach
- Why?? • experimental interviews 1.5 hours vs. 1 hour for controls • experimental cases required more visits to initiate and complete (confounded with inexperience of experimental case interviewers)

1990s SIPP EXPERIMENT: QUALITY RESULTS

- Records helped greatly with accuracy of reporting (esp. Wave 2) for an income source IF reported in the first place • did NOT help with failure to report a source (imputation can't help) • did not help with seam bias
- Failure to report presumably a combination of forgetting versus unwillingness to report

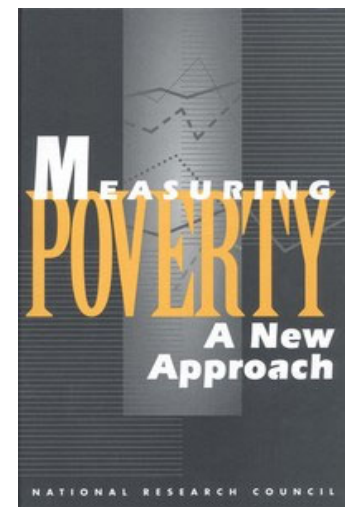
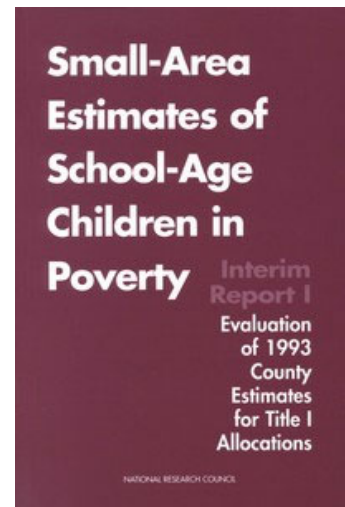
Experimental Effects on Reporting of Program Participation



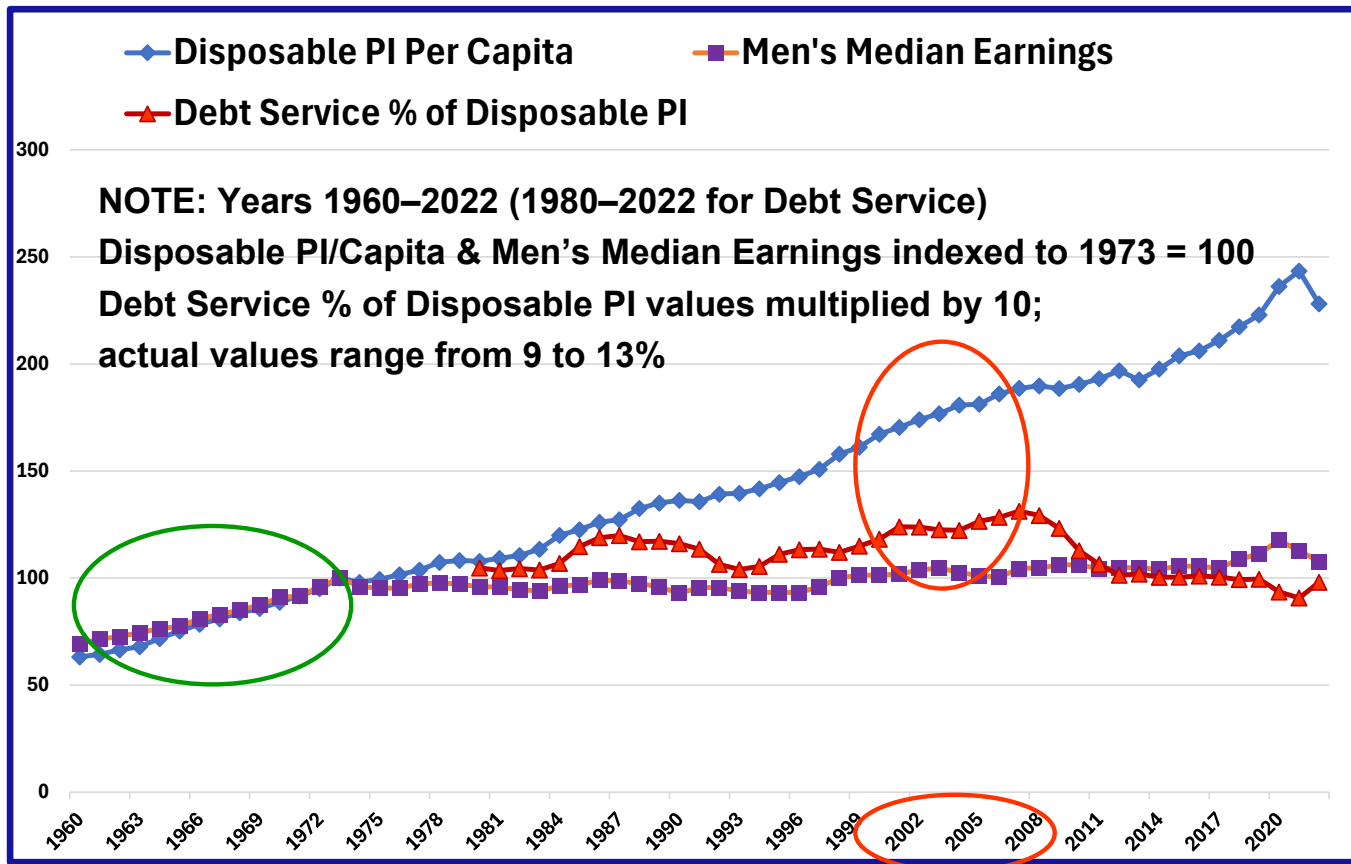
SOURCE: Moore et al. (1996), Tables 11, 13.

