Measuring Income Simply:
Observations from a Comparative Analysis
of Survey Income Data

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This presentation is also based in part on:

Income Data for Policy Analysis:
A Comparative Assessment of Eight Surveys

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Key points regarding income measurement

- **There is no survey that "gets it right" in all respects**

- **Income is most difficult to measure well in the bottom third of the distribution, where policy interest tends to focus**
  - **Income and family composition less stable**
  - **Sources of income more varied**

- **Distinction between current (monthly) and annual income matters most in bottom third as well**

- **Nonresponse to survey income questions is high; nonresponse to asset questions is even higher**

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Key points cont'd

- **Substantial rounding of reported incomes is common and varies across surveys**

- **Concepts of household, family, and person are important to distinguish**
  - Poverty is measured at the family level
  - Poverty rate is sensitive to the family definition—i.e., what persons are included

- **Measurement should allot attention to income sources in proportion to their importance**

- **Collection of retirement income presents a growing challenge**

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Aggregate Income

- There is no gold standard for survey estimates of income, but the CPS is the official source of estimates of income and poverty in the U.S.

- Aggregate income for a CY 2002 reference period is $6.47 trillion in the CPS, $6.35 trillion in ACS, $6.26 trillion in MEPS, and $6.12 trillion in NHIS—a range of just 5 percent despite substantial differences in measurement

- At $5.77 trillion, SIPP was 89 percent of the CPS estimate

- PSID, despite a weighted population 21 million fewer than the CPS, has the highest aggregate income at $6.72 trillion

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Aggregate Income as a Percent of CPS, by Quintile of Family Income

Quintile	CPS	ACS	SIPP	MEPS	NHIS	PSID
All persons	100.0	98.1	89.1	96.7	94.6	103.9
Lowest	100.0	99.5	105.6	97.2	84.7	101.4
Second	100.0	100.6	97.0	104.4	92.7	103.1
Third	100.0	99.7	92.5	105.0	97.1	101.2
Fourth	100.0	97.9	90.3	101.0	98.2	104.0
Highest	100.0	96.7	82.8	89.1	93.5	105.5

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Average Income Per Capita by Quintile of Family Income

Quintile	CPS	ACS	SIPP	MEPS	NHIS	PSID
All persons	22,893	22,854	20,514	22,089	21,558	25,710
Lowest	6,513	6,526	6,962	6,352	5,528	7,178
Second	13,789	14,259	13,355	14,269	12,649	15,261
Third	19,293	19,576	17,946	20,052	18,493	21,132
Fourth	25,604	25,496	23,250	25,976	25,151	28,785
Highest	49,316	48,543	41,062	43,855	46,114	56,220

Earned Income as % of CPS by Quintile of Family Income

Quintile	CPS	ACS	SIPP	MEPS	NHIS
All persons	100.0	97.3	88.9	98.3	98.3
Lowest	100.0	117.3	113.9	108.8	111.6
Second	100.0	104.1	97.3	113.4	94.7
Third	100.0	98.8	89.5	106.9	99.9
Fourth	100.0	97.6	89.1	102.6	103.7
Highest	100.0	93.6	85.0	89.1	94.8

Unearned Income As % of CPS by Quintile of Family Income

Quintile	CPS	ACS	SIPP	MEPS	NHIS
All persons	100.0	102.2	90.3	89.2	76.7
Lowest	100.0	83.4	98.2	86.6	60.3
Second	100.0	92.2	96.3	83.4	88.0
Third	100.0	103.8	106.2	96.4	84.6
Fourth	100.0	99.7	98.3	90.9	62.2
Highest	100.0	122.8	64.5	89.5	82.7

