



Agency for Healthcare Research and Quality

Advancing Excellence in Health Care

www.ahrq.gov

Income in the Medical Expenditure Panel Survey

Thomas M. Selden

Agency for Healthcare Research and Quality



Outline

- Introduction
- Questionnaire
- Imputations
- Comparison to CPS



Introduction

- MEPS collects data at the individual level for a wide range of income types:
 - Wage/salary (inc. tips, commissions, bonuses)
 - Unemployment, Worker's Comp
 - Interest, Dividends
 - Rental/Trust/Partnerships/S-Corp income
 - Business income (inc. farms)
 - VA pensions, Private pensions, IRA withdrawals
 - Alimony, Child support
 - OASDI, SSI, Welfare (TANF & GA)
 - Capital Gains, Tax Refunds
 - Food Stamps (SNAP), but not Housing



Introduction

- Income collected for calendar year in Spring of the following year
- Supports calculation of total family income and %FPL
- MEPS also collects
 - Detailed asset data
 - Detailed employment information throughout the year, supporting point-in-time view of income
- We align well with CPS, which we believe is in part due to asking detailed questions (and not asking at family level)
- MEPS final weights post-stratified to CPS income



Questionnaire

- MEPS has an unconventional questionnaire design
 - Designed to be answered using tax returns
- Just to give you some idea of question flow:
 - Has (PERSON) filed a 2009 Federal income tax return?
 - Who is the other taxpayer that (PERSON) is filing jointly with?
 - During 2009, how much money did (PERSON & SPOUSE IF FILING JOINTLY) receive from (INCOME TYPE)?
 - What percentage of this amount was received by (PRIMARY FILER)?
 - Bracketed responses if dollar amount not given
- Some types asked with family level screener, followed by individual responses (Welfare, SSI)



Changes over Time

- Removal of skip pattern based on tax filing status, reducing the need for imputations
 - 2002 (and 1997)
 - We edited 2002 with and without skip pattern, obtaining highly correlated values
- Minor changes (2002)
 - revised brackets to correspond more closely to distributions among exact dollar responses by income type
 - switch to whole dollar responses
 - combined business and farm income
 - removed some tax-filing detail
- 1996-2009 gives consistent income measure



Imputation

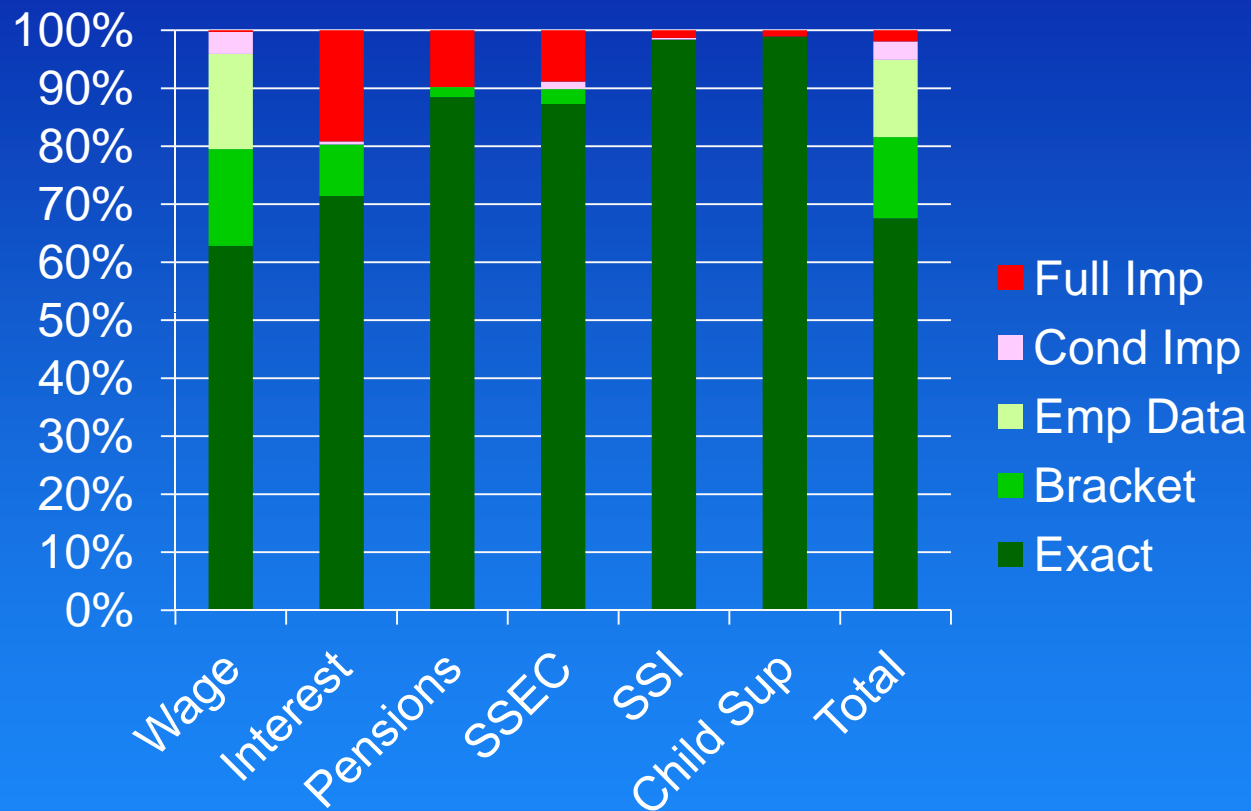
- Missing income is imputed (singly)
- Each income element hot-decked separately
- Correlations across income elements preserved by conditioning hot-decks on income elements already edited
 - E.g., high-wage/high-pension recipients in dividend hot-deck matched with high-wage/high-pension donors
- Bracket responses imputed by hot-decking from persons with dollar responses within given bracket
- Wage/salary data from Employment Section used in lieu of wage/salary data from Income Section
- Detailed imputation flags provided on PUF