1990s: FOUR INITIATIVES

- Two from Congress (**Terri Ann Lowenthal, Rep. Tom Sawyer**):
 - 1994 • Small Area Income and Poverty Estimates (SAIPE) Program for annual Title I fund allocations • hierarchical Bayes (**Fay/Herriot**) (Graham Kalton chaired CNSTAT study)
 - 1995 • *Measuring Poverty: A New Approach* • **Lowenthal, Sawyer + Pat Ruggles** (Robert Michael chaired CNSTAT study) • BLS & Census Bureau produce experimental estimates
- Two from the Census Bureau:
 - 1996 • Conclusion that SIPP trying to do too much • redesigned as abutting panels = 4-month waves over 4 years • **Dan Weinberg**
 - Developmental work for the American Community Survey • idea spelled out in 1980s • last long form on 2000 census • **Chip Alexander, Roger Herriot**



LEAD UP TO GREAT RECESSION: SHIPS PASSING IN THE NIGHT



NOTES: Disposable PI (BEA) and men's median earnings (CPS ASEC) are in 2017 chained dollars • disposable PI = first quarter values • median earnings = for men ages 15+ (14+ before 1980) working full-time year-round (civilian workers only before 1989) • debt service (FRB) = mortgage + consumer debt.

SOURCES: [Real Disposable Personal Income: Per Capita \(A229RXO\) | FRED | St. Louis Fed](#); U.S. Census Bureau, Table P-38. Full-Time, Year-Round Workers by Median Earnings and Sex: 1960 to 2022; [Household Debt Service Payments as a Percent of Disposable Personal Income \(TDSP\) | FRED | St. Louis Fed](#)

2000–2008: WHAT DATA DID/COULD PEOPLE LOOK AT?

ADMIN RECORDS-BASED SERIES

▪ **BEA Personal Income**

- Nation, states, regions, components (e.g., Medicare, Medicaid, employer benefits)
- BUT no distributional estimates for households or even aggregate Family Personal Income/Family Money Income to compare to survey estimates (last available for 1972)

▪ **BLS Employment Cost Index (ECI)**

- Series begun in 1970s • change in hourly labor costs (wages + benefits) to employers
- BUT some interpreted as worker economic well-being in terms of current income
- Index rose 4.9% in real terms from March 2001 to March 2008 • BUT wage component rose just 1.4% • benefits rose 13.8% (health care cost increases)

SOURCE: [Tables : U.S. Bureau of Labor Statistics \(bls.gov\)](#); Non-Seasonal Current and Constant Dollar Data ([XLSX](#)) 2001 – Present