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Percent of Persons by Ratio of Income to Poverty: Six Surveys
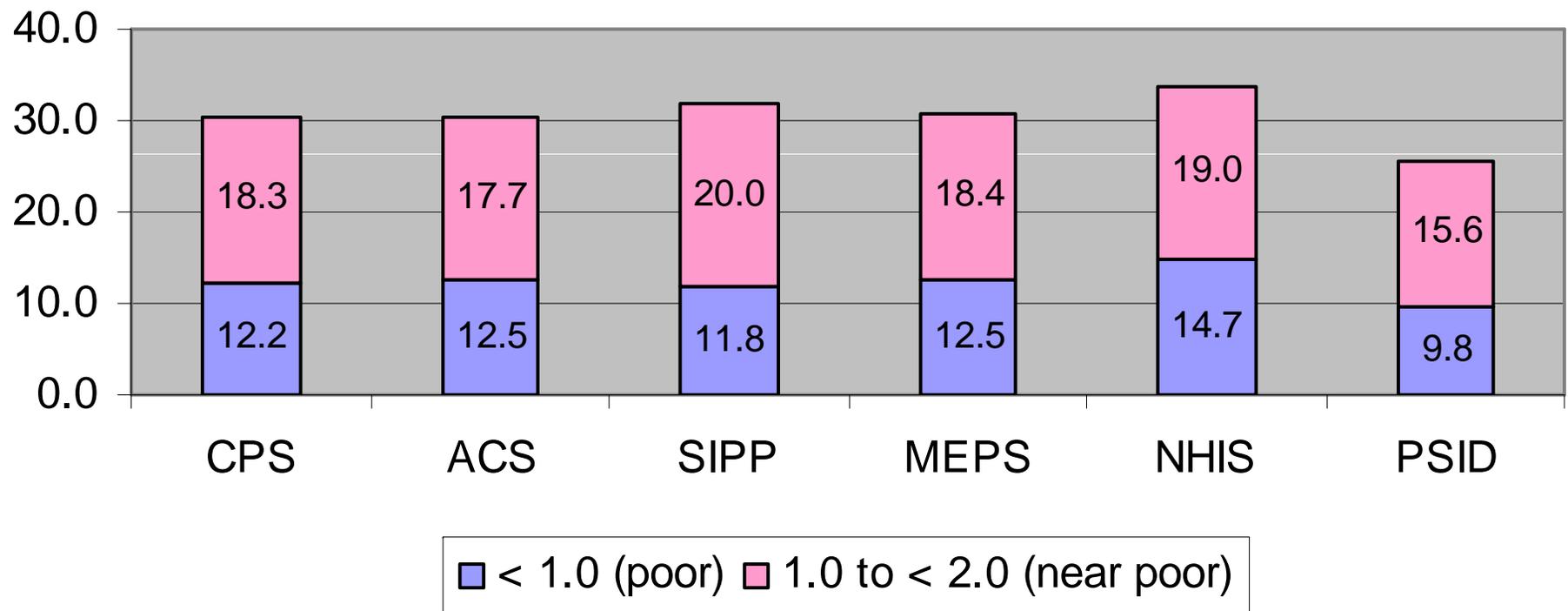
Percent of Population Participating in Selected Programs

Program	CPS	ACS	SIPP	MEPS	NHIS
Welfare/Food Stamps	7.3	8.8	11.2	7.1	5.0
SSI	1.7	1.6	3.0	2.3	1.9
Medicaid					
Ever in prior year	11.6	NA	17.1	14.6	NA
Current month	NA	NA	11.8	12.3	10.5

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# Impact of Family Definition on Poverty Rate

- **Including unmarried partners and their relatives in the family definition reduces the number of poor compared to the CPS family definition**

- **In both NHIS and MEPS, the broader family definition reduced the number of poor by 2.6 million and the overall poverty rate by 0.9 percentage points**

- **In MEPS, the broader family definition:**

  - **Reduced the child poverty rate by 1.7 percentage points**

  - **Reduced the poverty rates for single parents and their children by over 5 percentage points**

  - **Did not change the elderly poverty rate**

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Allocation Analysis

- **Allocation encompasses any method of replacing missing values created by item or unit non-response and left after editing**

- **If available, partial information—such as bracketed amounts or, for panel surveys, values from prior interviews—can lead to qualitatively better imputation of missing amounts**

- **Our estimates of allocation frequency focus on percent of income allocated, which avoids bias arising from the number of income questions**

