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How the United States Measures Well-being in Household Surveys

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This article reports on the surveys used in the United States to measure several key aspects of well-being – health; food security; time use; expenditures and consumption; wealth (assets and liabilities); housing; material measures of well-being; and income and poverty.

Key words: Well-being; income; poverty; consumption; expenditures; wealth; health surveys.

1. Introduction

Personal well-being is affected by many factors – one's health and education, the social and cultural milieu in which one lives, leisure time, sufficient income to afford needed and desired consumption items and for savings to purchase housing or other stocks of wealth for the future, and more. The longest time series for United States well-being information from sample surveys (dating back to the 1940s) is for income – characterized by income levels, income inequality, and income-based poverty – and the means to earn an income – employment. Other, more recent surveys look at other aspects of well-being – expenditures, wealth, housing, and health. Since 1983, a longitudinal survey has allowed policy analysts to examine material ("extended") measures of well-being and their relationship to other economic measures. Yet another new survey, begun in 2003, examines time use.

The purpose of this article is solely to describe, at a very basic level, the well-being measures the federal government collects on U.S. household surveys, and to describe, also at a basic level, the surveys that collect that information. With only a few exceptions, levels for those indicators are not included herein, as providing the context for those measures would make the article too long. Internet references for all surveys are included should the reader desire more information.

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The first section focuses on health, including measures of health status, disability, health care utilization, and health insurance coverage. The second section references food security and hunger. Next, a new survey on time use is discussed. The fourth section discusses consumption and expenditures, and the fifth, wealth. Housing, a key component of both expenditures and wealth, is the focus of the sixth section. The seventh section discusses material well-being. The eighth, and the longest, section, discusses income, including inequality and poverty measures. A brief summary is included. The appendix includes more detailed information about the surveys discussed here, including sample sizes; the appendix also includes the most common acronyms for the surveys being discussed.

This article does not discuss surveys that try to measure the "social and cultural milieu" that might affect one's well-being. Such social and cultural information is collected on the General Social Survey (which does receive some funding from the U.S. government). The General Social Survey (GSS) was begun in 1972 to collect a number of social indicators annually from about 1,500 adults and is part of the International Social Survey Program (the survey was made biennial in 1994 with a sample size of about 3,000 adults). As its web site notes: "The basic purposes of the GSS are to gather data on contemporary American society in order to monitor and explain trends and constants in attitudes, behaviors, and attributes; to examine the structure and functioning of society in general as well as the role played by relevant subgroups; to compare the United States to other societies in order to place American society in comparative perspective and develop cross-national models of human society. . . " (See ⟨http://www.norc.uchicago.edu/projects/gensoc1.asp⟩ for more information.) Another aspect of the social milieu not specifically discussed in this article is crime victimization. The National Crime Victimization Survey, begun in 1973, collects information from about 42,000 households annually; see ⟨http://www.ojp.usdoj.gov/bjs/cvict.htm⟩ for more details. The American Housing Survey (see the section on housing, below) asks about perceptions of neighborhood crime.

Nor does the article discuss surveys that measure the means for producing income (such as education surveys and labor force surveys). More information on these types of surveys can be found at the web sites of the U.S. National Center for Education Statistics ⟨http://nces.ed.gov⟩ and the U.S. Bureau of Labor Statistics ⟨http://www.bls.gov⟩, respectively. One exception is the Current Population Survey (CPS), whose supplements are sources for some well-being measures, which are discussed herein. The CPS is the key U.S. labor force survey. It began in 1942 and is fielded monthly. The typical CPS *monthly* sample in 2004 was 72,300 housing units assigned for interview, with 55,300 households interviewed. For more information on the CPS, see ⟨http://www.bls.census.gov/cps/cpsmain.htm⟩.