2000–2008: WHAT DATA DID/COULD PEOPLE LOOK AT? - 2

SURVEYS

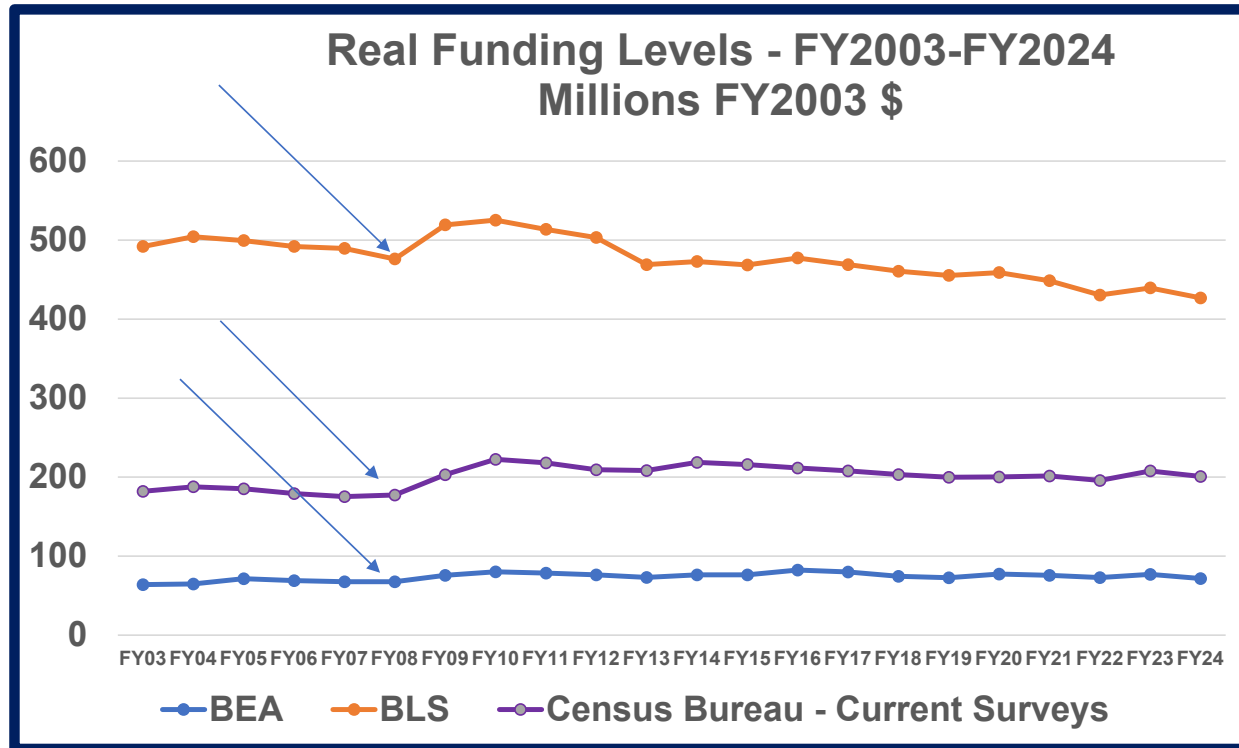
- CPS ASEC • wages & Social Security \$\$\$ pretty good • other sources problematic
- SIPP • losing ground on quality, timely data release
 - On chopping block in 2006 re budget shortfalls • **Heather Boushey** organizes users, Congress funds • another redesign in 2014 (yet another redesign recently)
- SCF • better on assets & debts than SIPP • pretty good on income, too
 - But small sample (~6,000 hhlds.); every 3 years; more \$\$\$ per case
- ACS • just under way (2005) • limited income detail
- SAIPE • (limited) estimates more robust • predict ACS school-age poverty
- CE • BLS begins 2004 to impute missing income amounts

2000–2008: WHAT DATA DID/COULD PEOPLE LOOK AT? - 3

ESTIMATES

- Census Bureau produces **alternative household income estimates**
 - 1979–2003: as many as 18 definitions (e.g., money income + realized capital gains)
 - 2005: 4 definitions (money income, market income, post-social insurance income, disposable income)
- Census Bureau produces **experimental poverty estimates (David Johnson, Thesia Garner, Kathy Short)**
 - Alternatives for 1995 *Measuring Poverty* recommendations (e.g., with/without geographic adjustment for housing costs)
 - First report (1999): 1990–1997 estimates • subsequent reports: 1999, 2001, 2003 estimates
 - CNSTAT holds workshop in 2004 to identify agreement/disagreement with *Measuring Poverty* (**Rebecca Blank**, chair)
- NO move toward agreement on one or handful of definitions for income or poverty

2000–2008: WHAT RESOURCES DID AGENCIES HAVE?

