

**Income Data Quality Issues in the
Annual Social and Economic Supplement to the
Current Population Survey**

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The current official poverty statistics published by the Census Bureau (DeNavas-Walt et al., 2004) are based on money income data collected on the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS), as compared to an absolute poverty standard (the official poverty thresholds). Citro and Michael (1995), among others, have suggested both that the appropriate measure of resources to use in such a poverty measure is broader than money income — more of a disposable income concept that takes account of noncash benefits and work expenses (including taxes) — and that the poverty thresholds ought to be revised as well. Rector et al. (1999), among others, have suggested, based on comparisons to the National Income and Product Accounts (NIPAs), that income is underreported on the CPS ASEC. Such underreporting would suggest that the estimated poverty rate is too high.

Whether these attempts to change the way poverty is measured are informative will ultimately depend on the ability of the available data sources to measure economic well-being. This paper focuses on the quality of one of those data sources — the CPS ASEC. The examination is organized in three parts that mirror the survey process — questionnaire design, data collection and preparation (including edits and imputation), and post-collection data processing (to enhance the dataset). Finally, the paper proposes a set of research projects that could remedy many of the deficiencies identified.

QUESTIONNAIRE DESIGN

The CPS supplement that collects income data has undergone two major redesigns, in effect for collection of 1967 and 1979 income data, respectively. An objective examination of whether the questionnaire collects the “right” data can be obtained from a comparison of its practices with an “ideal” measure, such as one proposed by the Canberra Group, an international group of experts convened by the United Nations. That group has made specific

recommendations for constructing a comprehensive income definition that would improve the ability of analysts to make international comparisons of income distributions (Expert Group, 2001).

The Canberra Group's choice of current rather than potential well-being (that is, "Could the income component be 'spent today'?") guided their selection of income components along three other dimensions: cash versus noncash, regular versus irregular, and how to handle assets and liabilities (net worth). Both regular and irregular income, as well as cash and noncash income, are included in income if they are received in a form that can be spent (consumed) immediately. If some action must be taken to convert the item to spendable income — such as selling equity shares received as stock options — then it is not considered to be income until the change in net worth has been realized by the household. Their major categories of income are summarized in Table 1. (For an extended discussion of the rationale for including and excluding individual sources, see the report; see also Smeeding and Weinberg (2001), originally written for the Group's deliberations, for a slightly different perspective.)

The key issue is whether the CPS ASEC collects all (or most) of the important components of the income types described in Table 1. A corollary issue is whether omissions can be compensated for by other means (such as imputation or microsimulation). Table 2 presents one interpretation of the major and minor components of the income definition necessary for valid international income comparisons, and whether they are collected by the CPS ASEC.¹

Conceptually at least, the CPS ASEC collects or imputes nearly all the components of income necessary to compute the Canberra Group's comprehensive measure. The major components that are missing are home production for home use or barter transactions (relatively unimportant in the U.S. context), transfers paid to another household or payments made on

¹ Smeeding and Weinberg (2001) identified 36 of the 106 potential income components as major (the components they recommend excluding entirely are not listed in Table 2).

behalf of another household, and some fringe benefits (particularly company cars and subsidized meals).

In most societies, "underground," "nonmarket," or "black market" income from legal or illegal activities is typically omitted from official income statistics. This income ranges from barter transactions to home production (e.g., home gardens) to illegal income. Researchers are a long way from measuring this activity, so including this income into official statistics would be quite difficult.²

DATA COLLECTION

The two data collection issues that affect data quality are unit nonresponse and item nonresponse. Typical response rates to the CPS are about 92-93 percent, but the eligible households who do not respond to this voluntary survey are likely to be different from the ones who do respond. CPS data are weighted to correct for demographic aspects of unit nonresponse (e.g., poor coverage of young Black males), but to the extent that income reporting is uncorrelated with those basic demographic characteristics, biases may be present in income data as a result of undercoverage of certain groups.

Item nonresponse is compensated for by edit and imputation – programs that first correct obvious errors, then calculate implied answers, and finally impute for missing data. “Hot deck” imputation (duplication of other households’ responses) is used to handle this last aspect of item nonresponse on the CPS, but again if the determinants of that nonresponse are not fully controlled for in the imputation process, biases may remain (see Lillard et al., 1986). Procedures to enhance the data through microsimulation, by matching to administrative records to develop

² The Bureau of Economic Analysis estimated this total at \$104 billion in 2001, 1.4 percent of money income; see Table 3 (discussed in the Appendix).

improved imputation models, or via other means, are all avenues that could be investigated to improve imputation for item nonresponse.