This article also does not discuss the differences in the "unit of analysis" between different surveys; these differences should be taken into account when examining measures from different surveys. Some surveys interview one respondent representing an entire household (all those living together in one housing unit), and some interview all members of the household (individuals). Some surveys present data separately for households, for families (in the U.S., household members related by blood, marriage, or adoption), and for individuals, and some present data for idiosyncratic units of analysis specific to the purposes of the particular survey (e.g., the Consumer Expenditure Survey

uses a "consumer unit," and the Survey of Consumer Finances uses a "primary economic unit").

A word about how surveys are conducted in the U.S. is appropriate. Many surveys are conducted directly by statistical agencies, such as the U.S. Census Bureau and the U.S. Bureau of Labor Statistics, which have their own field interviewing staff. Other agencies use funds appropriated to them by the U.S. Congress to pay the U.S. Census Bureau or some private survey research firm to collect information on their behalf. Finally, some academic or private enterprises carry out surveys on their own, funded sometimes by government grants, or for the sake of pure research, or possibly by sales of survey products. Quite a number of methods are used to collect the data – mail-out/mail-back instruments, telephone and personal visits (both "paper and pencil" and computer-assisted), and other electronic means (such as the Internet, still rare, though often used for small-scale business data collection).

2. Health

The U.S. has several surveys that collect information on health status (including disability), health care utilization, and health insurance coverage. The country does not have a national system of health care, but does provide access to some health care for most of the low-income and disabled population through the Medicaid program, for some children through Medicaid and the State Children's Health Insurance Program, and for essentially all the elderly through the Medicare program, as well as for specific populations through certain government agencies including the U.S. Public Health Service and the U.S. Indian Health Service. Most individuals who have health insurance gain that coverage through their employer (or their parent's or spouse's employer); health insurance along with contributions to pension plans are the most significant noncash benefits offered by employers. Finally, the destitute in serious need of health care sometimes get treatment through "uncompensated care," whereby hospitals treat patients from whom they can get no payment (this is factored to some extent into public program reimbursements for covered patients).

Data on health conditions are collected in two main surveys – the National Health Interview Survey (NHIS) and the National Health and Nutrition Examination Survey (NHANES). These are supplemented by the Medical Expenditures Panel Survey (MEPS), focused on expenditures by households and insurance companies, and the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP), which collect information on general health status and health insurance coverage (the latter on monthly coverage); the SIPP also collects information on disabilities, which can be analyzed in conjunction with the economic well-being measures collected in that survey. Abbreviated disability measures have been included in most recent decennial censuses and in the American Community Survey (ACS), begun in 2000, and have been proposed for inclusion in the CPS.

2.1. The National Health Interview Survey

The National Health Interview Survey (NHIS) is the principal source of information on the health of the civilian noninstitutionalized population of the United States. While the NHIS

has been conducted continuously since 1957, the content of the survey has been updated about every 10–15 years; there is an oversample of Blacks and Hispanics. The survey is in the field every week; data are tabulated and released annually. In 2004, 36,833 households were interviewed.

The current NHIS has three parts or modules: a Basic module, a Periodic module, and a Topical module. The Basic module remains largely unchanged from year to year and as such allows for analysis of trends, and for data from more than one year to be pooled to increase sample size for analytic purposes. The Basic Module contains three components: the Family Core, the Sample Adult Core, and the Sample Child Core. The Family Core component collects information on everyone in the family and allows the NHIS to serve as a sampling frame for other surveys. Information collected on the Family Core for all family members includes household composition and sociodemographic characteristics, tracking information, information for matches to administrative data bases, and basic indicators of health status and utilization of health care services.

From each family in the NHIS, one sample adult and one sample child, if any, is randomly selected and information on each is collected with the Sample Adult Core and the Sample Child Core questionnaires. Because some health issues are different for children and adults, these two questionnaires differ in some items but both collect basic information on health status, health care services, and behavior. The purpose of the Periodic module is to collect more detailed information on some of the topics included in the Basic module from the sample persons. The Topical module is used to respond to new public health data needs as they arise; questions in the Topical module may be fielded only once or may be repeated as needed.

