Consumption and Comprehensive Income Poverty

Federal Economic Statistics Advisory Committee
June 14, 2019

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Based on work with Adam Bee, Pablo Celhay, Carla Medalia, Nikolas Mittag, Victoria Mooers, James X. Sullivan, Derek Wu and others

Research on Poverty Measurement

- Strong commitment to good measurement
  - More than three plus decades of research at the Census Bureau
  - Much of research on the Supplemental Poverty Measure (SPM) done in cooperation with the BLS
- Official Poverty Measure (OPM) since 1969
  - Statistical agencies and research community have long recognized drawbacks in OPM
  - The SPM was developed in the early to mid 1990s
  - Declining data quality may mean SPM identifies less deprived population than OPM
  - Other solutions increasingly feasible

Emphasis on Resources not Thresholds

Goals of a Statistical Poverty Measure

- What questions do we want to answer (NAS 1995)?
- Q1. Who is poor at a point in time?
- Q2. How has poverty changed over time?
- Q3. What is the effect of policy on poverty?

Q1. Who is Poor at a Point in Time?

- Do individuals classified as poor show other signs of material disadvantage?
  - Compare SPM to OPM
  - Compare consumption-based measure to OPM
- We find the SPM identifies a less deprived population than the OPM, which in turn identifies a less deprived population than consumption poverty
  - OPM v. SPM comparison found in three datasets
  - Consumption v. Income found in two datasets
  - Found at various cutoffs

Table 2: Mean Characteristics of the Official and SPM Poor by Poverty Status, CE

	SPM Poor Only	Official Poor Only	+ Favors SPM
Consumption	$ 37,030	$ 25,799	-
Any health insurance	68%	65%	-
Private health insurance	55%	20%	-
Homeowner	55%	36%	-
Own a car	89%	78%	-
Family size	3.205	4.268	-
# of rooms	6.92	5.57	-
# of Bedrooms	3.31	2.76	-
# of Bathrooms	1.94	1.48	-
Appliances and Amenities			
Dishwasher	57%	42%	-
Any Air Conditioning	82%	77%	-
Central Air Conditioning	58%	51%	-
Washer	82%	70%	-
Dryer	79%	62%	-
Head is a College Graduate	14%	7%	-
Total Financial Assets			
75th Percentile	$ 3,000	$ 200	-
90th Percentile	$ 20,000	$ 1,400	-
Share of people	3%	3%	

Source: Meyer and Sullivan JEP (2012)

Total:
0 of 25
(only a
subset
reported)

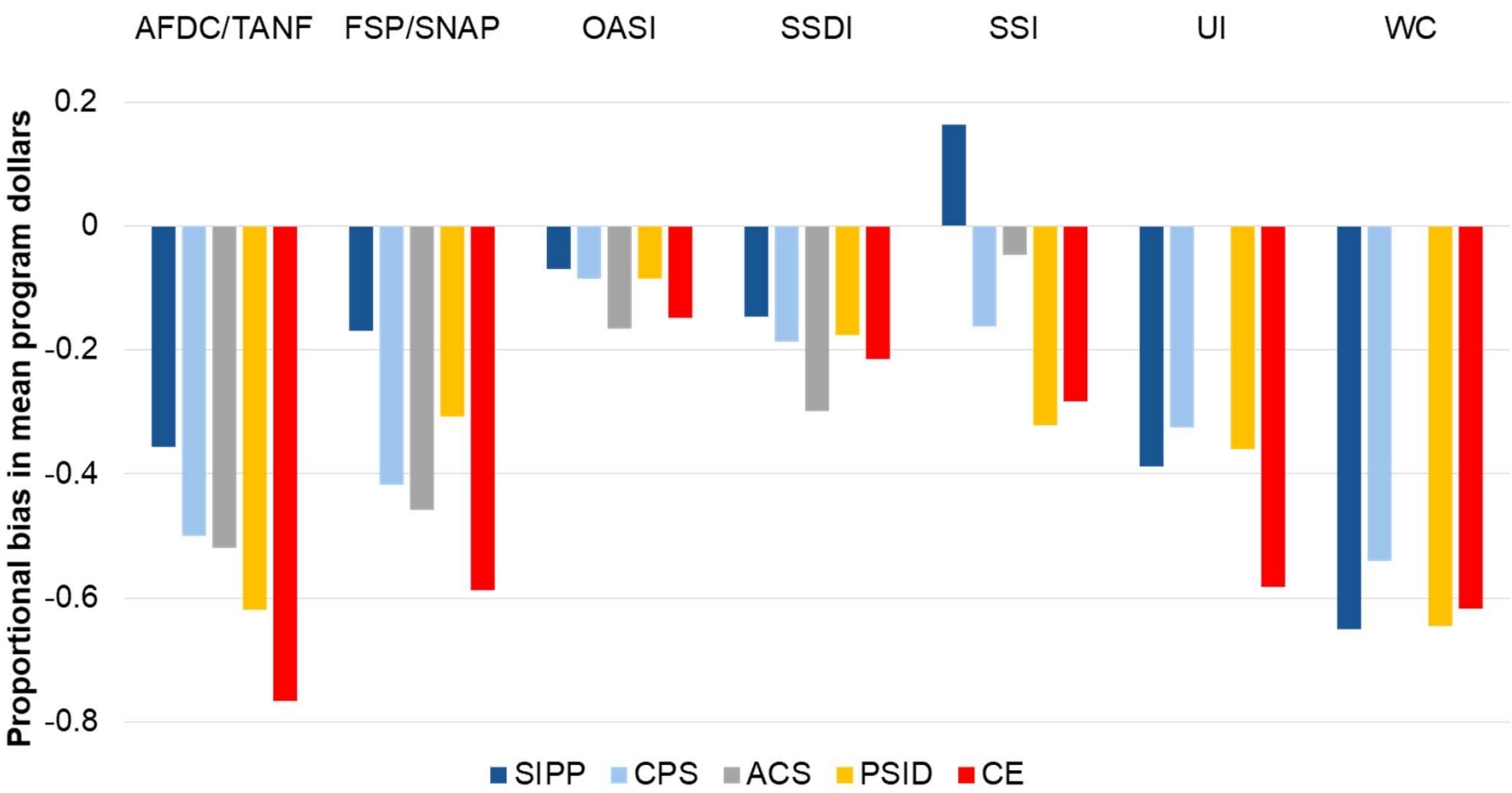
Table 3: Means, Official and Consumption Poor by Poverty Status, CE Survey, 2010

	Consumption Poor Only	Official Poor Only	+ Favors Consumption
Consumption	$ 18,956	$ 36,959	
Any health insurance	55%	65%	+
Private health insurance	35%	34%	-
Homeowner	45%	48%	+
Own a car	83%	80%	-
Family size	4.696	3.103	+
# of rooms	5.09	7.04	+
# of Bedrooms	2.58	3.41	+
# of Bathrooms	1.36	1.96	+
Appliances and Amenities			
Dishwasher	40%	50%	+
Any Air Conditioning	73%	77%	+
Central Air Conditioning	48%	53%	+
Washer	77%	75%	-
Dryer	68%	72%	+
Head is a College Graduate	10%	13%	+
Total Financial Assets			
75th Percentile	$ 800	$ 700	-
90th Percentile	$ 3,600	$ 4,200	+
Share of people	8%	8%	

Total: 21 of 25 (only a subset reported)

Source: Meyer and Sullivan JEP (2012)