The accuracy and completeness of CPS income data is also affected by response error, in that respondents may not be reporting full and accurate information. Comparisons of CPS income data with aggregate totals from independent sources give some idea of the magnitude of misreporting, but they do not tell us whether misreporting affects distributional measures such as poverty (as it would if underreporting were correlated with income).

In many countries, underreporting is disproportionately high for three types of income: government transfers, property income, and self-employment income (Harris, 1998). Since transfers are more likely to be received by people in the lower tail of the income distribution, this underreporting would increase measured poverty. On the other hand, underreporting of property income tends to lower the income of households at the top of the distribution, leaving poverty unaffected. Underreporting of self-employment income can result in too many individuals with low incomes, or even negative incomes, also affecting the measured poverty rate.

Rector, Johnson, and Youssef (1999) have argued that “the CPS dramatically and consistently under reports the economic resources of households” — by about \$2 trillion in 1996 when compared to estimates they derive from the Bureau of Economic Analysis (BEA) NIPAs. However, Roemer (2001) responds that this “reporting shortfall” is an “incorrect characterization of the discrepancy because the income measures are not directly comparable...[since] the March CPS does not aim to measure many of the components of income contained in the NIPAs.”³

Ruser, Pilot, and Nelson (2004) have recently prepared an evaluation of alternative measures of household income which also discusses underreporting in the CPS ASEC. They summarize their conclusions about CPS underreporting as follows:⁴

³ Prior to 2000, the CPS ASEC was administered only in March and was often termed the “March supplement.”

⁴ The BEA estimates used in their study differ from estimates based on the National Income and Product Accounts

BEA estimates that personal income for the U.S. was \$8.679 trillion in 2001, as compared to a CPS money income estimate of \$6.446 trillion. Over 64 percent of this \$2.233 trillion gap — \$1.427 trillion — can be accounted for by differences in the income types that are included in the two measures, including the \$982 billion of property income that is counted in personal income but not in CPS money income. Half of the remaining \$806 billion money income gap can be accounted for by BEA adjustments to proprietors' income and wages and salaries for underreporting in BEA source data.

As they further note,

[BEA] Personal income exceeds money income in part because the former includes not only income received by individuals but also income received on behalf of individuals. In 2001, \$982 billion in property income (dividends, interest and rents) was received on behalf of individuals by pension plans, nonprofit institutions serving households, and fiduciaries. Personal income also contains other income categories not in CPS money income. Most notably, personal income included \$563 billion in employer contributions for employee pension and insurance funds and \$592 billion in transfer payments, mostly non-cash, like Medicaid, food stamps, and energy assistance. SPI-derived money income in 2001 included \$813 billion not in personal income. Almost half (44 percent) of that — \$360 billion — came from disbursements of retirement income benefits. Money income also included \$372 billion in personal contributions to social insurance (largely social security) that was deducted from personal income.

Full details about this comparison, excerpted from their paper, are presented in the Appendix and in Table 3.

Other studies have examined different aspects of income data collection on the CPS. Bound and Krueger (1991) found that more than 40 percent of CPS respondents for whom data could be matched to Social Security earnings records report earnings within 2.5 percent of earnings as reported to the Internal Revenue Service.⁵ Coder and Scoon-Rogers (1996) and Roemer (2000) have documented underreporting for certain income sources (most worrisome in percentage terms for self-employment income, interest, dividends, and transfer payments; in quantitative terms, for wages and salaries). Roemer (2002) found that the CPS had “an excess of high wages and [a] shortage of low wages.” Others (e.g., Bavier, 1999, and Primus et al., 1999; as cited in Meyer and Sullivan, 2003) have suggested that transfer program reporting has gotten

because they use the national total of State Personal Income (SPI) estimates. See Ruser et al. (2004) for more details.

⁵ As cited in Meyer and Sullivan (2003), p. 7.

worse, perhaps in part related to the passage of the Temporary Assistance for Needy Families legislation in 1996, which permitted states to create new programs for low-income families and convert cash assistance into other forms of support (e.g., child care and transportation assistance).