The key indicators from the NHIS can be classified into three categories – self-reported health indicators, access to health care, and health care utilization. Some of the key indicators in the survey are general health status, limitations in activities, low back pain, headaches, psychological distress (e.g., anxiety, depression), smoking, alcohol use, leisure-time physical inactivity, and obesity. Access to health care is measured by health insurance status, experiencing unmet health care needs due to cost, and having a usual place to go for health care. Health care utilization includes measures of doctor, dentist, and hospital visits, the use of "complementary and alternative medicine" (e.g., chiropractic medicine), and days in bed or days lost from school or work due to illness.

2.2. The National Health and Nutrition Examination Survey

The National Health and Nutrition Examination Survey (NHANES) has been conducted since 1960 in order to provide current data on the amount, distribution, and effects of illness and disability in the U.S. population. The survey consists of both a household interview asking about health status, disease history, and diet, and a physical examination given at mobile examination centers by medical doctors and dentists; a blood sample is also drawn. The exam includes tests not usually done by private physicians, including a full body scan to measure body fat and bone density (the exact tests depend on the person's age and gender). Participants are reimbursed for expenses of participating and are given a cash incentive payment and a full medical report. The sample became continuous in 1999 and there is an oversample of certain demographic groups. (For the 1999 through 2006

survey period, NHANES oversampled non-Hispanic Blacks, Mexican-Americans, people aged 12–19 and 60 or more years, pregnant women, and low-income Whites.) It is recommended by the U.S. National Center for Health Statistics that two years of data be pooled for analysis; in 2001–2002, 11,039 persons were interviewed, for whom 10,477 physical examinations were conducted. Among the health indicators used in reports based on NHANES are hypertension, elevated serum cholesterol, obesity/overweight, untreated dental caries, osteoporosis, environmental chemicals and smoke exposure, immunizations, vitamins and minerals in the diet, and elevated blood lead levels.

2.3. The Medical Expenditure Panel Survey

The Medical Expenditure Panel Survey (MEPS) has collected data each year since 1996 on the specific health services that Americans use, how frequently they use them, the cost of these services, and how they are paid for, as well as data on the cost, scope, and breadth of private health insurance held by and available to the U.S. population. The MEPS also provides information on how the costs to employers of providing health insurance vary by region.

The MEPS has a unique sample design, collecting data from several different components of the U.S. health care system. The Household Component (HC) collects data on a sample of families and individuals already interviewed by the National Health Interview Survey. The panel design of the survey, which features five rounds of interviewing over two-and-a-half years, makes it possible to determine how changes in respondents' health status, income, employment, eligibility for public and private insurance coverage, use of services, and payment for care are related. In 2004, interviews were conducted with 14,097 families.

The Medical Provider Component covers hospitals, physicians, and home health care providers. It also collects additional information that can be used to estimate the expenses of people enrolled in health maintenance organizations and other types of managed care plans.

Finally, the Insurance Component (IC) consists of a sample of business establishments and governments throughout the U.S. From this survey, national, regional, and state-level estimates can be made of the amount, types, and costs of health insurance available to Americans through their workplace. The IC no longer includes one subcomponent, the "household sample," which collected detailed information from 1996 to 2002 on the health insurance held by and offered to household respondents to the MEPS. Even though those data, when linked back to the original household respondent, allowed for the analysis of individual behavior and choices made with respect to health care use and spending, nonresponse made the representativeness of the sample a concern (this subcomponent attempted to interview a sample drawn from the MEPS-HC, which in turn was drawn from a sample of the NHIS).

The 1996 Nursing Home Component (not currently fielded) gathered information from a sample of nursing homes and residents nationwide on the characteristics of the facilities and services offered; expenditures and sources of payment on an individual resident level; and resident characteristics, including functional limitation, cognitive impairment, age, income, and insurance coverage.