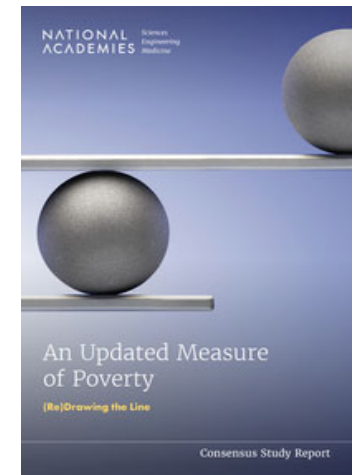


NOTE: Adjusted with GDP Deflator
 SOURCE: Pierson, S., Schwartz, E., & Auerbach, J. (2024). *Federal Statistical Agencies Budgets Since FY 2000*. Google spreadsheet.
https://docs.google.com/spreadsheets/d/1_xt8oI2neZyTwaZvtyQOtujzuHnjemZPwPuYVsEELro/edit#gid=131887528

AFTER THE CRASH: PHOENIX RISING

SUPPLEMENTAL POVERTY MEASURE (SPM)

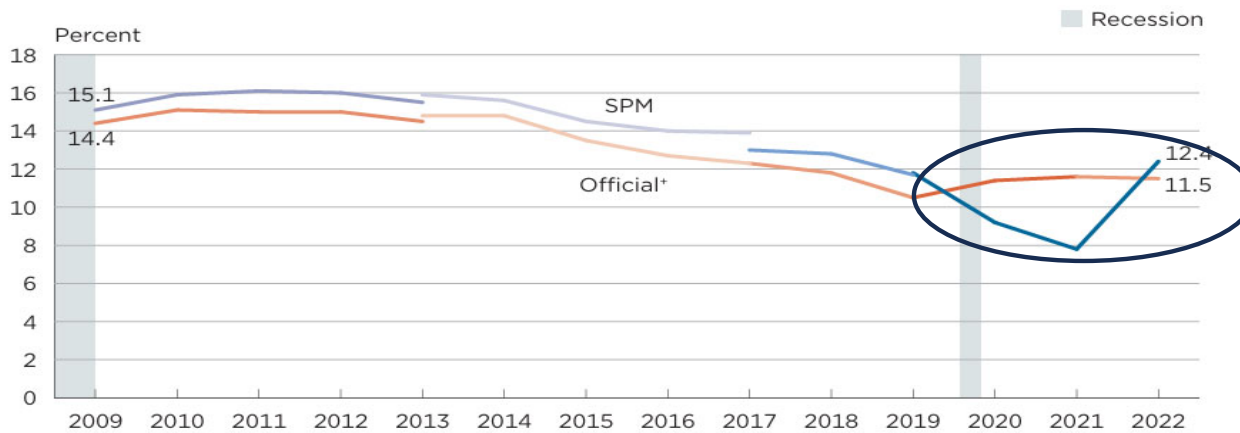
- NYC (**Mark Levitan**) out front in 2008 with poverty measure using ACS, NYC administrative records, and 1995 report
- **Becky Blank** pushes SPM at 2007 APPAM Conference
- Interagency Technical Working Group (ITWG) (co-chaired by Blank & **Katherine Wallman**, David Johnson a member) issues “guidelines” in 2010 to Census Bureau and BLS to produce SPM
- SPM first published in 2011
 - Separate report after OPM report • now in same report
 - Intended to be updated/revised as needed
 - 2023 CNSTAT report (Jim Ziliak, chair) recommends SPM as Principal Poverty Measure