POST-COLLECTION PROCESSING

There are two key aspects of Census Bureau post-collection data processing of the CPS ASEC that are intended to “add value” to the basic microdata — valuation of noncash income and a microsimulation-based calculation of taxes.

Valuation of Noncash Income

The issue of valuation of noncash income spans the income distribution. A more comprehensive income measure like that of the Canberra Group places a value not only on noncash government transfers, such as food stamps for low-income families, but also on elements of nonwage compensation (from employer-provided health insurance to company cars) that typically go to earners at all or high income levels. The Census Bureau began publishing estimates of the value of many of these noncash benefits in 1982 (the latest is DeNavas-Walt et al., 2003). This experimental series values food, housing, government medical transfer benefits, and employer-provided health insurance.

Each of these areas, except food stamps (which are valued at their coupon value), needs further developmental work to improve measurement methods. For example, the current value method for housing subsidies involves a statistical match to the 1985 American Housing Survey. Experimental methods to improve that method have been developed (see Stern, 2000a, 2000b), but have yet to be implemented.

One major issue in computing income is whether and how to include medical benefits, both the government health programs. Medicare (medical aid to the elderly and some disabled) and Medicaid (medical aid to some low-income and some disabled people) and employer-based health insurance. Valuation of medical benefits is particularly difficult. If one imputes the value of an equivalent insurance policy to program participants, these benefits (high in market value owing to large medical costs for the fraction who do get sick) cannot be used by recipients to meet other needs of daily living.⁶

Work could also be undertaken on valuation of other employer-provided benefits. Should employer contributions to retirement pensions be included in non-wage compensation of current earners or measured as part of income when it is paid out to pension recipients (as is now done)? Should questions be added to collect data on receipt of fringe benefits such as company cars and subsidized meals? Much could be learned about non-wage compensation from a study matching household data with data from their employers on non-wage compensation.

Homeownership provides the largest noncash flow of services not currently counted in family money income and the Canberra Group recommended that a rental-equivalent return on owner-occupied housing should be included in income. If acceptable methods to accomplish that

⁶ Because these medical programs are so large, determining a better measure of the value of medical benefits or a better way of accounting for the presence of adequate health insurance was a high priority of the National Academy of Sciences panel on poverty measurement (Citro and Michael, 1995). Ellwood and Summers (U.S. Census Bureau, 1986) argued that there is little theoretical foundation for including medical benefits as income, on the one hand but then not adjusting income for other medical expenditures, such as insurance premium costs for those who must buy their own insurance and out-of-pocket expenditures for medical care, on the other. To treat all medical costs consistently, they concluded that it is preferable to exclude all medical care costs from income because: (1) there are large variations in medical need and more medical needs do not leave the individual better off; (2) medical benefits are not fungible, especially for the poor; and (3) there are many difficult measurement problems in trying to value medical benefits. Aaron (U.S. Census Bureau, 1986) suggested (a suggestion attributed to Gary Burtless), if a person was not poor on the basis of income, he could still be classified as poor if he did not have health insurance coverage. He argued that medical care is not fungible, so medical benefits should not be added to income. This last approach was adopted by the National Academy of Sciences in its report on poverty measurement (Citro and Michael, 1995). The Census Bureau currently uses a measure termed “fungible value,” which places an upper limit on the value of those benefits to individuals (a value no more than their market value and typically much less for those with low incomes).

valuation can be agreed on, that one change alone would have a substantial effect on the measured poverty of those who own their homes “free and clear,” typically many seniors.

Measurement of Disposable Income

Census Bureau estimates of after-tax income are based on a microsimulation model of the likely taxes a family with particular circumstances would pay. While the model is reasonably accurate at an aggregate level, additional research could be carried out to improve its accuracy at the household level, particularly for imputation of the Earned Income Credit (EIC).⁷ Consensus would need to be reached on the proper way to handle other potential reductions from cash income to create a disposable income measure — specifically work expenses (including child care expenses). The National Academy of Sciences panel on poverty measurement (Citro and Michael, 1995) recommended that all work expenses be deducted from income.