As noted, the key indicators for the MEPS are public and private health insurance coverage, and various measures of health care costs. Other indicators collected on the survey are self-reported health status and conditions, and the use of medical services. The health status measures range from general health status to specific information on physical and cognitive functioning; activity limitations; and specific health conditions, including mental health. A substantial level of detail is collected on various types of health care utilization: hospital stays, emergency room visits, outpatient department visits, medical provider visits, dental care, home health care, prescription medicines, over-the-counter medicines, and other medical expenses.

2.4. Other Health Surveys

Additional information on public and private health insurance coverage is available from both the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC) and the Survey of Income and Program Participation (SIPP). (Both the CPS ASEC, formerly called the Annual Demographic Survey or simply the March CPS Supplement, and the SIPP are described more fully in the *Income* section.) The CPS ASEC produces timely estimates of the insured and uninsured population at the national level (and for states through multiyear averaging), because it includes detailed health insurance questions asked of the household respondent about every household resident. Respondents are asked about health insurance coverage in the previous calendar year, though critics have argued that its estimates more accurately reflect a point-in-time estimate. The CPS ASEC is perhaps the most widely used, though not necessarily the most accurate, source of data on health insurance coverage in the U.S. and provides a consistent historical time series at the national level. The CPS ASEC is also the official source of estimates used to allocate federal funding to states for the State Children's Health Insurance Program.

The SIPP is useful in this area mainly for analyzing health insurance coverage changes over time, for example how long a given person remains uninsured, what percentage of the uninsured population remains uninsured in the following year, how many people obtain coverage, or what changes in a person's coverage can occur within a given year. (The most recent report is Bhandari and Mills (2003); more information on health insurance data in CPS and SIPP can be found at ⟨http://www.census.gov/hhes/www/hlthins.html⟩.) The SIPP is also useful for studying the relationship between disability and economic well-being as it contains an extensive series of questions on adult and child functional limitations at least once per panel.

3. Food Security

In 1995, the U.S. Census Bureau started collecting data for the U.S. Department of Agriculture's Food and Nutrition Service and Economic Research Service on "food security" using a special Food Security Supplement to the Current Population Survey. Early work focused on the development of a food security scale. In December 2004, 48,103 households answered a series of 18 survey questions about behaviors and experiences with respect to food. Their responses are used to categorize food security into three categories: Food-secure, Food-insecure with no hunger, and Food-insecure with hunger. Data are collected annually; there are also questions on how much households

spent on food and the extent to which food-insecure households participated in national and community food assistance programs.

As described by Nord et al. (2003), 89 percent of U.S. households were food-secure throughout the entire year 2002, meaning that they had access, at all times, to enough food for an active, healthy life for all household members. The remaining households were food-insecure at least some time during that year. Food-insecure households had limited or uncertain availability of food, or limited or uncertain ability to acquire acceptable foods in socially acceptable ways (i.e., without resorting to emergency food supplies, scavenging, stealing, or other "unusual" coping strategies). Many food-insecure households were worried or unsure whether they would be able to get enough to eat, and most reduced the quality, variety, or desirability of their diets. Hunger was defined as the involuntary hunger that results from not being able to afford enough food.

4. Time Use

The American Time Use Survey (ATUS) collects information on how people living in the U.S. spend their time, differentiating between weekdays and weekends. The sample consists of cases each month drawn from former Current Population Survey households; respondent exhaustion affects their ability to complete interviews. Reporting days are pre-assigned to respondents in order to eliminate any bias in the data that might exist if respondents reported at their convenience. All interviews are conducted over the telephone, with interviewers using Computer-Assisted Telephone Interviewing. The questionnaire and methods are modeled after successful time use surveys in other countries, such as Australia. (See http://www.bls.gov/tus/home.htm#international for references to other countries' time use surveys.)