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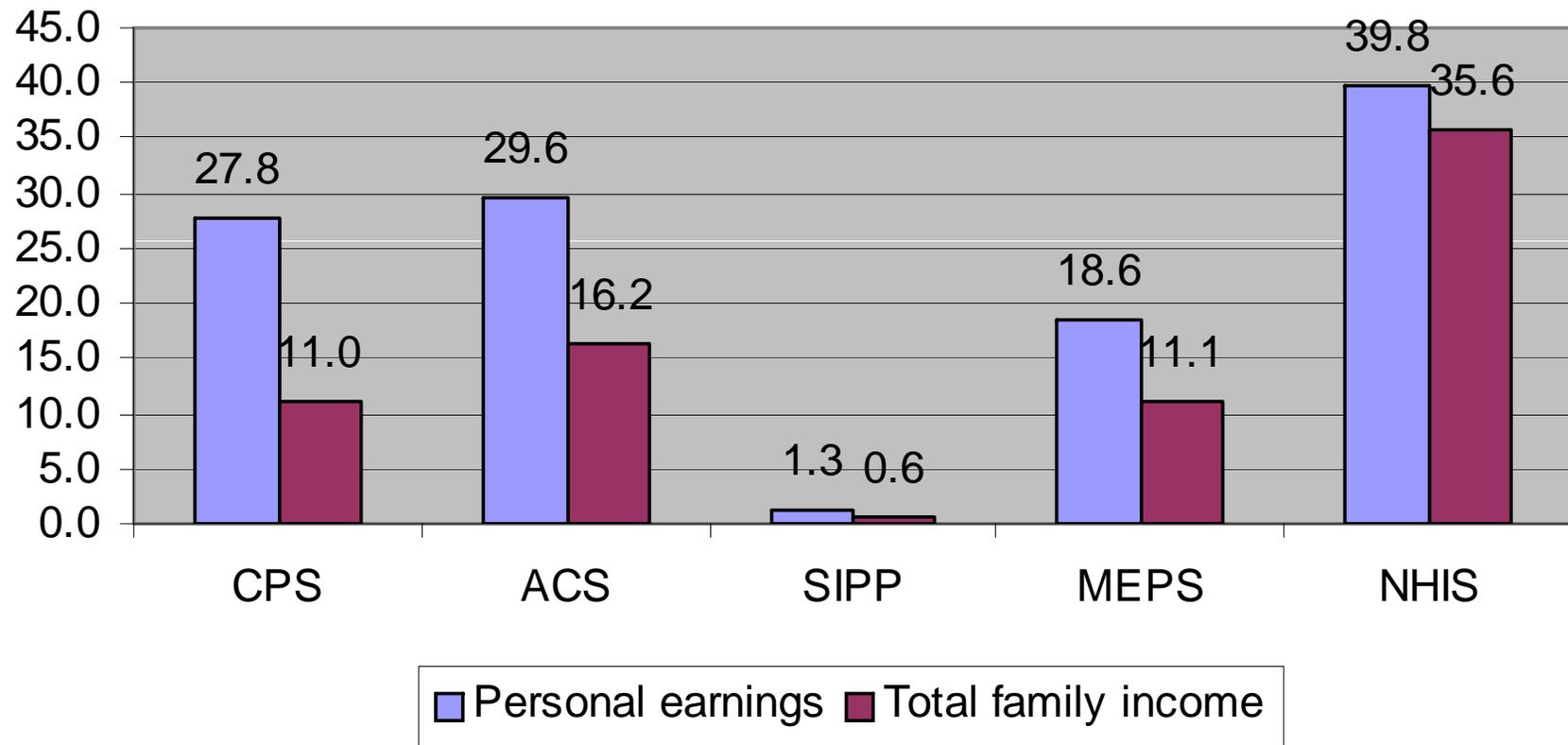Percent of Income