RESEARCH IMPLICATIONS

The income part of the CPS ASEC questionnaire is unchanged in substance since March 1980 (except for conversion to a computer-assisted instrument in March 1994). Should questionnaire expansion be permitted, several improvements in the data collection instrument could be considered: (1) collecting information on important income sources missing from the current questionnaire (particularly interhousehold transfers and some fringe benefits, as noted by the Canberra Group); (2) reducing item nonresponse (serious and potentially biasing for certain income sources); and (3) developing additional probes or alternate question sequences for income sources for which there is notable misreporting (wages, transfer payments, self-

⁷ A revised model is scheduled for implementation in the Fall of 2004.

employment [proprietors'] income, interest, and dividends). It is unclear, however, what can be done to collect data on unreported “illegal” or “underground” income.

Questionnaire improvements alone are unlikely to completely eliminate income misreporting. Complementary work could be carried out to improve post-collection processing and thereby the estimates reported to the public as alternatives and available for policy analysis. These tasks include (1) improving the valuation of noncash transfers, particularly medical care; (2) improving the modeling of taxes, particularly the Earned Income Credit; (3) developing better weighting approaches for unit and person nonresponse; (4) developing better imputation models for item nonresponse; and (5) improving the modeling of imputed returns for owner-occupiers. Finally, models to correct the CPS ASEC microdata for misreporting (nonreporting, underreporting, *and* overreporting) might be developed on an experimental basis, along the lines of what the Urban Institute does to correct the CPS data for use in its TRIM microsimulation model (Wheaton and Giannarelli, 2000).

APPENDIX: Comparison of Bureau of Economic Analysis (BEA) Personal Income and Current Population Survey (CPS) Money Income Estimates
(Excerpted from Ruser, Pilot, and Nelson, 2004)

This section presents a reconciliation of aggregate estimates of BEA personal income and CPS money income. BEA's national estimate of personal income derived from state personal income (SPI) estimates is converted to an "SPI-derived money income" estimate by adding and subtracting income types to bring personal income to the same scope as CPS money income.⁸

BEA estimates that state personal income for the US was \$8.679 trillion in 2001, as compared to a CPS money income estimate of \$6.446 trillion. Sixty-four percent of this \$2.233 trillion gap — \$1.427 trillion — can be accounted for by differences in the income types that are included in the two measures (see Table 3).

Personal income contained \$2.240 trillion in 2001 that was not in CPS money income. Personal income exceeds money income in part because the former includes not only income received by individuals but also income received on behalf of individuals. In 2001, \$982 billion in property income (dividends, interest and rents) was received on behalf of individuals by pension plans, nonprofit institutions serving households, and fiduciaries. Personal income also contains other income categories not in CPS money income. Most notably, personal income included \$563 billion in employer contributions for employee pension and insurance funds and \$592 billion in transfer payments, mostly non-cash, like Medicaid, food stamps, and energy assistance.

SPI-derived money income in 2001 included \$813 billion not in personal income. Almost half (44 percent) of that — \$360 billion — came from disbursements of retirement income benefits.⁹ Money

⁸ The reconciliation uses BEA's national estimate constructed from state personal income (SPI) rather than the national estimate from the National Income and Product Accounts (NIPAs). The main differences between the NIPA and SPI estimates of personal income stem from the treatment of the income of U.S. residents who are working abroad and the treatment of the income of foreign residents who are working in the United States. The national total of the state estimates of personal income consists of only the income earned by persons who live within the United States, including foreign residents working in the United States. This is closer to the scope of the CPS, though the CPS excludes certain individuals residing in the US, including military on US posts without family, the institutionalized, decedents in the reference year, and child workers under 15 (agricultural workers can legally be as young as 10).

⁹ To produce SPI-derived retirement money income, estimates of lump-sum payments were removed from BEA's national retirement benefit estimates. While lump sum payments (including withdrawals) constitute a negligible portion of public retirement payments, they appear to comprise over half of private retirement payments. BEA national private pension benefits are based primarily on Department of Labor (DOL) tabulations reports filed by employers and data compiled by the American Council of Life Insurance (ACLI). BEA estimated private pension lump sum payments using the 1998 Form 5500 ratio of benefits from defined contribution plans to total private retirement benefits applied to the 2001 BEA national private pension benefit estimate. Although the unadjusted BEA national estimate of private pension benefits was substantially greater than the CPS figure, after the removal of lump sum payments the SPI-derived money income measure exceeded the CPS figure by only \$6 billion or 6 percent. of Form

income also included \$372 billion in personal contributions to social insurance (largely social security) that was deducted from personal income.