Data collection began in January 2003 and takes place every month, so the first annual estimates (covering calendar year 2003) were published in mid-2004; estimates will be published annually hereafter (13,464 households were interviewed in 2004). The U.S. Bureau of Labor Statistics anticipates that the data will have many uses, including, as its web site notes:

> The ATUS can significantly further understanding about the quality of life in the United States. Data will be available, for example, on how much time people spend working, sleeping, caring for children, volunteering, commuting, or relaxing. . . This information will help researchers understand how people in the United States today are coping with childcare, the demands of their jobs, their work commutes, their need to relax or exercise, and their religious, volunteer, and other commitments. . . In conjunction with earnings data, economists will be able to estimate the value of nonmarket production – such as housework, volunteer work, and child care. (Web site accessed June 22, 2004.)

5. Consumption and Expenditures

The U.S. collects information on expenditures on a continuous basis, using the Consumer Expenditures Survey (CEX). Most expenditure information is collected using an interview survey administered five times at three-month intervals (9,832 households were interviewed in 2004). Detailed expenditures are also collected using a weekly diary, for

two consecutive weeks only, in which a separate annual sample of roughly 7,500 households is asked to record all purchases (this diary is a better source for small and frequently purchased items such as food than is the quarterly survey). Consumer expenditure surveys in the U.S. date from 1888–1891, and were carried out at infrequent intervals of 10 years or more until 1979, when they became continuous. The intervening consumer expenditure surveys were carried out in 1901, 1917–1919, 1934–1936, 1950, 1960–1961, and 1972–1973; see U.S. Bureau of Labor Statistics (1997). Public use microdata are available for the 1960–1961 and the 1972–73 surveys, as well as for 1980 forward. Surveys prior to 1960 were not nationally representative; the 1980–1981 and 1982–1983 surveys both represented only the urban population.

The key purposes of the CEX are "to provide the basis for revising the weights and associated pricing samples for the (Consumer Price Index) and to meet the need for timely and detailed information on the spending patterns of different types of families" (U.S. Bureau of Labor Statistics 1997, p. 161). Since 1984, the BLS has published integrated consumer expenditure data from the interview and diary components of the CEX. Average annual expenditure is reported for a number of expenditure categories for all consumer units and, since the CEX also collects income information, for units classified by quintile of income. These expenditure categories are food, separately for five categories of food at home, and food away from home; alcoholic beverages; housing, separately for shelter, utilities, and three other categories; apparel (clothing) and services; transportation, separately for vehicle purchases, gasoline and motor oil, other vehicle expenses, and public transportation; health care; entertainment; personal products and services; reading; education; tobacco products and supplies; miscellaneous; cash contributions; and contributions to pensions and Social Security.

As noted above in the *Health* section, the Medical Expenditure Panel Survey collects more detailed information on health care costs than does the CEX. Similarly, the American Housing Survey collects more detailed information about housing costs (see below in the *Housing* section). Information on the ownership of consumer appliances, and on energy consumption and expenditures, can also be found in the U.S. Department of Energy's Residential Energy Consumption Survey (RECS). The first RECS was conducted in 1978; the 2001 survey selected 7,037 housing units and interviewed about 4,822 households. See ⟨www.eia.doe.gov/emeu/recs/content.html⟩ for more information on the RECS; the next RECS was in 2005.

Researchers and policy makers, in talking about economic well-being, sometimes distinguish between the *ability* to maintain a certain level of material well-being, and the *actual* level attained from consumption of goods and services (see, for example, Citro and Michael 1995, p. 36). This is often interpreted as the distinction between income-based measures and consumption-based measures of poverty; see U.S. Census Bureau (2003) for a further discussion of this distinction. Use of actual consumption to measure well-being is thought to be more consistent with Friedman's "permanent income" hypothesis (Friedman 1957; see Citro and Michael 1995, p. 211), suggesting that families smooth their consumption stream during periods of fluctuating current income.