Surveys Understate Income from Government Programs



Source: Meyer, Mok, and Sullivan (2015), by program and survey, 2000-2012

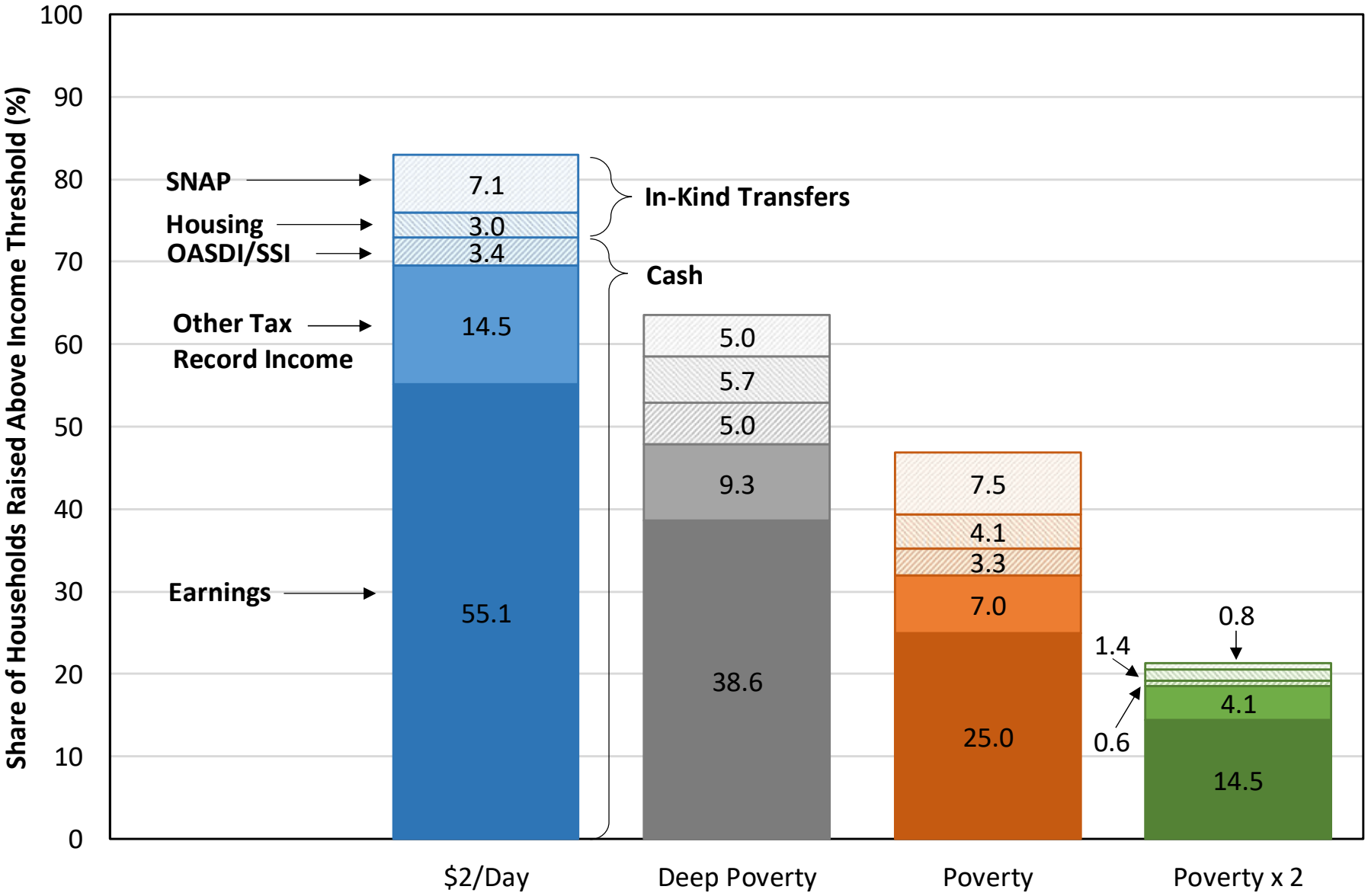
Misreporting in other sources

- Earnings (Abraham et al. 2013; Collins et al. 2019)
- Pensions (Bee and Mitchell 2018)
- Medicaid coverage, etc. (Davern et al. 2007; Pascale et al. 2007; Call et al. 2013)

Why SPM doesn't capture economic deprivation

- Many identified as poor by SPM (and OPM) have incomes in admin data above poverty line
- The SPM excludes from poverty many needy in-kind benefit recipients, but includes badly misclassified members of the middle class
  - Especially stark for extreme and deep poverty

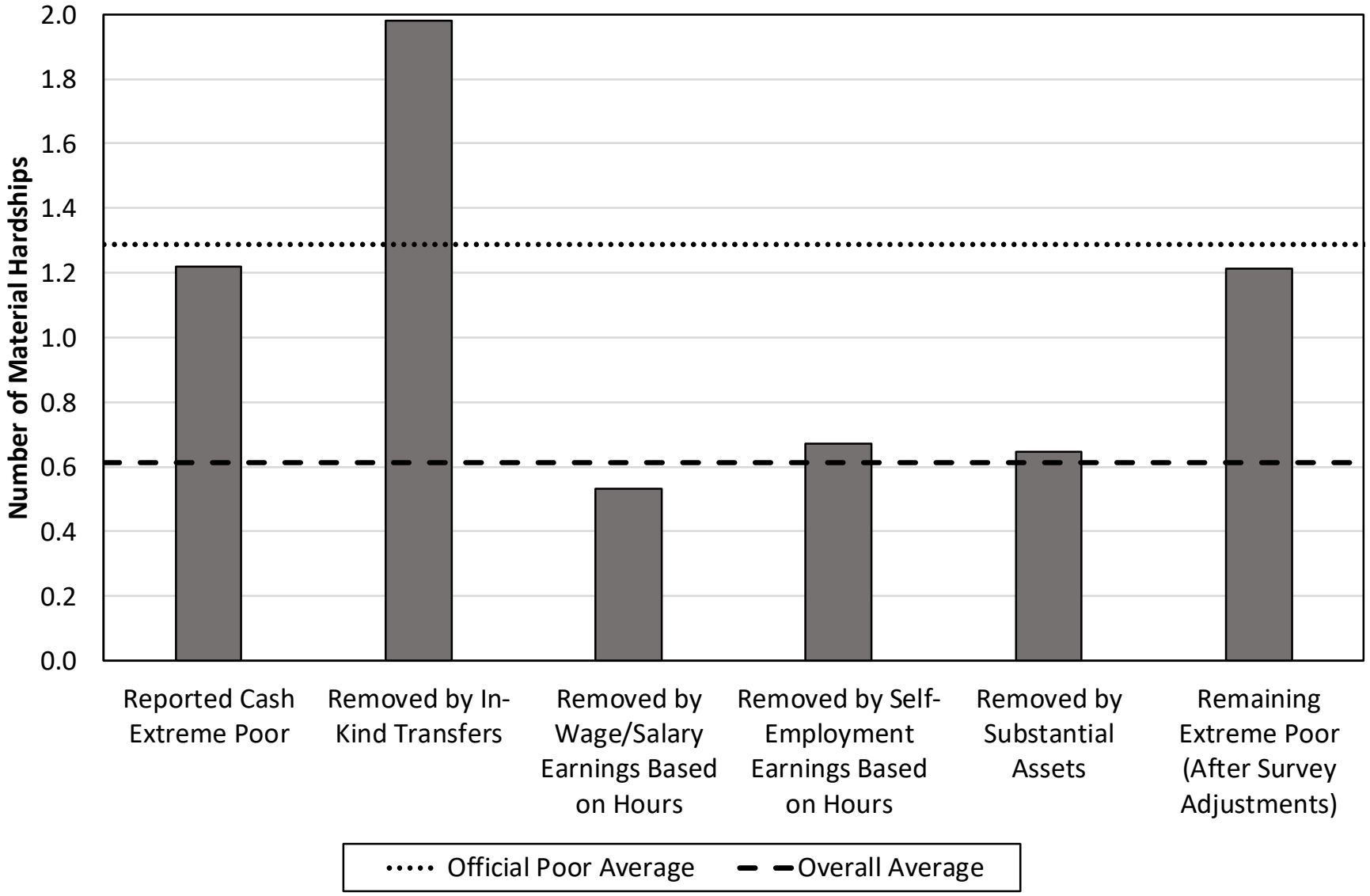
Share of Reported Cash Extreme Poor Households Raised Above Income Thresholds by Administrative Data