While not affecting the total gap between income estimates, BEA and the Census Bureau categorize some types of income differently. The principal difference is the treatment of S corporation profits. Shareholders of S corporations report their share of company profits (whether distributed or not) on their individual tax returns. BEA classifies as dividends all S corporation profits distributed to shareholders, regardless of whether the shareholders are employees of the corporation. Census money income treats these profits as dividends when they are received by non-employee shareholders, but treats them as wage and salary income to shareholder-employees. \$189 billion was reallocated from dividends to wages and salaries to make the personal and money income estimates comparable. Another difference occurs in the treatment of distributed earnings from money market accounts. These are classified as interest by BEA and dividends by the Census Bureau; therefore, \$52 billion was reallocated from interest to dividends in this reconciliation.

The Money Income Gap by Type of Income for 2001

After adjusting for differences in income types included in the two measures, SPI-derived money income still exceeds CPS money income by \$806 billion. What accounts for this “money income gap?” Some insights can be gleaned by comparing the gap by type of income as shown in Table 3, line 35. The gap occurs primarily in wages and salaries, proprietors’ income, personal dividends, personal interest, social security, and other retirement and disability income.

The income category experiencing the largest money income gap is proprietors’ income. BEA’s estimate of SPI-derived proprietors’ money income (that is, BEA’s estimate of proprietors’ income adjusted to include CPS money income categories) is \$630 billion in 2001, as compared to a reported CPS money income estimate of \$329 billion. The nearly \$302 billion gap in these estimates can be fully accounted for by BEA misreporting adjustments.

BEA uses Internal Revenue Service (IRS) tabulations of sole proprietorship and partnership income tax returns as the primary source for nonfarm proprietors’ income estimates. IRS tax return data do not include the income of “nonfilers,” that is, those who are not required to file tax returns or those

who illegally evade filing. Further, some filers underreport income. While the IRS can verify certain types of income reported on individual returns, such as wages, interest, and dividends, by matching tax return information with corresponding third party reports, document matching is ineffective for verifying business income.

BEA adjusts for income earned, but not reported on tax returns, by adding an estimate of "misreporting". The adjustment is an extrapolation based primarily on the 1988 Taxpayer Compliance Measurement Program (TCMP) audit, 1999 exact match study, and current activity indicators, such as the Census Bureau's value of new construction. Proprietors' income has been consistently underreported to the IRS. The last TCMP audit estimated that proprietors' actual income was more than double levels reported on tax returns (Landefeld and Fraumeni, [2001,] p. 33). The 2001 proprietors' income misreporting adjustment accounts for 42 percent of proprietors' state personal income and 49 percent of SPI-derived proprietors' money income in 2001.

Although the Census Bureau does not make a similar adjustment to money income estimates, BEA includes the misreporting adjustment in its derivation of SPI-derived money income in the belief that it is the best available approximation of actual unreported proprietors' money income. However, respondents who underreport to the IRS may also underreport in a voluntary survey such as the CPS. At \$308 billion in 2001, the proprietors' income misreporting adjustment fully accounts for the \$302 billion proprietors' money income gap that year.¹⁰

The "other retirement and disability income" category constitutes another major source of the total money income gap. This income category consists primarily of retirement benefits from private, government, military, railroad, and individual funds. It also includes payments to beneficiaries of state temporary and disability insurance, black lung, pension benefit guarantee, and private accident insurance disability funds. It does not include either Social Security or workers' compensation. Large both in percentage and dollar terms, at \$360 billion SPI-derived money income in this category exceeds the CPS level of \$253 billion by 42 percent.

¹⁰ Given that the two primary studies on which the misreporting adjustment is based have not been conducted in recent years, the reliability of the 2001 misreporting adjustment may be questioned. The IRS has replaced the TCMP with the National Research Program (NRP), which has as part of its mandate the measurement of filing and reporting compliance. NRP audits were begun in 2002 and will provide a more accurate picture of current filing and reporting gaps when results become available (U.S. Internal Revenue Service, 2002).