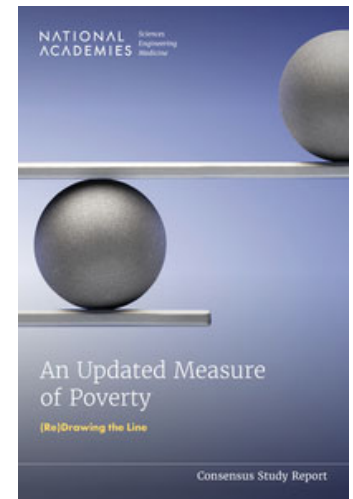
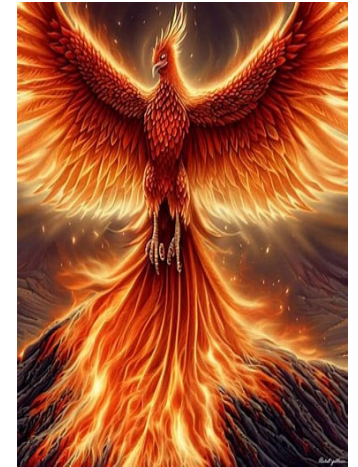
AFTER THE CRASH: PHOENIX RISING

SPM: WHY IT MATTERS

Figure 6.
Poverty Rates Using the Official* and Supplemental Poverty Measures: 2009 to 2022



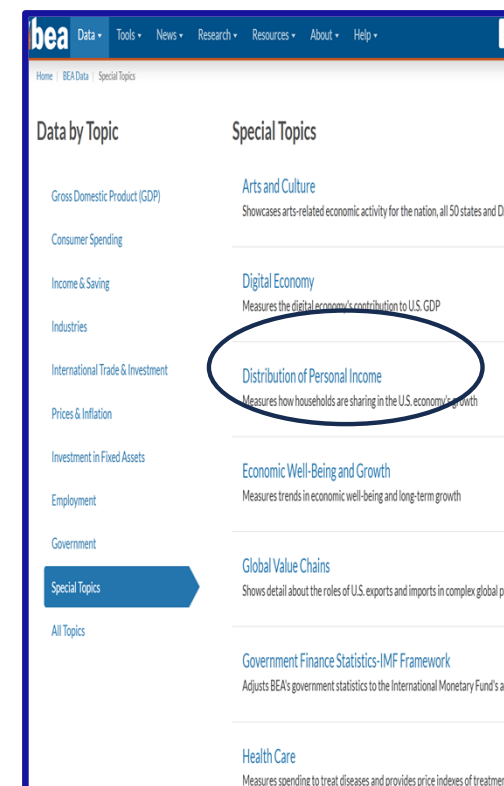
Note: Official* includes unrelated individuals under the age of 15. Population as of March of the following year. The Supplemental Poverty Measure (SPM) estimates for 2019 and beyond reflect the implementation of revised SPM methodology. More information is provided in the SPM technical documentation available at https://www2.census.gov/programs-surveys/supplemental-poverty-measure/datasets/spm/spm_techdoc.pdf. The data for 2017 and beyond reflect the implementation of an updated processing system. The data for 2013 and beyond reflect the implementation of the redesigned income questions. The data points are placed at the midpoints of the respective years. Information on recessions is available in Appendix C. More information on confidentiality protection, sampling error, nonsampling error, and definitions is available at <https://www2.census.gov/programs-surveys/cps/techdocs/cpsmar23.pdf>.
Source: U.S. Census Bureau, Current Population Survey, 2010 to 2023 Annual Social and Economic Supplements (CPS ASEC).



AFTER THE CRASH: PHOENIX RISING

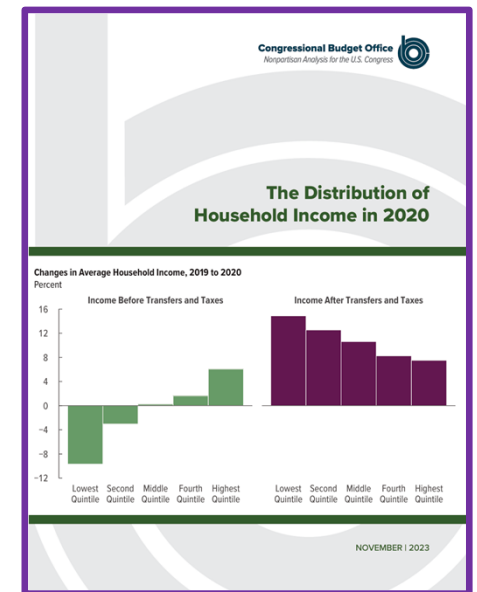
BEA REINTRODUCES HOUSEHOLD PERSONAL INCOME