Source: Meyer, Wu, Mooers and Medalia (2019)

Mean Number of Material Hardships of Extreme Poor Subgroups

2011 SIPP (Wave 9 of 2008 Panel), Survey Data Only



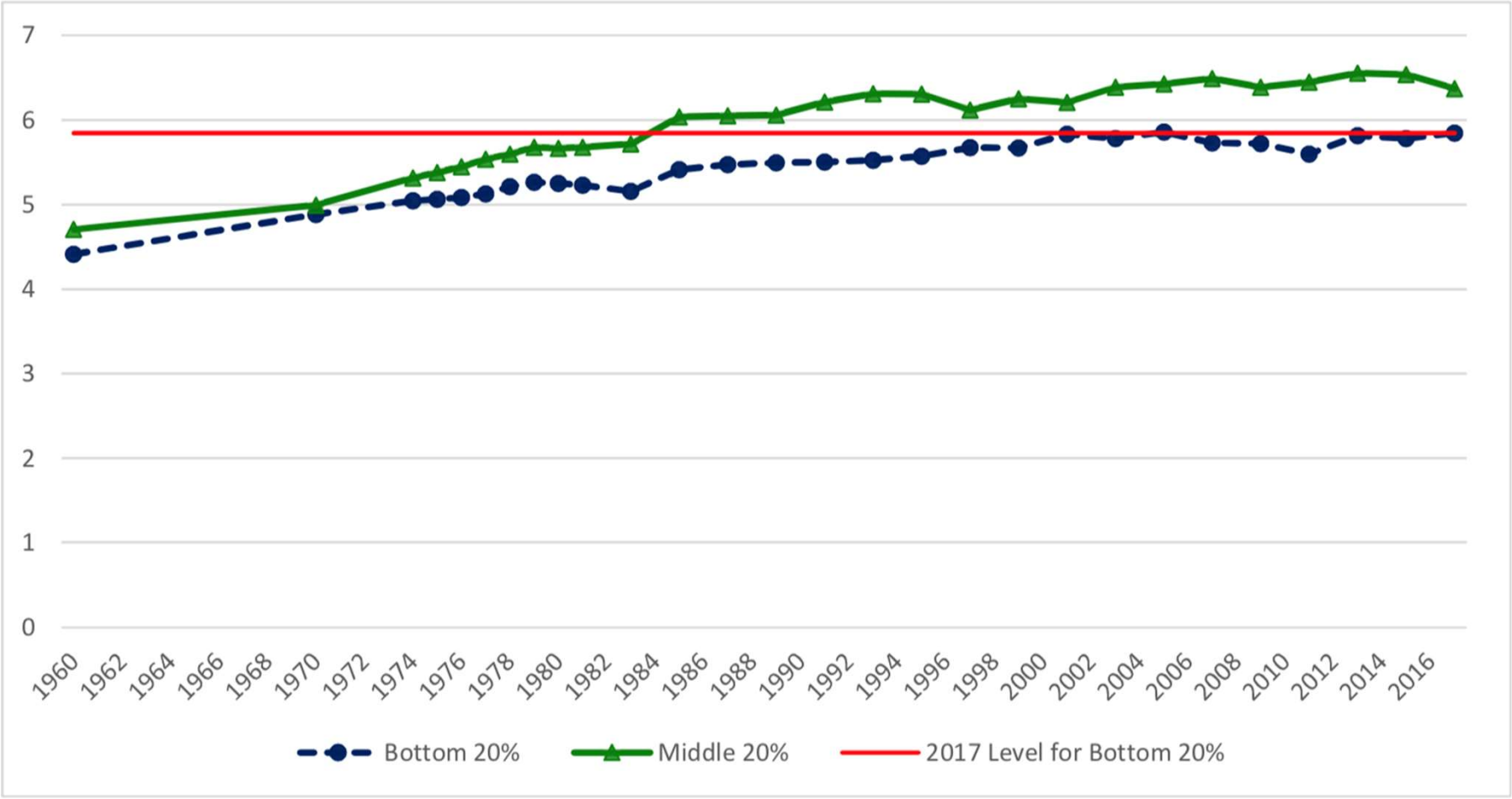
Source: Meyer, Wu, Mooers and Medalia (2019)

Q2. How Has Poverty Changed Over Time?

- What are clear observable living standards for those at the bottom relative to in the past?
- Housing is by far a typical household's largest expenditure. How has the housing of those at the bottom changed?

Material Life Has Improved

Figure 3: Mean Number of Rooms in Housing Unit, Adjusted for Household Size, 1960-2017, Decennial Census (1960-1970), and American Housing Survey (1974-2017)



Source: Meyer and Sullivan (2019)

Figure 14: Proportion of Units that have peeling paint over 1 square foot, 1975-2017, American Housing Survey