SPI-derived money income significantly exceeds CPS money income in every government retirement income category. SPI-derived pension benefit figures are 49 percent higher than CPS money income for federal retirement and 91 percent higher for state and local government. BEA estimates in these categories are based on data from the Monthly Treasury Statement and the Census Bureau. Estimates of individual annuity benefits also vary widely. The BEA figure, based on data from the National Association of Insurance Commissioners, exceeds the CPS estimate by 481 percent.

CPS and SPI-derived wage and salary money income differ by only 3 percent, but this small percentage represents \$158 billion. BEA includes a \$104 billion adjustment for wage and salary income earned in the underground economy, which estimates cash wages from legal activities that are earned "off the books."¹¹ Although the CPS is designed to include these wages, as with proprietors' income, individuals who don't report or underrepresent income to the IRS or other agencies may be unlikely to fully report these wages on a voluntary survey such as the CPS, despite assurances of confidentiality.

Census Bureau research by Roemer (2002) comparing CPS wage data with administrative earnings records from the Social Security Administration's Master Earnings File has shown that the CPS underestimates wages of part-year, part-time workers. Because the CPS does not survey military personnel living on a U.S. post without family, wages earned by military personnel from secondary jobs in the civilian sector would not be included. Underreporting by proxy reporters especially of secondary jobs may also be a factor. Finally, since the reference period for the CPS ASEC is the past calendar year, respondents may fail to recall small amounts and payments that are received infrequently. This might affect not only the reporting of wages for short duration jobs, but also the reporting of other small income components.

Within property income, CPS and SPI-derived money income differ substantially in the personal interest and dividend income categories. At \$259 billion, SPI-derived personal monetary interest exceeds the CPS level of \$188 billion by 38 percent. The BEA figure is based primarily on IRS Individual Master File data. In 2001, taxable and tax-exempt interest reported on individual tax returns totaled \$243 billion.¹² Given the similarity between the BEA estimate and level of personal interest income reported to

¹¹ For a fuller discussion of the underground economy see Carson (1984) and Parker (1984).

¹² See U.S. Internal Revenue Service, 2002-2003, p. 137.

the IRS, the interest money income gap appears due to underreporting on the CPS survey. This may result in part from incomplete information provided by proxy reporters.

SPI-derived dividend income (also based primarily on IRS Individual Master File data) is \$148 billion, 69 percent higher than the CPS dividend income level of \$88 billion. Dividend income reported on individual tax returns for 2001 totaled \$116 billion. The dividend money income gap occurs at least in part due to CPS underreporting, since the CPS level falls \$28 billion below the IRS reported level. SPI-derived interest may be expected to exceed the IRS level since tax return data do not include the income of nonfilers, but it is unclear whether this fully explains the \$32 billion by which the SPI-derived dividend figure exceeds the data from individual income tax returns.

Within transfer payments, the major gap occurs in Social Security. CPS money income reports Social Security as \$376 billion. At \$425 billion, SPI-derived Social Security (based on data from the Social Security Administration) exceeds the CPS level by \$49 billion and 13 percent.

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Table 1. Canberra Group Comprehensive Income Definition

Employee Cash or Near-Cash Income (wages, salaries, tips, bonuses, sick pay, vacation pay, profit sharing including stock options, severance and termination pay, location-specific allowances)
plus
Cash Value of Employee Fringe Benefits (employer contributions to social insurance, goods and services provided to employee as part of employment)
plus
Income from Farm and Non-Farm Self-Employment (profits/losses from unincorporated business, royalties)
plus
Net Value of Home Production (used for barter or consumption)
plus
Imputed Rent from Owner-Occupied Dwellings
plus
Net Income from Rentals
plus
Property Income (interest received less interest paid, dividends)
plus
Current Transfers from Employers and the Government (e.g., pensions, social security, welfare)
plus
Other Regularly Received Money Income (e.g., inter-household transfers)
<i>equals</i> TOTAL INCOME
less
Regular Transfers Paid (employees' and employers' social insurance contributions, income and wealth taxes, regular interhousehold transfers, charitable contributions)
<i>equals</i> DISPOSABLE INCOME

Source: Adapted from Expert Group (2001), Table 2.1.