Allocated, With or Without Partial Information
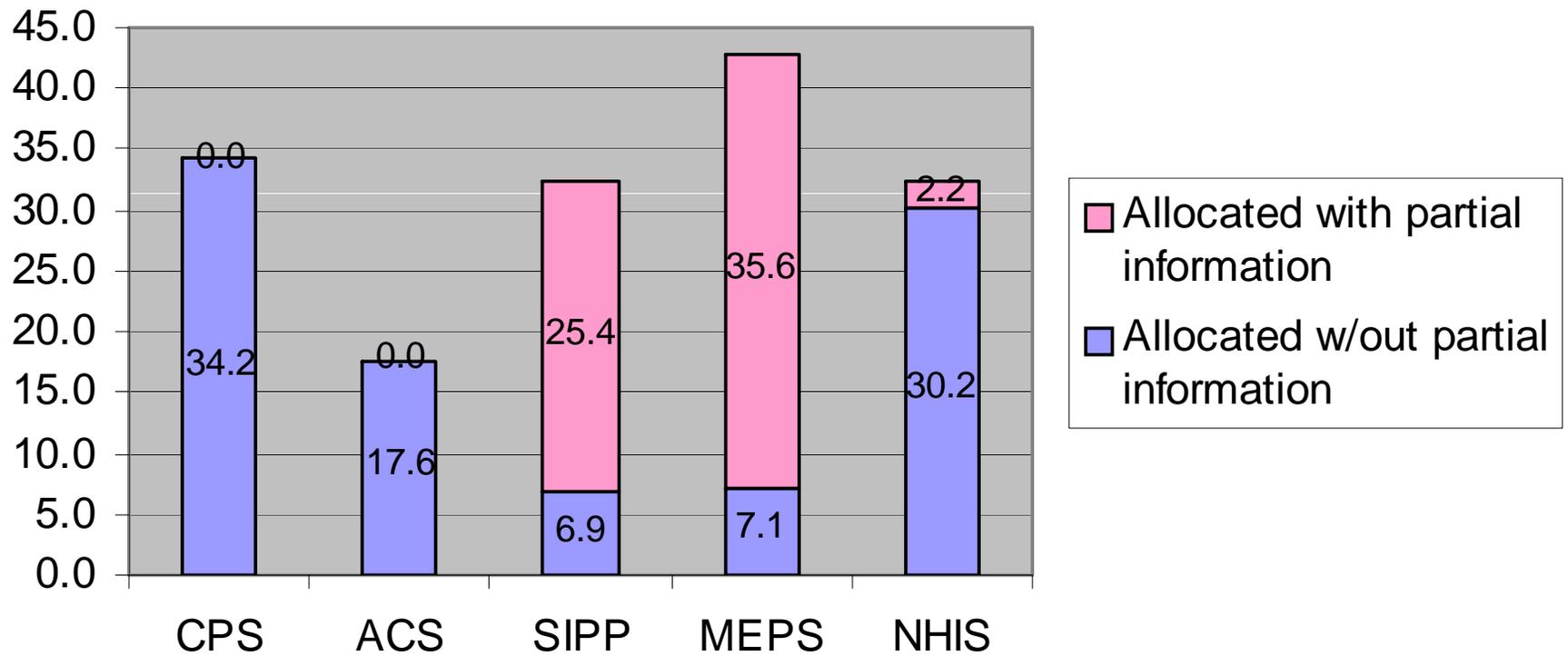
Rounding of Reported Income