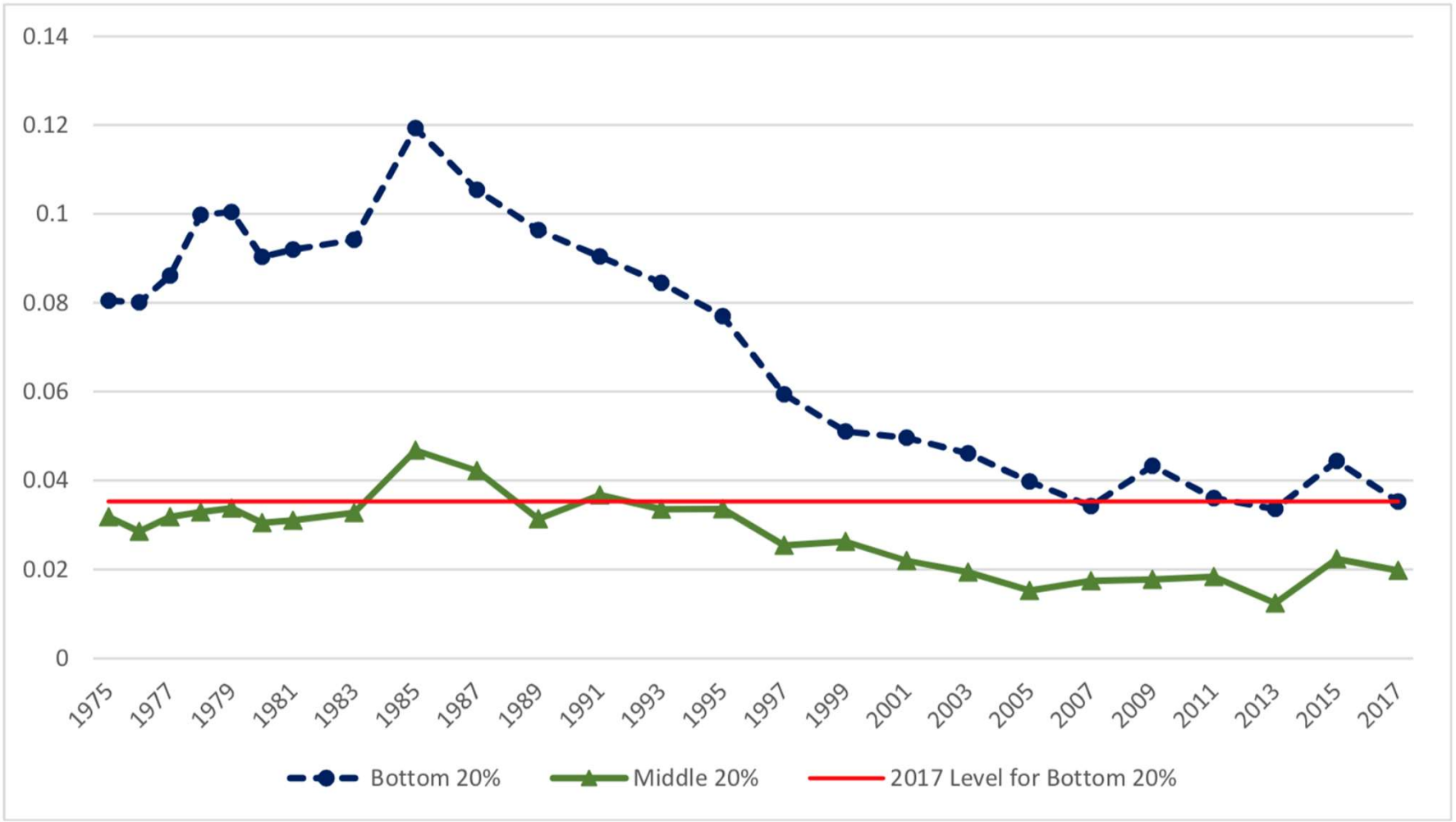


Figure 9: Proportion of Housing Units with Central Air Conditioning, 1960-2017, Decennial Census (1960-1970), and American Housing Survey (1974-2017)

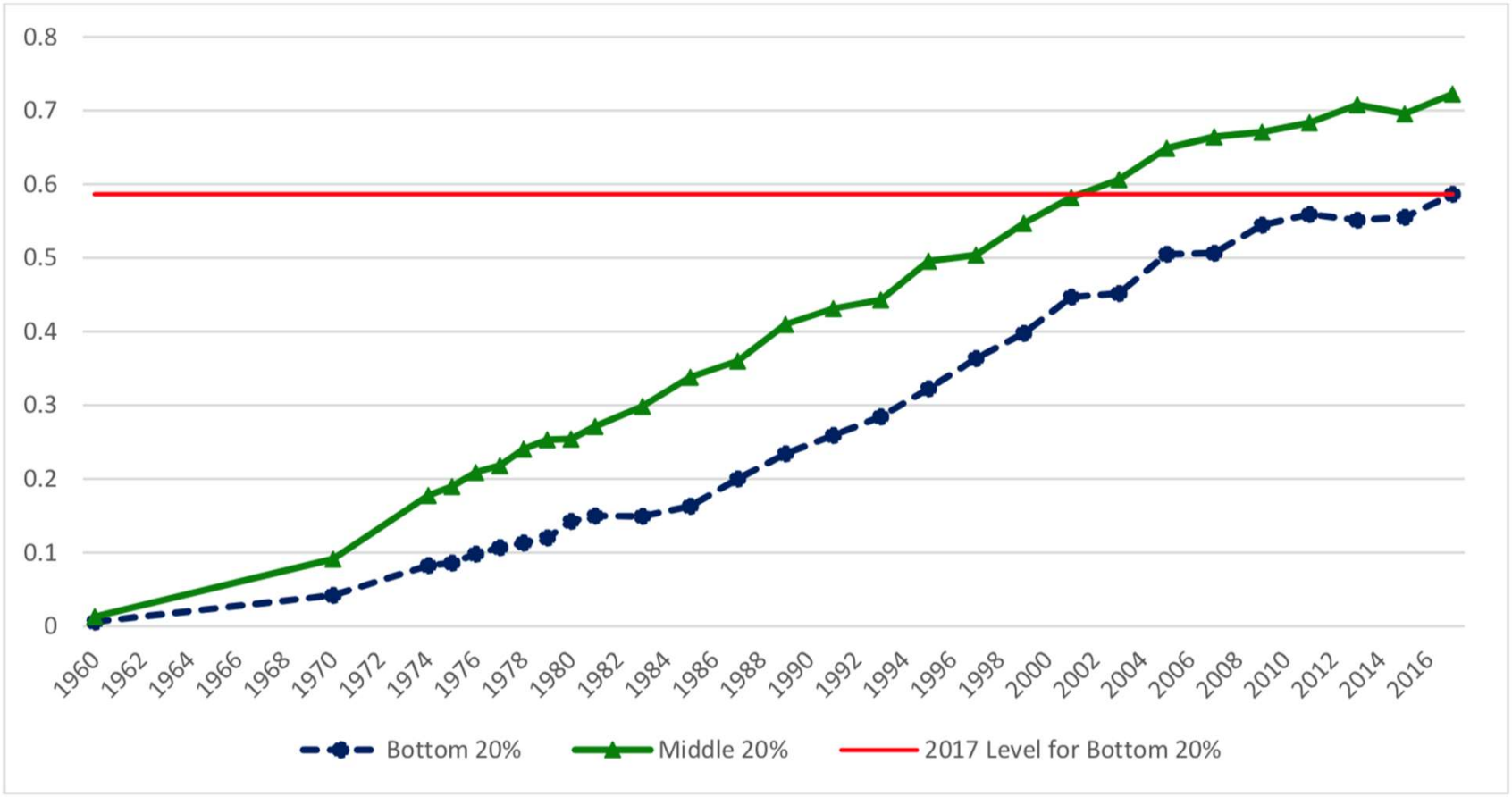
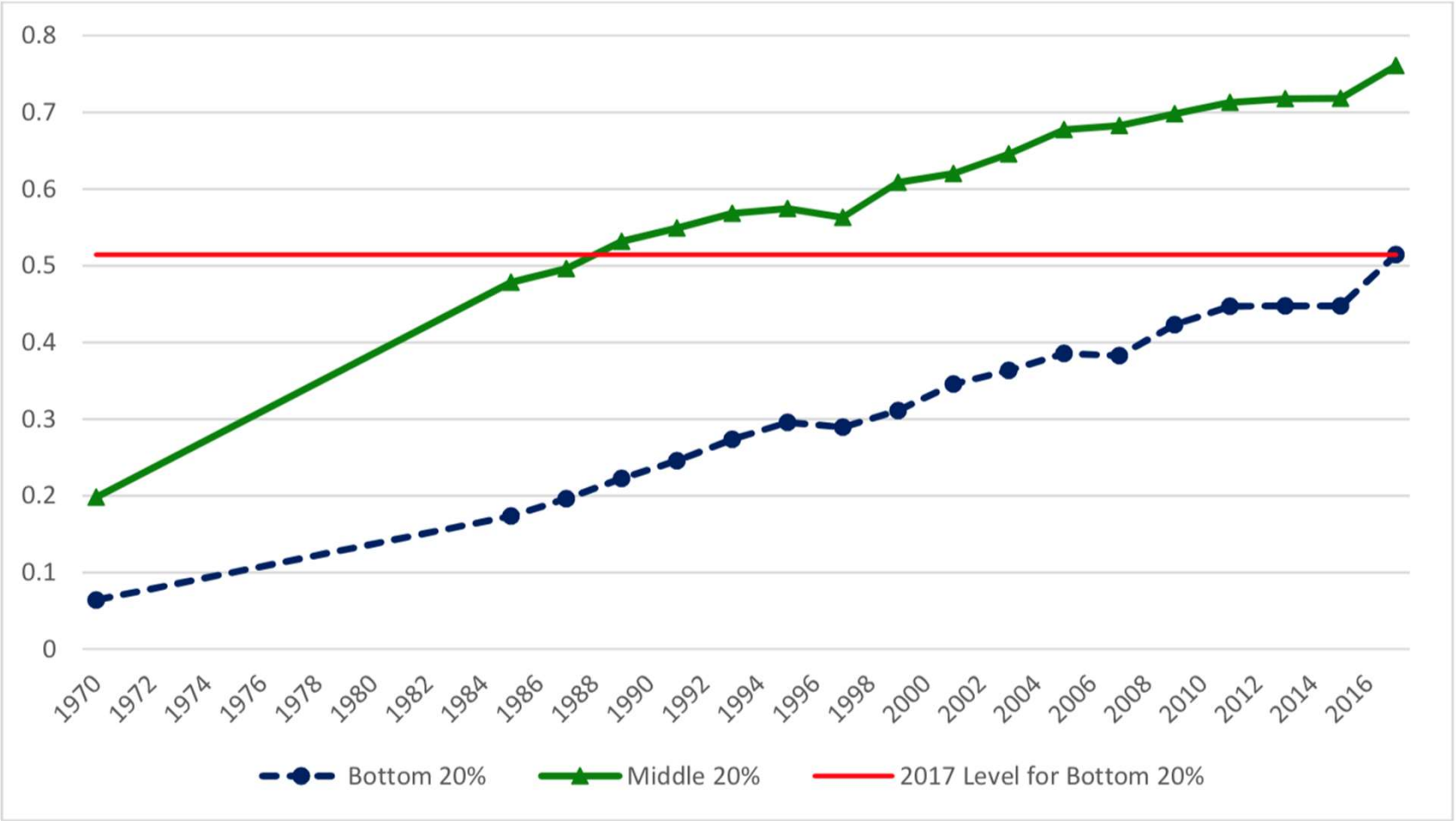