Imputation

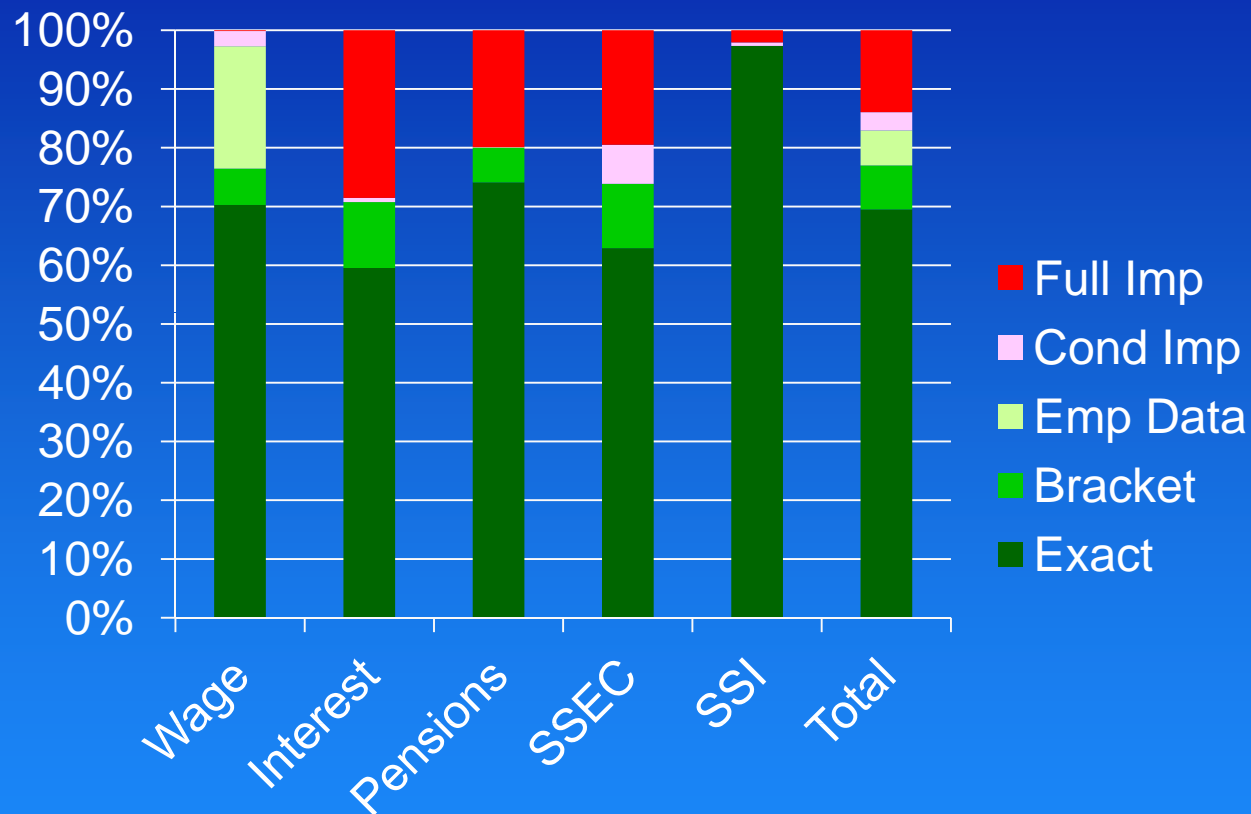
- “Push the envelope” on hot-deck matching of donors and recipients
- HDCOLIMP macro for automated cell collapsing
 - Underutilized package for a range of tasks
 - “cold-deck” matching across datasets,
 - avoiding regression over-fitting with many-dimension condition codes
 - and more
 - developed by SSS per my specifications
 - available upon request (unsupported shareware)

Imputation Frequencies, Age 19+



2009 MEPS-HC. “Total” is weighted average across income sources (other than SNAP, REFD).

Imputation Frequencies, Age 65+



2009 MEPS-HC. “Total” is weighted average across income sources (other than SNAP, REFD).



Top-Coding

- Mandated by confidentiality concerns
- Top percentile of responses (absolute value)
- Regression-based approach
- $z = y - y_{\max}$ (y_{\max} =highest non-top-coded)
- Estimate regression on $\ln(z)$
- $\hat{z} = \exp(a + \mathbf{b}\mathbf{x}) + \text{smearing}$
- Method preserves overall mean and total income
- Also preserves, to the extent permitted, means and totals within groups defined by \mathbf{x}



Comparison to CPS

	MEPS	CPS
Wage	19,630	20,071
Interest	334	570
Pension	1,007	1,027
SSEC	1,603	1,892
SSI	191	129
Child Sup	128	82
TOTAL	23,919	25,798

2009 MEPS & 2010 March CPS (excluding military). MEPS calculations use penultimate weight (not post-stratified to CPS by income)



References

- Questionnaire: http://meps.ahrq.gov/mepsweb/survey_comp/hc_survey/2010/IN111910.pdf
- Documentation: http://meps.ahrq.gov/mepsweb/data_stats/download_data/pufs/h129/h129doc.pdf
- MEPS Home: <http://meps.ahrq.gov/mepsweb/>