Table 2. “Major” and “minor” components of the Canberra Group recommended income definition collected, imputed, or not collected by the Annual Social and Economic Supplement to the Current Population Survey

<u>Major Element</u>	<u>Minor Element</u>
CASH EARNINGS	
J wages and salaries (main job)	J tips
J wages and salaries (other jobs)	J bonuses
S (net) nonfarm self-employment	J severance pay
S (net) farm self-employment	
N net income (after expenses) from home production for barter transactions	
OTHER CASH MARKET INCOME	
J employer-based pensions or other periodic retirement including pensions bought with additional employee voluntary contributions	N profit-sharing including stock options
S interest received	J foreign pensions
S dividends	J royalties earned by households as unincorporated enterprises
J rental income earned by households as unincorporated enterprises	J interest and dividends from estates and trusts
	N profits from unincorporated business capital investment
	N interest paid on non-mortgage loans (subtraction)
	J pension or annuity income from self-financed investments
CASH TRANSFERS	
N family or child benefits/credits/allowance	N parenting payment
N maternity benefits/allowances/grants	S government workers' compensation (on-the-job injuries)
S government social security (retirement and survivors) benefits	S government scholarships and educational assistance (excluding loans)
S government disability insurance/incapacity/disablement benefits	N reduction in interest on student loans
S government unemployment benefit/job search allowance	N government payments for child care to permit employment
S veterans' benefits (injury, pension, etc.)	N child support assurance (public) benefits
S public assistance or general welfare benefits	J means-tested disability support
J public assistance for elderly	J means-tested age pension
I rental allowances (housing subsidies)	N other transfer programs (catch-all item)
N means-tested unemployment benefits	
OTHER REGULARLY RECEIVED MONEY INCOME	
	S payments for fostering children
	S private disability insurance/incapacity/disablement benefits
	N private unemployment/redundancy insurance
	N private workers' compensation (on-the-job

		injuries)
	N	private scholarships and educational assistance (excluding loans)
	J	military family allotments
	S	union sick or disability pay
	S	union strike pay
	N	regular receipts from non-profit entities
NET REALIZED CAPITAL GAINS AND INTERMITTENT INCOME		
I		realized capital gains
	N	lump sum retirement payout
	N	profits from life insurance
	N	lottery or gambling winnings
NET INTERHOUSEHOLD TRANSFERS		
S		alimony received from another household
S		child support received from another household
N		regular cash inter-household transfers or gifts received
N		alimony paid to another household
N		child support paid to another household
N		payments on behalf of another household
	S	other regular payments from outside household
	N	regular inter-household transfers or gifts paid (subtraction)
IN-KIND EARNINGS AND HOME PRODUCTION		
N		net income (after expenses) from home production for home use
NET (NONDISCRETIONARY) WORK EXPENSES (subtractions)		
I		employee contributions to government insurance premiums (including payroll taxes)
	N	employer reimbursements for discretionary work expenses
	N	government-mandated employee contributions to unemployment insurance
NET DIRECT INCOME TAXES		
I		income taxes net of refunds (subtraction)
	I	child tax credit
	I	earned income tax credit
	N	other tax credits
	N	compulsory fees and fines (subtraction)
IN-KIND MARKET INCOME		
I		employer contributions to private health insurance
N		company cars
N		subsidized meals
	N	employer contributions to life insurance
	N	employer contributions to employer other insurance schemes (e.g. disability)
	N	employer contributions to government insurance schemes (including payroll taxes)
	N	subsidized (low-interest) loans
	N	subsidized housing, electricity
	N	subsidized child care
	N	subsidized vacations
IN-KIND TRANSFERS		
I		government-subsidized health care
	N	public education

- services
- S food subsidies or vouchers
- I publicly owned housing subsidy
- N surplus food and clothing

IMPUTED RENT FOR OWNER-OCCUPIED DWELLINGS

- I imputed return on the equity in one's own home, accounting for property (real estate) taxes and interest paid on mortgage loans

NOTES:

Income components classified as major or minor by Smeeding and Weinberg (2001).