Figure 10: Proportion of Housing Units with Dishwasher, 1970-2017, Decennial Census (1970), and American Housing Survey (1974-2017)

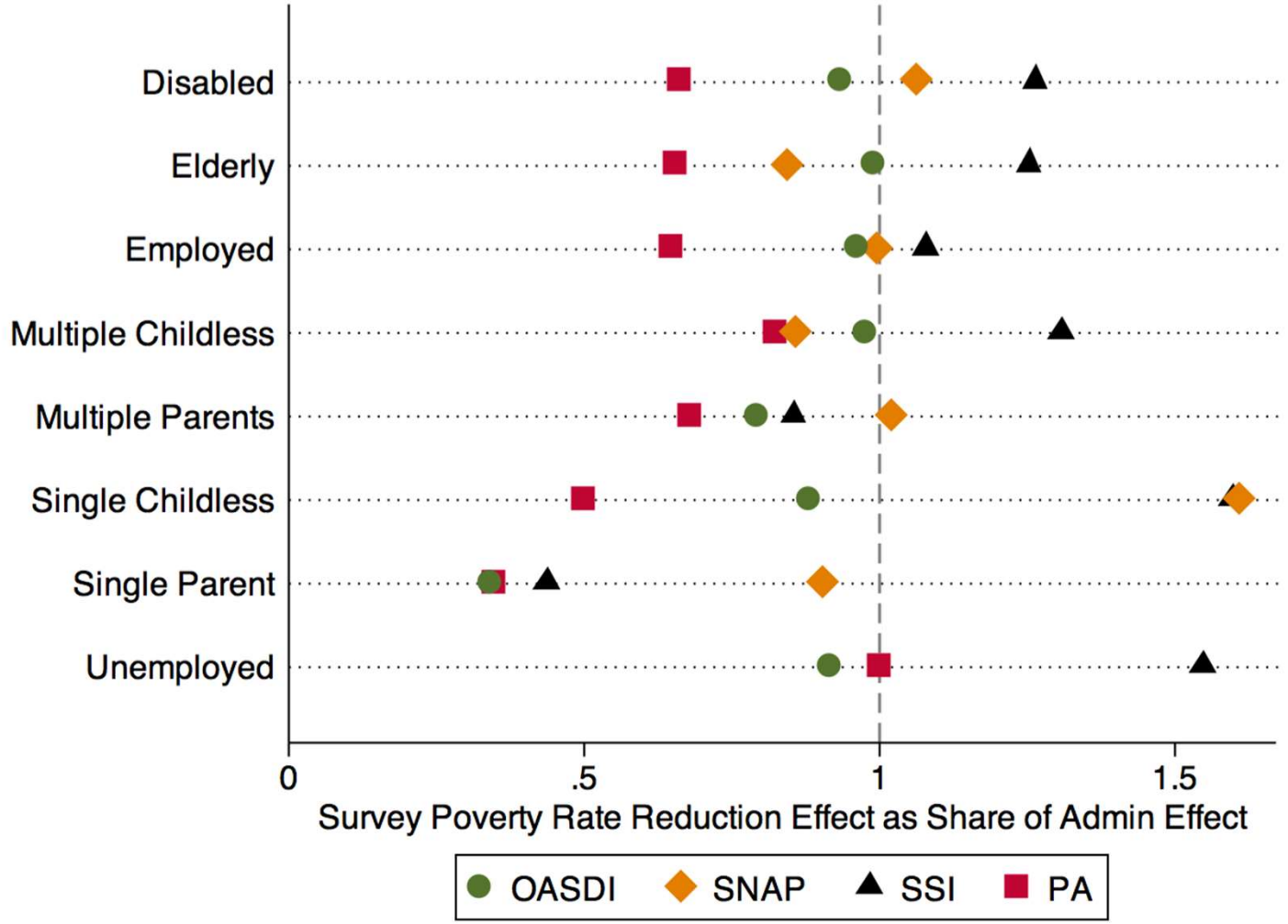


Changes over time

- OPM indexed by CPI-U which substantial research indicates overstates inflation, so poverty changes biased upward
- SPM poverty changes hard to interpret because
  - Goal posts move
  - SPM thresholds opaque
  - Example: tax increase for those between 30th and 36th percentiles would mean a decline in poverty
- Thus, SPM provides information likely to be misinterpreted

Q3. What are the Effects of Policy?

Poverty Rate Reduction from Combined vs. Survey Data: OASDI, SSI, SNAP, PA



Source: SIPP data for 2008-2013 reported in Meyer and Wu (2018)

What are the Effects of Policy?

- More than half of (static) poverty reduction missed for several programs for single mothers
- This was a best case scenario for SPM like measure—SIPP in its heyday with much less misreporting than CPS and ACS
- Meyer and Mittag (2019) finds large biases in the CPS for many policy relevant statistics
- Changes over time in policy effects? Will be badly biased due to secular increase in under-reporting of transfers

Success at Achieving Goals of Poverty Measure

- Q1. Point in time?
- Q2. Over time?
- Q3. Effect of policy?
- Current measures can’t accurately answer any of these key questions
- How prominent are the appropriate caveats in our press releases and reports?

Alternatives to the current OPM and SPM

- Consumption measures (improved with administrative data links)
- Comprehensive Income based poverty measures with administrative data integrated

Outline of Comprehensive Income Measure

- CPS and ACS Survey Income
- Incorporate in-kind transfers
  - SNAP, Public and Subsidized Housing, WIC
  - School meals?
  - Health insurance?
- Link administrative data to CPS and ACS
  - In most cases substitute administrative data
  - Earnings, housing require additional research
  - Imputation as a back up and for historical versions

Obstacles and Potential

- Obstacles
  - Requires working with many agencies and maybe many states
  - Varying data quality and formats
  - Might delay release of statistics
- Potential
  - Would ease survey burden
  - Would aid multiple programs: ACS, SIPP, CE and Decennial Census
  - CID provides a prototype

Data for CID (provides a prototype)

Source type	Phase I	Phase II
Household Surveys	Current Population Survey (CPS) Survey of Income and Program Participation (SIPP) American Community Survey (ACS)	Consumer Expenditure (CE) Survey
Tax Data	Forms 1040, W-2, 1099-R	Better 1040 extracts, more extensive info returns (subject to approval) Tax credits (e.g., EITC, CTC) Unemployment Insurance (UI)
Federal Programs	SSA: Social Security and Supplemental Security Income HUD: Federal housing assistance HHS: Medicare and Medicaid enrollment, TANF	VA: Veterans Benefits
State Programs	Public Assistance (e.g., TANF, General Assistance) SNAP, WIC LIHEAP	More Public Assistance, SNAP, WIC, LIHEAP Workers' Compensation Child Support Payments

Outline of a Consumption Measure

- Use BLS Consumer Expenditure Interview Survey
- Convert expenditures to consumption by
  - Subtracting investments like pension contributions, education spending, health spending
  - Subtract out spending on owner occupied housing (mortgage, property taxes) and vehicle purchases
  - Replace with rental equivalent (or other measure) of housing and vehicles
- Consider extrapolating from well-measured components of expenditures given underreporting

Issues

- Many researchers just don’t trust expenditure data
- Conceptual advantages to consumption
- Measurement issues more mixed

Income v. Consumption: Conceptual

- Conceptual issues favor consumption
  - Consumption captures permanent income
    - Income can be temporarily low (or high) and your living standard may not change much
  - Consumption captures durables such as housing and vehicles
  - Older households often dissaving, have durables, so income not that relevant
  - Consumption should reflect risk and insurance

Income v. Consumption: Data Quality

- Reporting issues are split between income and consumption
  - Ease of reporting v. sensitive topics
  - Nonresponse
  - Under-reporting
- Low percentiles of expenditures greatly exceed low percentiles of income
- Consumption is more strongly associated with other measures of well-being

Overconsuming?