In practice, estimating consumption from expenditure surveys is difficult, and fraught with inevitably arbitrary assumptions about how to deal with long-lived durable goods, such as automobiles. As noted by U.S. Census Bureau (2003, p. 4), "Much of the decision

concerning whether income or consumption should be used to measure economic well-being depends on the quality and availability of data supporting these measures in surveys." CEX data have been used by BLS researchers to construct *expenditure*-based measures of well-being (such as Johnson and Shipp 1997); various academic researchers (such as Jorgensen and Slesnick 1987; Slesnick 2001; and Luo 2003) have used these data to construct *consumption*-based measures. Garner et al. (2003) have constructed consumption-based measures of inequality using the CEX.

6. Wealth (Assets and Liabilities)

6.1. The Survey of Consumer Finances

An additional measure of economic well-being used in the U.S. is wealth, also referred to as net worth (the difference between assets and liabilities). The U.S. Central Bank (Federal Reserve Board of Governors) has conducted the Survey of Consumer Finances (SCF) every three years since 1983 to provide detailed information about the finances of U.S. families (4,522 families were interviewed in 2004). A previous wealth survey was done in 1962–1963. Changes since 1989 in the questionnaire have been minimal, so time series comparisons are possible over the 1989–2001 period; see Kennickell (2003).

In addition to a representative sample of households, with the cooperation of the U.S. tax authorities a supplementary sample of high-income families is asked to participate voluntarily. Even though their willingness to participate is relatively low, this high-income sample is critically important to the accuracy of the survey, as the distribution of wealth is known to be quite highly skewed by income (see, Aizcorbe et al. 2003) – in 2001, according to the SCF, the average net worth of households in the top decile of income was $2.26 million, while the average net worth of those in the bottom two deciles of income was $52,600.

The SCF provides detail on both financial and nonfinancial assets, as well as financial liabilities. Data are also collected on transaction accounts (checking, savings, and money market deposit accounts and the like), certificates of deposit, (U.S. government-issued) savings bonds and other bonds, mutual funds, the cash value of life insurance, other managed assets, and other financial assets. The principal nonfinancial asset of households is their primary residence, accounting for nearly half of all nonfinancial assets in 2001; about two-thirds of all households owned their own home. Data are also collected on vehicles, other residential property, net equity in nonresidential property, and other nonfinancial assets (for example, tangible items like jewelry). Some of the methodological problems of measuring wealth on the SCF are discussed in Kennickell (2000).

Data are also collected on unrealized capital gains and losses, and on liabilities. Home-secured debt (that is, mortgages on the primary residence) accounted for three-quarters of all debt in 2001. Installment loans accounted for about half of the remaining debt; other categories of debt collected are debt on other residential real estate, credit card debt, debt on other lines of credit, and other debt (for example, against whole life insurance policies).

6.2. The Survey of Income and Program Participation

In the U.S., the Survey of Income and Program Participation (SIPP) also measures assets and liabilities on an annual basis (see, Orzechowski and Sepielli 2003 for a recent report), but its oversample of low-income households and other methodological issues suggest that the SCF is a superior source of wealth data (see, Czajka et al. 2003, for suggestions on ways to improve the SIPP wealth data; research to do so has begun).

7. Housing

7.1. The American Housing Survey

As noted in the previous section, owned housing is the major asset for a vast majority of the U.S. population. It is also the major expenditure item for most. The most comprehensive survey of housing in the U.S. is the American Housing Survey (AHS). The AHS collects data on all housing, including apartments, single-family homes, mobile homes (manufactured housing), vacant housing units, household characteristics, income, housing and neighborhood quality, housing costs, equipment and fuels, size of housing unit, and recent movers. National data are collected in odd-numbered years, and data for each of 47 selected metropolitan areas are collected currently about every six years. The survey started in 1973, and the National AHS has had the same sample since 1985 (plus a sample of new construction); therefore, this survey is ideal for analyzing the flow of households through housing, and for examining the aging and renewal of the housing stock. In 2003, the National AHS interviewed 55,641 households.

The U.S. Department of Housing and Urban Development (the survey sponsor) uses the data from the AHS to track housing conditions and costs, and to set maximum reimbursement for rental costs from federal housing subsidy programs. In 2001, there were 119.1 million housing units in the U.S. – approximately 106.3 million were occupied as regular residences and 12.9 million were vacant or seasonal.