I = imputed

J = collected jointly with another component

N = not collected

S = collected as a separate income component

TABLE 3: BEA State Personal Income (SPI) to Money Income (MI) Reconciliation Matrix, 2001 (millions of dollars)

Source: Ruser, Pilot, and Nelson (2004), Table 1

Line		Personal Income													Not in SPI	Residual	
		Property Income							ECEPIF	Social Security	Workers' Compensation	Other Retirement and Disability	Income Maintenance	Unemployment Insurance			Other
		Total	Wages And Salaries	Proprietors' Income	Dividends	Interest	Rent & Royalties										
1	Aggregate State Personal Income	8,679,348	4,951,022	729,092	409,193	1,090,166	137,854	562,628	425,167	11,159	13,573	110,901	32,408	206,185			
2	Less: portion of SPI not in MI	2,240,036	4,871	98,598	123,642	779,260	79,109	562,628	209	3,496	4	48,762	0	539,457			
3	Pay-in-kind	4,713	4,713														
4	Non-farm proprietors' adjustments	94,992		94,992													
5	Farm proprietors' adjustments	3,606		3,606													
6	Dividends retained or received by retirement plans and quasi-individuals	123,642			123,642												
7	Interest retained or received by retirement plans and quasi- individuals and other adjustments	779,260				779,260											
8	Rents and royalties retained or received by retirement plans and quasi-individuals and other adjustments	79,109					79,109										
9	Employer contributions for employee pension and insurance funds	562,628						562,628									
10	Federal and state prisoner compensation	158	158														
11	Transfer payments not included in money income	591,715								3,496		48,762		539,457			
12	Lump-sum payments	213							209		4						
13	Plus: Portion of MI not included in SPI	812,974	0	0	0	0	0	0	0	23,666	346,413	0	1,842	395,841	45,212		
14	Personal contributions to social insurance	371,690												371,690			
15	Company or union pension benefits (including profit sharing)	117,587									117,587						
16	Federal government retirement benefits	49,112									49,112						
17	U.S. military retirement benefits	34,609									34,609						
18	State or local government employee pensions benefits	105,453									105,453						
19	Regular pay from annuities and paid-up life insurance policies	30,691									30,691						
20	IRA, Keogh, or 401(k)	6,985									6,985						
21	Private workers' compensation benefits	23,666								23,666							
22	Private supplemental unemployment benefits	1,842											1,842				
23	Private accident insurance disability benefits	1,977									1,977						
24	School scholarships and grants and other education assistance	24,151												24,151			
25	Child support	24,766													24,766		
26	Alimony	6,559													6,559		
27	Assistance from friends and relatives	13,887													13,887		
28	Plus: Reallocation by type of SPI Inc	0	188,846	0	(137,346)	(51,500)	0	0	0	0	0	(6,103)	0	6,103	0		
29	S corporation profit distributions	0	188,846		(188,846)												
30	Interest distributed by regulated investment companies	0			51,500	(51,500)											
31	Foster care and adoption assistance, excluding institutions	0										(6,479)		6,479			
32	Assistance from Bureau of Indian Affairs	0										376		(376)			
33	Equals: SPI- derived money income	7,252,286	5,134,997	630,494	148,205	259,406	58,745	0	424,958	31,329	359,982	56,036	34,250	68,671	45,212	0	
34	Census money income (as reported)	6,445,929	4,976,880	328,784	87,728	188,243	58,495	0	375,672	11,516	253,496	32,500	24,327	64,485	43,644	160	
35	Money income gap (line 33 - line 34)	806,357	158,117	301,710	60,477	71,163	250	0	49,286	19,813	106,486	23,536	9,923	4,187	1,568	(160)	
36	Percent distribution of money income gap	100.0%	19.6%	37.4%	7.5%	8.8%	0.0%	0.0%	6.1%	2.5%	13.2%	2.9%	1.2%	0.5%	0.2%	-0.0%	
37	Relative money income gap (line 35/line34)	12.5%	3.2%	91.8%	68.9%	37.8%	0.4%	0.0%	13.1%	172.0%	42.0%	72.4%	40.8%	6.5%	3.6%		
38	Addendum: Misreporting and Underground Income adjustments included in SPI		104,296	308,025		-17,235	1,796										

NOTES Income Definitions:

Other Income: SPI -- Remaining Transfer Payments and Residence Adjustment; CPS -- Veterans' Benefits, Educational Assistance, Other

Income Maintenance: SPI -- Income Maintenance; CPS -- Supplemental Security Income and Public Assistance

ECEPIF refers to employer contributions for employee pension and insurance funds.