- What about people spending beyond their means?
  - If people overspend, you want to measure it
  - If people sharply cut their consumption to pay debts, you want to capture that as well
  - Income would miss both

Underreporting of Consumption?

Apples to Oranges

- Aggregate comparisons often misleading
- NIPA and CE Survey are intended to measure different things
- By 2009, nearly 30 percent of NIPA PCE not intended to be captured by CE Survey up from 7 percent in 1959
- NIPA captures all goods and services in economy that people consume whoever pays
- CE Survey covers out-of-pocket expenditures by households
  - Employer contributions to health insurance
  - In-kind social benefits

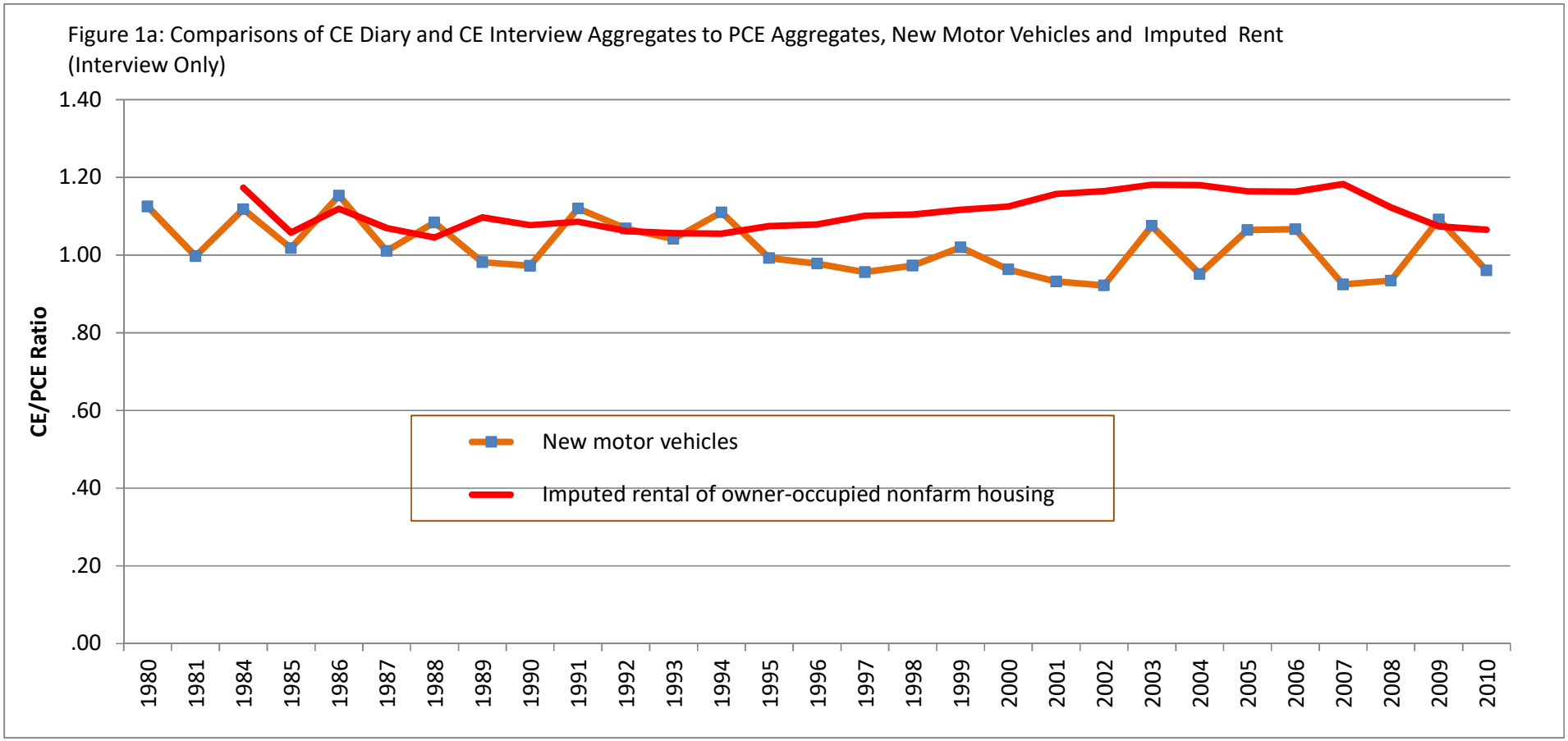
CE – PCE Comparisons

Table 1: CE PCE Comparisons for 10 Large Categories, 2010 [In millions of dollars]

PCE category	PCE	DS/ PCE	IS/ PCE
Imputed rental of owner-occupied nonfarm housing	1,203,053		1.065
Rent and utilities	668,759	0.797	0.946
Food and nonalc. beverages purchased for off-premises consumption (food at home)	659,382	0.656	0.862
Purchased meals and beverages (food away from home)	533,078	0.508	0.528
Gasoline and other energy goods	354,117	0.725	0.779
Clothing	256,672	0.487	0.317
Communication	223,385	0.686	0.800
New motor vehicles	178,464		0.961
Furniture and furnishings	140,960	0.433	0.439
Alcoholic beverages purchased for off-premises consumption	106,649	0.253	0.220

Bee, Meyer, and Sullivan (2015)