7.2. Other Housing and Construction Surveys

The U.S. also conducts several more specialized housing surveys. Once every ten years or so since 1950, as part of the decennial census, the Residential Finance Survey (RFS) collects detailed information on the financing of all residential properties (both owner-occupied and rental) from both the owners/managers and from the mortgage finance companies. The 2001 RFS was sponsored by the Department of Housing and Urban Development; it selected 58,701 housing units and interviewed 39,994 households. More information can be found at ⟨www.census.gov/hhes/www/rfs.html⟩.

The Housing Vacancy Survey (HVS) has been conducted monthly as part of the Current Population Survey since 1956 and collects data on rental and homeowner vacancy rates and homeownership rates for the nation (released quarterly) and large metropolitan areas (released annually). The 2004 HVS collected vacancy information on 78,564 housing units in 2004. More information can be found at ⟨www.census.gov/www/hhes/hvs.hmtl⟩.

The U.S. Census Bureau also collects a wide range of information on construction. On a monthly basis, it tracks the numbers of housing units authorized by permits, started, sold,

or completed, and the dollar value of all construction put in place each month. Residential construction is tracked in 30 metropolitan areas each quarter, and sales of new one-family houses in those areas are tracked each year. The dollar value of residential improvement and repair work is reported each quarter. The Census of Construction Industries is taken every five years. (More information on these construction surveys can be found at ⟨http://www.census.gov/const/www/⟩.) Finally, the Survey of Market Absorption (SOMA) provides data on the rate at which privately financed, nonsubsidized housing units in newly constructed multiunit (five units or more) buildings are absorbed, that is, rented or sold. (More information on SOMA is available at ⟨http://www.census.gov/hhes/www/soma.html⟩.)

8. Material Measures of Well-being

The Survey of Income and Program Participation (SIPP) has collected information on material or "extended" measures of well-being as a supplement in September through December of 1992, October 1995 through January 1996, and August through November 1998. A similar series of questions were asked in June–September 2003 and 2005 and will be asked in June–September 2007. In 1998, the SIPP asked questions in five topical areas (see, Bauman 2003):

- Whether the household possessed selected appliances and electronic goods, such as refrigerators, televisions, dishwashers, telephones, and computers;
- Housing conditions, including physical problems such as broken windows and leaky roofs, as well as the household's evaluation of warmth, space, privacy, overall housing repair, and other aspects of housing comfort;
- Neighborhood and community conditions, such as the threat of crime, problems with traffic, abandoned buildings, relationships with neighbors, police and fire protection, medical services, and quality of schools;
- Ability to meet basic needs, paying rent and utility bills, avoiding eviction, and having enough food in the household; and
- Whether help would be available from family, friends, or other sources, if needed in the household.

(Bauman 1999 discussed the 1995 data, and Short and Shea 1995 discussed the 1992 data. A similar study of extended measures of well-being that used different measures, also based on the SIPP, was Radbill and Short 1992.)

As noted in U.S. Census Bureau (2003, pp. 8–9),

- "Measures of material well-being are conceptually different from income[-based] poverty [measures]. This is because material well-being is shaped by many influences that affect the ability to make ends meet, not just income. Income alone does not allow for differences in taste, homeownership, access to credit, and numerous other factors. More sophisticated alternative measures of poverty do account for some of these factors, but not all of them . . .
- Agencies concerned with poverty in developing countries have often relied on measures of material well-being as a matter of convenience. Information on landlessness, food consumption, and literacy is easier to collect than accurate

data on income, in part because many rural poor households survive with little or no money income at all . . .

- Another area of research has been the development of psychological models of well-being focusing on various aspects of peoples' lives, including health, employment, family, and community . . .
- British and European research on poverty and 'social exclusion' (leading to) summary measures of material and social deprivation [that have been] adopted in publications and reports. A set of questions along these lines was included in the European Community Household Survey."