- **Dennis Fixler & David Johnson** (2012) • For 1999–2010, made PI comparable to money income • used adjusted aggregate PI to adjust CPS ASEC distribution = higher mean & median income (fixed underreporting) and larger increase in inequality
- **Congress** pushes for household distributions of BEA aggregates
- BEA releases “prototype” household PI estimates in March 2020 for 2007–2016 (**Marina Gindelsky** key staffer) • allocated to CPS ASEC microdata records • available back to 2000 • released December for year $t-2$ and provisionally for year $t-1$
 - Added: household disposable PI distribution 2020 • internationally comparable (OECD) distributions 2022 • state PI distributions October 2023 • personal saving distributions July 2024 (with BLS)
 - Still under “**Special Topics**” on BEA web site



AFTER THE CRASH: PHOENIX RISING

- **2011—CBO** begins regular publication of household income distributions for 1979—year $t-2$ • includes health/other in-kind benefits, realized capital gains • match of tax records with CPS ASEC • corrects for Medicaid, SNAP, SSI underreporting
- **2019—FRB** begins quarterly (1-quarter lag) distributional financial accounts (DFAs) • back to 3rd quarter 1989 • combine SCF/Financial Accounts for SCF primary economic units
- **2022–2024**
 - **BLS** begins publication of CE-based consumer unit distribution of **BEA** Personal Consumption Expenditures (PCE) • available for 2017–2022
 - **BLS** issues preliminary CE-based consumer unit distributions of **consumption** for 2019–2021
 - **BEA & BLS** issue CPS ASEC-based household distribution of personal saving for 2004–2022 • from joint distribution of disposable PI and PCE
 - **Thesia Garner** key staff person



AFTER THE CRASH: PHOENIX RISING

CENSUS BUREAU STARTS TO DEVELOP IMPROVED HOUSEHOLD INCOME DATA

- **2018 • Bruce Meyer** (with Census Bureau) begins to develop Comprehensive Income Dataset (CID) • linking surveys (CPS ASEC, SIPP, ACS, et al.) with federal/state records
- **2019 • Adam Bee & Jonathan Rothbaum** (Census Bureau) paper on ideas to use admin records to **improve** (not just evaluate) CPS ASEC
- **Historical notes**
 - **1988 • Roger Herriot/John Coder** (Census Bureau) • had plan to integrate SIPP, CPS ASEC, admin records • began with IRS earnings for married couples • too heavy a lift



When SIPP threatened in **2006**, **David Johnson** used Phoenix metaphor for an idea to use CPS ASEC, administrative records, & follow-up surveys to replace SIPP with DEWS (Dynamics of Economic Well-being System)

AFTER THE CRASH: PHOENIX RISING

- **2023 • National Economic Wellbeing Statistics (NEWS) • 1st release for 2018 • CPS ASEC money income • Bee, Mitchell, Mittag, Rothbaum, Sanders, Schmidt, Unrath**
 - Improved weights to address nonresponse bias
 - Improved imputation for missing income information in both survey and administrative data
 - Combined or replaced survey responses with admin info to address misreporting
 - Used multiple data sources, models (CNSTAT report, 2023, Sharon Lohr, chair, recommended)

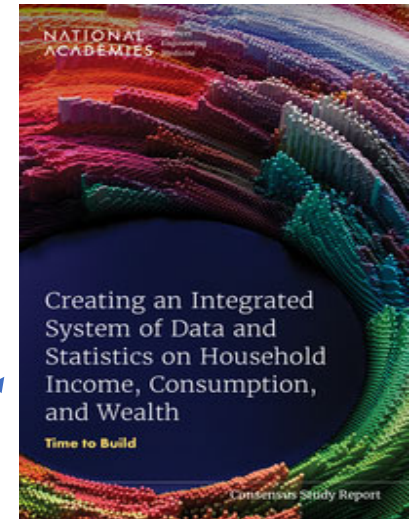
WHY IT MATTERS

- Median household income: Total ↑ 6%; people 65+ ↑ 27%



WHERE DO WE GO NEXT?