- **We cannot assess the accuracy of reported incomes, but one way that respondents may reduce their accuracy is to use a high level of approximation**

- **When numerous respondents round their reported incomes, this creates spikes in the distribution**

- **The frequency of round responses can be quantified**

- **Pervasive rounding distorts the results of policy simulations that use income thresholds to establish eligibility**

Percent of Reported Incomes Divisible by $5,000 among Positive Dollar Amounts below $52,500

Personal earnings / Total family income

Survey	Personal earnings	Total family income
CPS	27.8	11.0
ACS	29.6	16.2
SIPP	1.3	0.6
MEPS	18.6	11.1
NHIS	39.8	35.6

Major sources of income, 2010 CPS ASEC

Source of Income	Pct. of Families	Pct. of Income
Wage and salary earnings	74.76	76.72
Non-farm self-employment earnings	8.66	4.66
Farm self-employment earnings	1.38	0.45
Social Security	25.13	6.58
Retirement income	11.73	3.85
Survivor's income	2.14	0.45
Disability income	1.11	0.24
Interest	47.40	2.23
Dividends	15.45	1.12
Net rent, royalties, estate or trust income	6.13	0.87

Other sources of income, 2010 CPS ASEC

Source of Income	Pct. of Families	Pct. of Income
Educational assistance	5.16	0.57
Unemployment or strike benefits	5.74	0.48
Supplemental Security Income	3.73	0.46
Veterans' payments	2.03	0.41
Child support	3.66	0.31
Worker's compensation	0.92	0.14
Financial assistance from others	1.68	0.21
Public assistance or welfare	1.29	0.07
Alimony	0.33	0.07
Other income	1.00	0.11

Shares of total income by poverty level

Source of Income	< 100% of Poverty	400%+ of Poverty
Wage and salary earnings	48.70	79.96
Non-farm self-employment earnings	4.14	5.12
Farm self-employment earnings	0.09	0.53
Social Security	22.55	3.16
Retirement income	0.99	3.86
Survivor's income	0.41	0.41
Disability income	0.51	0.18
Interest	0.98	2.70
Dividends	0.34	1.43
Net rent, royalties, estate or trust income	0.08	1.12

Shares of total income by poverty level, cont'd

Source of Income	< 100% of Poverty	400%+ of Poverty
Educational assistance	2.16	0.38
Unemployment or strike benefits	1.90	0.27
Supplemental Security Income	9.83	0.07
Veterans' payments	0.39	0.32
Child support	2.25	0.14
Worker's compensation	0.30	0.10
Financial assistance from others	1.56	0.09
Public assistance or welfare	2.38	0.00
Alimony	0.13	0.06
Other income	0.31	0.10

Earned income in ACS, SIPP, and CPS

Measure of Recipiency And Source of Income, 2009	Ratio of ACS to CPS	Ratio of SIPP to CPS
Families and unrelated individuals		
Wage and salary earnings	1.028	0.994
Self-employment earnings	1.168	1.618
Aggregate income		
Wage and salary earnings	0.992	0.851
Self-employment earnings	1.179	1.792

Changes in Retirement Plans

- **Traditional, defined benefit (DB) pensions, which provide a steady, lifetime income flow to retirees and survivors, are becoming history in the private sector**

- **Employers have turned increasingly to defined contribution (DC) plans, in which they contribute to a tax-advantaged retirement account for each employee**

- **Employees can also contribute a share of their earnings to 401(k), 403(b), and related plans**

- **In addition, all individuals, employed or not, have access to complementary tax-advantaged individual retirement arrangements (IRAs)**

Changes in Retirement Plans, cont'd

- **In 2009, retirement assets of annuities and DB pensions were less than a third of the nearly $12 trillion in non-governmental retirement plan assets**

  - $2.1 trillion—private DB plans
  - $1.4 trillion—annuities
  - $4.1 trillion—DC plans, including 401(k), 403(b)
  - $4.2 trillion—IRAs

  Source: Investment Company Institute, 2010

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Findings on retirement income: CPS and SIPP

Source of Income, 2009	2010 CPS ASEC	2008 SIPP Panel	Ratio of CPS to SIPP
	Families and unrelated persons (1,000s)		
Social Security/Railroad Retirement	33,642	38,554	0.873
Income from a pension	16,532	21,674	0.763
Other retirement/survivor/disability benefits	2,183	5,819	0.367
Regular withdrawals from an IRA, Keogh, or 401(k)	482	4,392	0.110
Pension/retirement lump sum	0	3,251	0.000

Retirement income in CPS and SIPP, cont'd

Source of Income, 2009	2010 CPS ASEC	2008 SIPP Panel	Ratio of CPS to SIPP
	Aggregate Income ($Millions)		
Social Security/Railroad Retirement	580,208	584,195	0.993
Income from a pension	325,212	400,958	0.811
Other retirement/survivor/disability benefits	30,154	47,902	0.629
Regular withdrawals from an IRA, Keogh, or 401(k)	8,017	34,236	0.234
Pension/retirement lump sum	0	20,427	0.000

For More Information

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