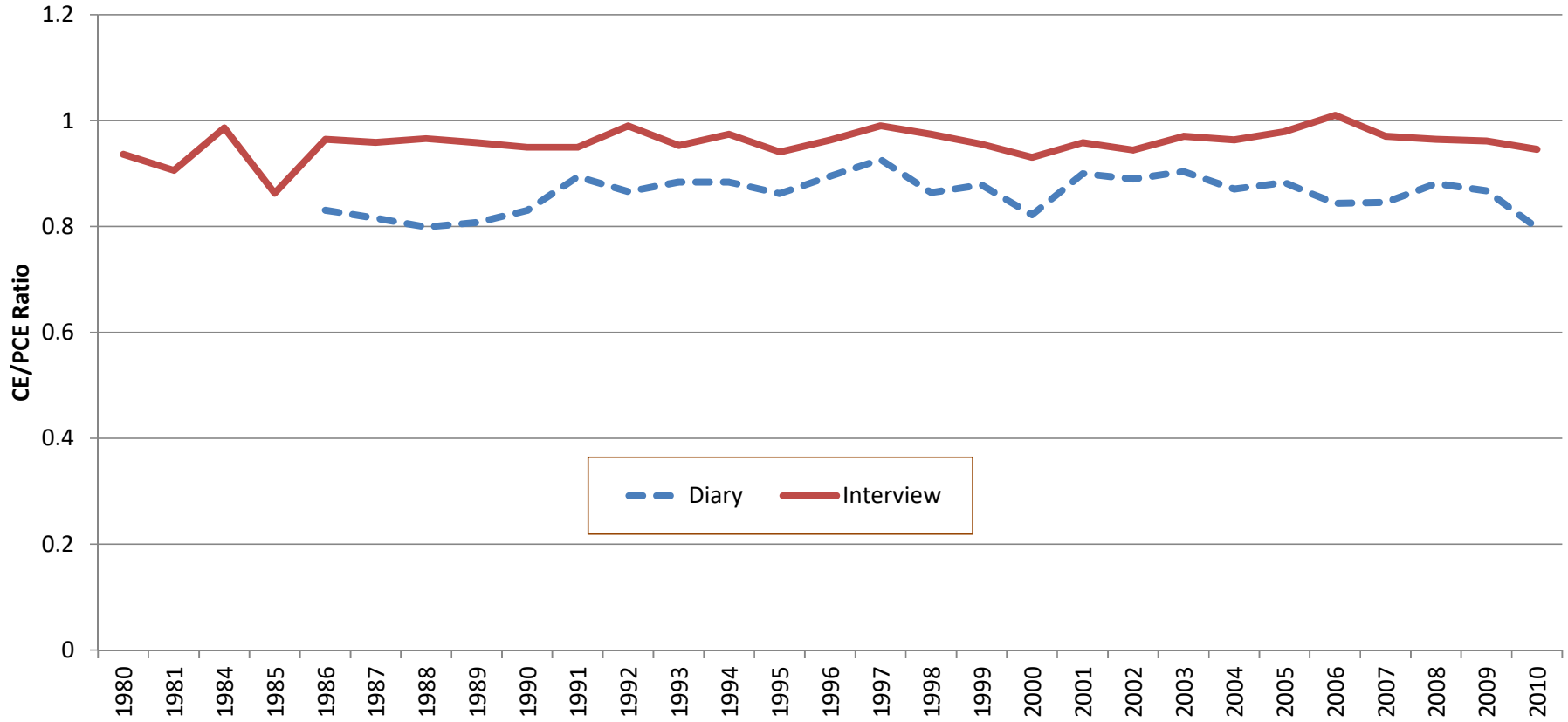
Well Reported Expenditures: cars, homes



Bee, Meyer, and Sullivan (2015)

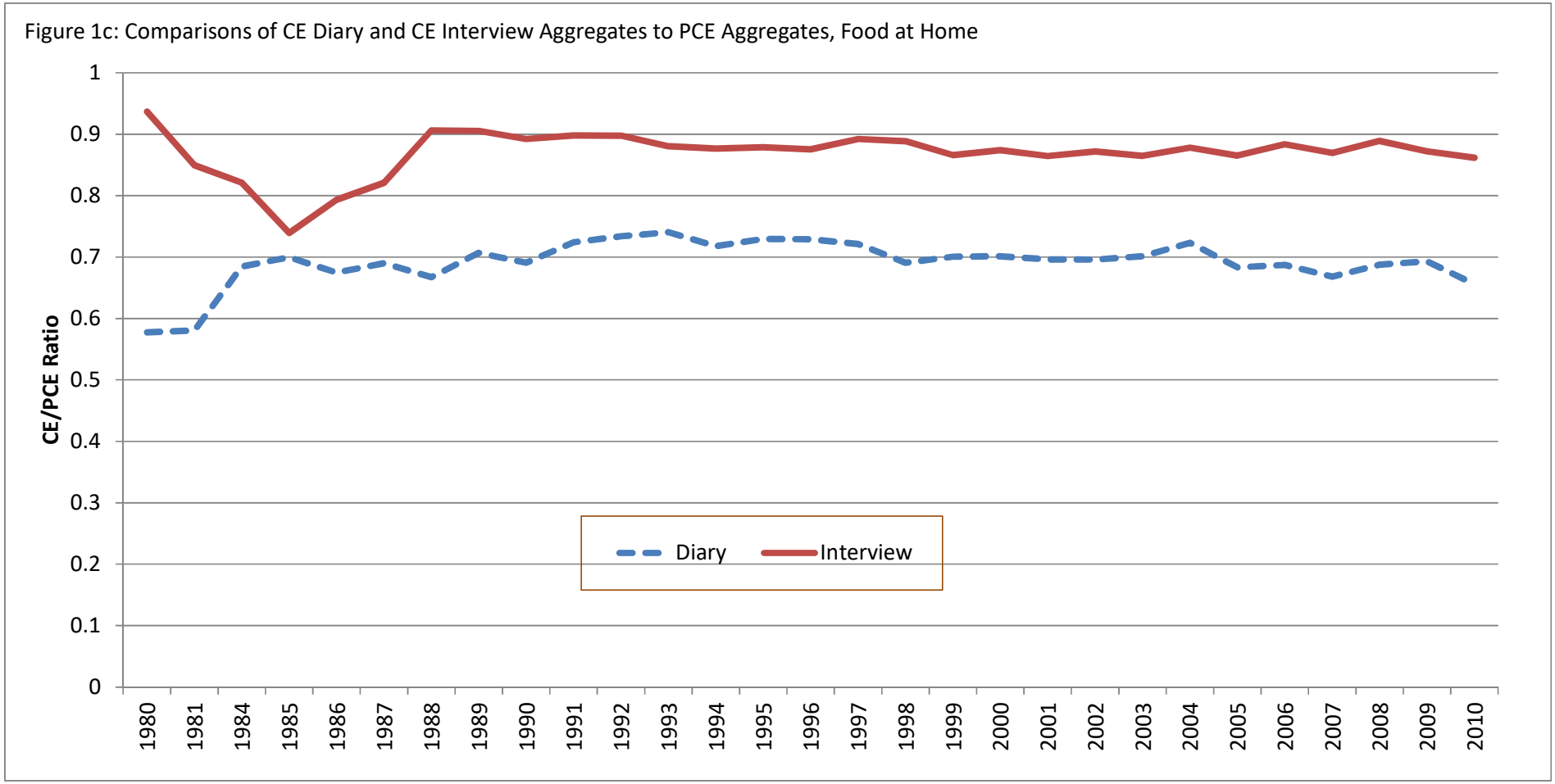
Well Reported Expenditures: rent, utilities

Figure 1b: Comparisons of CE Diary and CE Interview Aggregates to PCE Aggregates, Rent and Utilities