- **BEA, BLS, CENSUS BUREAU, FRB** initiatives for improved income (and consumption and wealth) series are **BIG DEAL** • Applaud hard-working staff on each (also **SOI/IRS** on expanding/improving tax return data series)
- **BUT** long way to go to make all these series relevant and timely • **NEWS** has heavy lift to move from research to production, be timely, and generate high-quality before- and after-tax and transfer income (including in-kind benefits)
- **ALSO**, various series **not coherent** • differ in concepts, operational definitions, measurement, tabulation categories, timeliness (see CNSTAT 2024 report, Tim Smeeding, chair)
- Fine to have different definitions (assuming they make sense) for different purposes • **BUT** users need transparent explanations, comparisons in **ONE** place (see also CNSTAT 2022 report, Dan Kasprzyk, chair)



WHAT DO THESE INITIATIVES NEED? (Agencies, OMB)

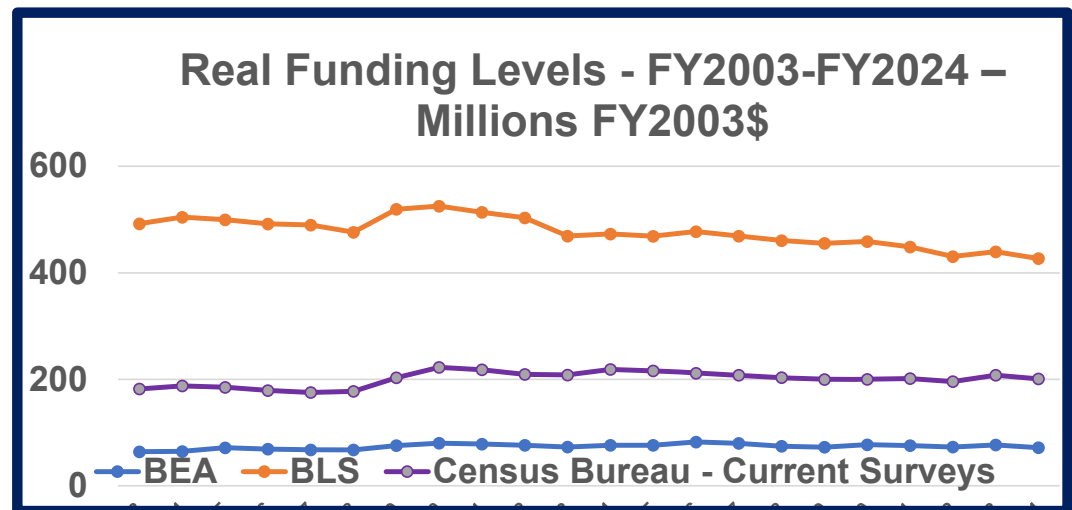
- **PRIORITY** by agency/department leadership/OMB • income, poverty, other bedrock series on household economic well-being need to be “statistical product first” • best (blended) data rather than continued production of single-source data series regardless of flaws in accuracy and/or relevance
- **COHERENCE (TRANSPARENCY)** • set up interagency working group to thrash things out like consistent cross-tabulation categories • issue report explaining differences (CNSTAT 2024 report recommendation)
 - **BEA COULD HELP** • produce comparable series to whatever definition CPS ASEC is using by income component so Census Bureau can evaluate CPS ASEC reporting without making adjustments from scratch
 - Similarly, once NEWS is operational, microsimulation models/CBO et al. should not have to do their own underreporting adjustments

WHAT DO THESE INITIATIVES NEED? (Congress/Administration)

- **RESOURCES** • problem • agencies got bump up after Great Recession but downhill or at best holding steady since • need coordinated education of Congress
- **READIER ACCESS** to federal/state administrative records • Congress amend Evidence Act



ASA-GMU Project • Sloan Funded • Recommendations to Congress, parent agencies, statistical Agencies, OMB • July 2024

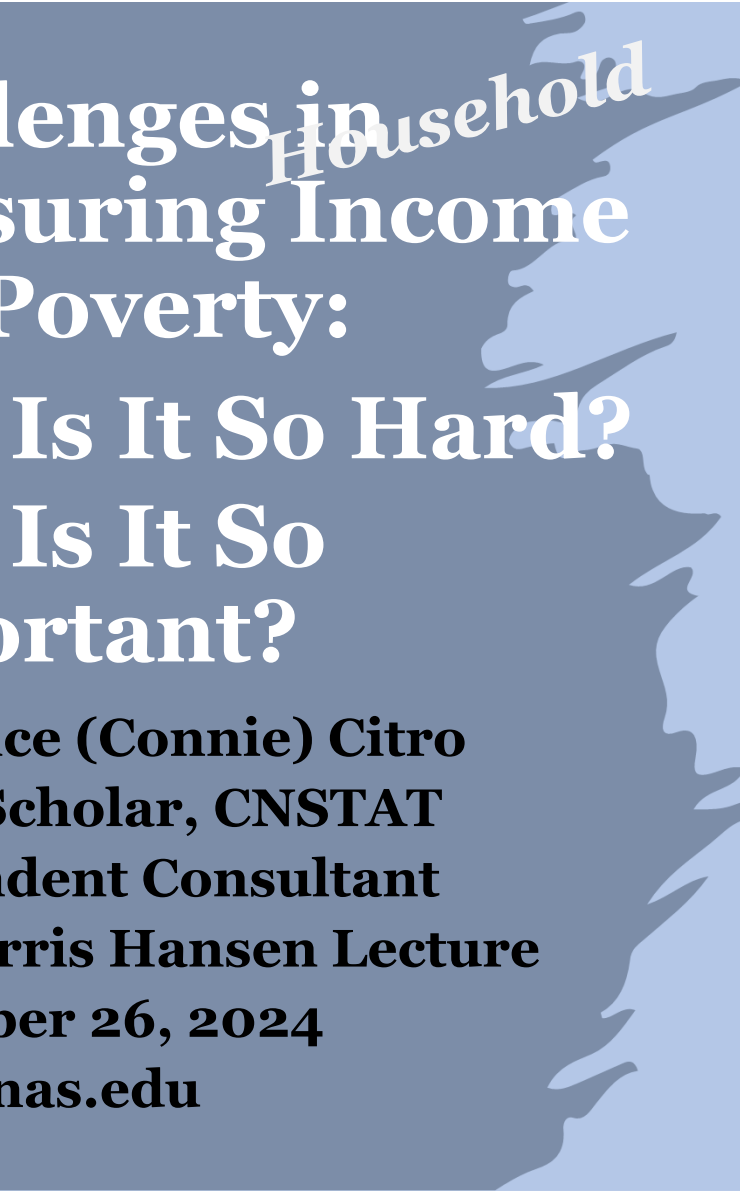


SUMMING UP AT 2024

- 100-year journey has ups & downs • throughout efforts to improve household (distributional) income & poverty data = essential for policy/public understanding (aggregates alone don't cut it)
- Even at low points, individuals pushed forward (some ahead of their time)
- Solution necessitated blended data approach & complementary efforts across agencies
- Further requires agency/OMB priority plus external support (\$\$\$, expanded data sharing)
- Undoubtedly stories in other areas (e.g., education & employment)

FIND OUT YOUR STORY • PUSH FOR AGENCY/OMB

PRIORITY/ADOPTION OF “STATISTICAL PRODUCT FIRST”



Challenges in Measuring Income and Poverty: Why Is It So Hard? Why Is It So Important?

Constance (Connie) Citro
Senior Scholar, CNSTAT
Independent Consultant
32nd Morris Hansen Lecture
September 26, 2024
ccitro@nas.edu

Labor of love to prepare this lecture • My thanks to agencies and CNSTAT reports for historical documents/material

My thanks to Hansen Lecture Committee, discussants, everyone who did and does utmost to produce & evaluate household income & poverty statistics for public good

My plaudits to **all** statistical agency staff who push forward against strong headwinds (resource constraints, falling response rates, data access and cross-agency collaboration barriers) to serve users

You stand on shoulders of giants and will be giants for the next generation • Morris Hansen would be the first to cheer you on

THANK YOU