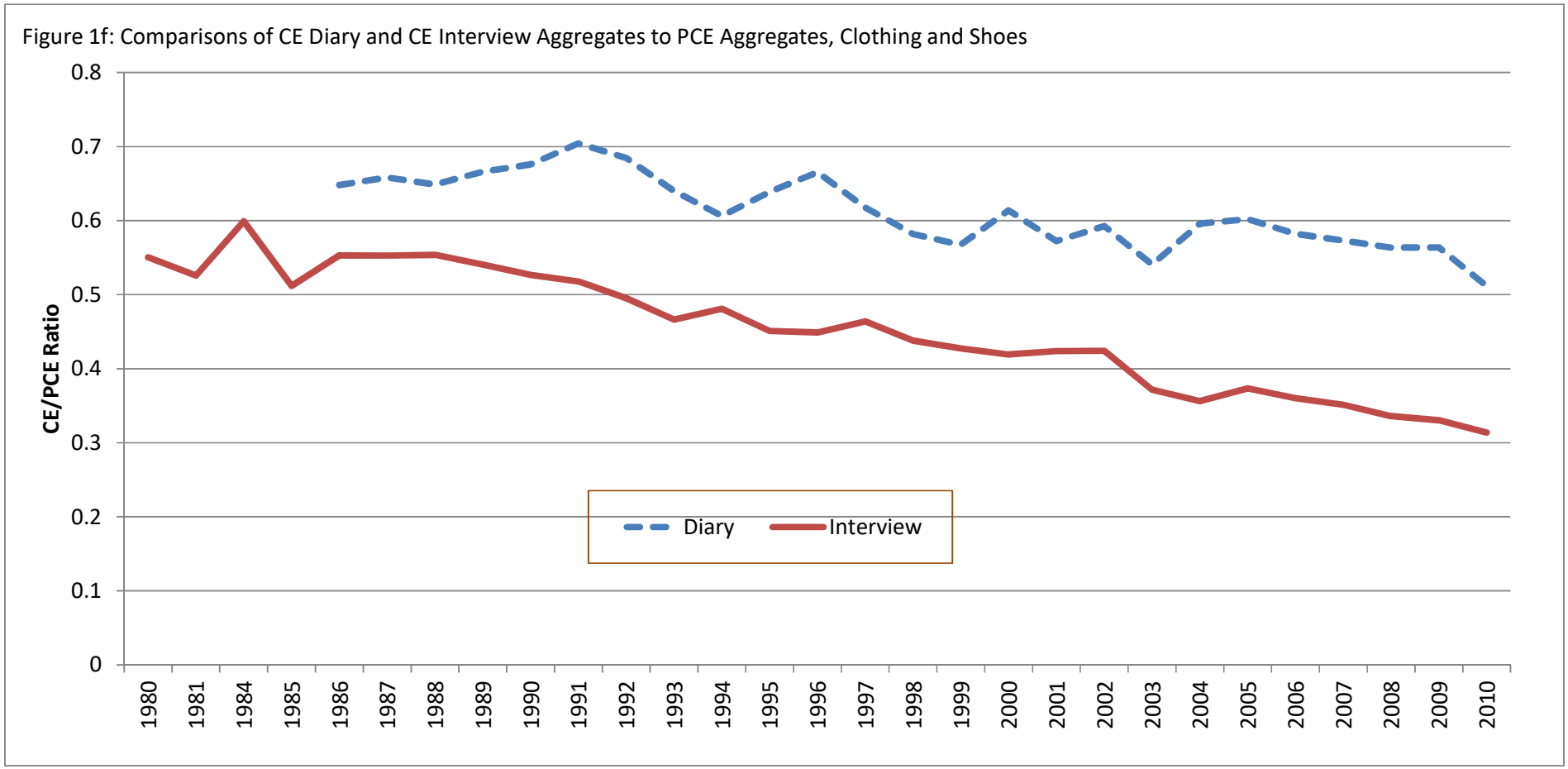
Bee, Meyer, and Sullivan (2015)

Well Reported Expenditures: food at home



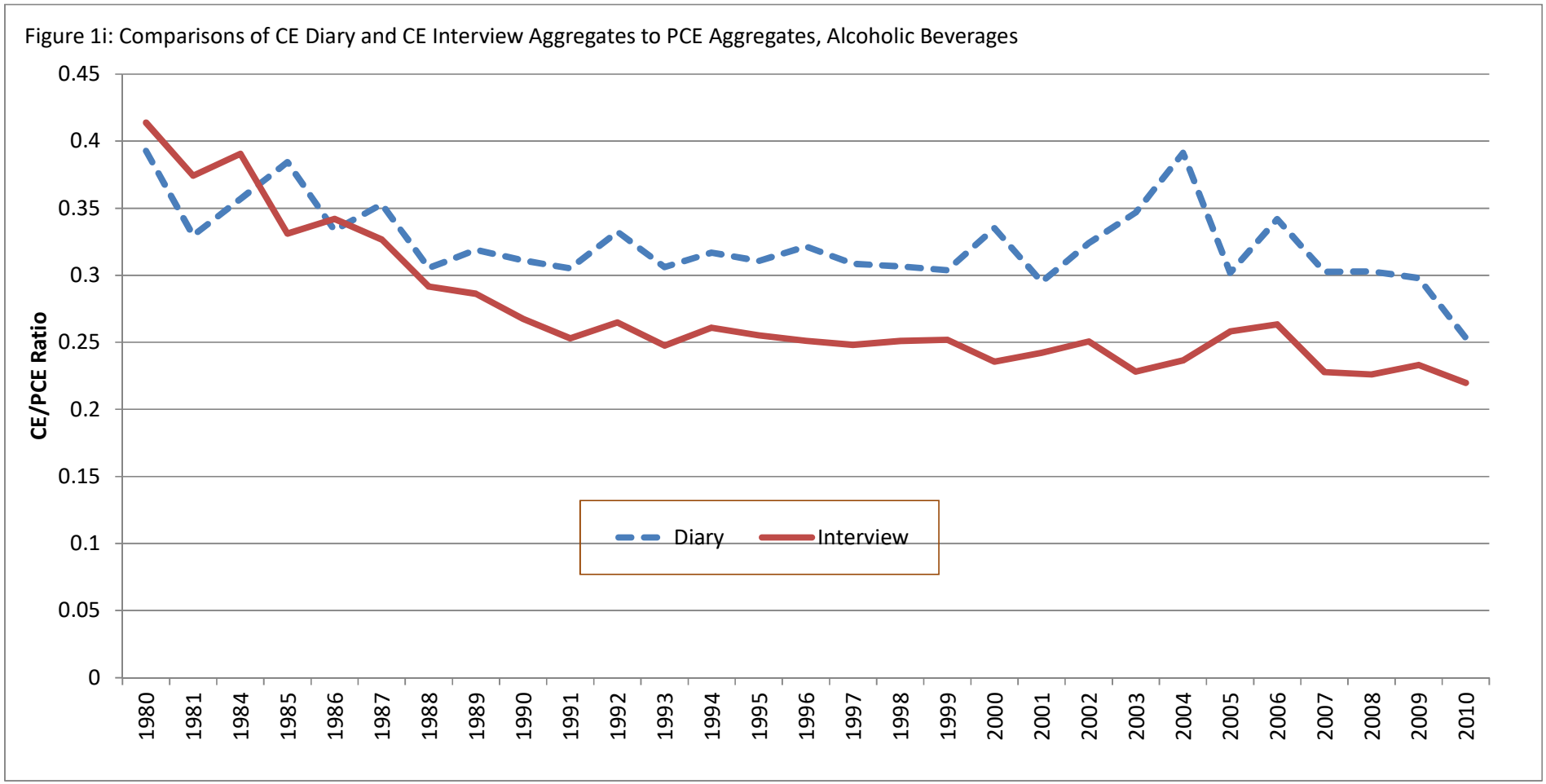
Bee, Meyer, and Sullivan (2015)

Poorly Reported Expenditures: clothing



Bee, Meyer, and Sullivan (2015)

Poorly Reported Expenditures: Alcohol



Bee, Meyer, and Sullivan (2015)

Consumption Poverty Improved by Linking

- Rent paid in public and subsidized housing
- Poverty reduction cannot be done accurately without linked program (and tax) data
- BLS investigating steps to improve ability to link the CE Survey, working with Census

Caveats, Comments

- The relative advantages of consumption resource measure should weaken if we improve income through linking
- A consumption measure would have less fine geography than a CPS income measure or an ACS measure
- A consumption measure could be implemented immediately and done historically; both steps harder with a Comprehensive Income measure; historical admin data missing

Other Important Features of Measures

- Incorporating a value of health insurance; MOOP
- Geographic cost of living adjustments
- Separable issues; can do with or without admin data; can do with income or consumption

My thoughts on Thresholds

- There is demand for both absolute poverty measures and easy to interpret relative measures
- Absolute poverty measure indexed to C-CPI-U or PCE
- Set thresholds so initial rate same as OPM—so politics doesn't prevent good measurement
- Relative poverty measure half of median income or consumption

Summary

- OPM and SPM do not meet the goals of a poverty measure
- The state of research and the availability of administrative data now allow production of
  - Consumption poverty measure
  - Comprehensive Income measure
- Would have benefits to other statistical programs and potentially reduce survey burden

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