Also as noted in that same report (p. 11), "Nearly all studies of material well-being measures have found that they display little overlap with income-based poverty measures." One example is Short (2003), who concluded that "experimental income poverty, like official income poverty, does not describe the same group of people in need as a measure of material hardship does" (p. 27).

9. Income

9.1. The Current Population Survey

The U.S. Census Bureau has been compiling income estimates annually since 1948. Those estimates are from a supplement to the CPS, a nationwide random sample of housing units and noninstitutional group quarters (e.g., group homes and shelters), whose primary purpose is to collect monthly labor force information. The 2004 Annual Social and Economic Supplement (ASEC), fielded in February, March, and April 2004, interviewed 77,571 households.

There is no official definition of income in law or regulation. In effect, what is included in income depends on the questions asked. As experience with the survey has been gained, to improve its accuracy there have been attempts to capture more and more separate components of income. As survey researchers know, the more questions one asks about income by source, the better able respondents are to identify all income (see, for example, the comparison of income responses to the CPS and the Survey of Income and Program Participation in Roemer 2000). Initially, there were only two questions asked of each adult on the CPS ASEC: (1) "How much did. . . earn in wages and salaries in 1947?" and (2) "How much income from all sources did. . . receive in 1947?". (This history of income questions is from Welniak 1990.) Changes were made in 1949, 1950, 1967, 1968, 1975, and 1980. The last was the most comprehensive – the questionnaire was expanded to identify over 50 sources of income and record up to 27 different income amounts, including receipt of numerous noncash benefits, such as food stamps (coupons used as cash for qualified food purchases) and housing assistance. Except for minor wording changes, those questions are still in use today, though the survey was converted to a computer-assisted interviewing mode in 1994.

Most of the questions on income cover money income received (exclusive of certain money receipts such as realized capital gains) before payments for items such as personal income taxes, Social Security payroll taxes, and union dues. (See ⟨http://www.census.gov/population/www/cps/cpsdef.html⟩ for details on the sources of income currently included

in money income.) Jones and Weinberg (2000) discuss changes in the U.S. money income distribution between 1947 and 1998.

Some families receive part of their income in the form of noncash benefits from the government, such as food stamps, health benefits, or rent-free or subsidized housing. Some families also receive part of their income in the form of noncash fringe benefits from businesses, such as the use of company cars, and full or partial payments by businesses for retirement programs, medical insurance, and educational expenses. In addition to difficulties capturing accurate data on noncash benefits and household production, there is also a tendency in household surveys for respondents to underreport their income. From an analysis of independently derived income estimates, it has been determined that income earned from wages or salaries is typically much better reported than other sources of income and is nearly equal to independent estimates of aggregate earnings (Roemer 2000). Among the least well-reported sources are interest and dividends.

Because gross money income is but one relatively narrow measure of economic well-being, the U.S. Census Bureau also reports on model-based alternative definitions of income (that series began in 1979). These alternative definitions illustrate the dilemma faced by official statisticians when presenting income statistics. Different definitions serve different purposes. Money income has its uses as a measure of economic well-being – to a great extent it represents command over the resources available to purchase the necessities of life in the open market, including meeting the obligations of citizenship (taxes); ownership of assets and access to credit also provide access to goods and services. One alternative definition attempts to measure what resources would be available in the absence of government taxes and transfers, another examines after-tax money income, and others try to take account of the effect of both taxes and transfers on the household's command of resources, including the annuity value of owning one's own home (in that such an asset reduces the need for additional expenditures on shelter). See DeNavas-Walt et al. (2003) for more details on the differences between money income and alternative income measures.

9.2. Poverty Measurement

Formal measurement of poverty in the U.S. began with the adoption of official poverty thresholds by the U.S. government in the late 1960s. The official poverty thresholds in use today by the U.S. Census Bureau have their basis in work by Orshansky (1963, 1965). Orshansky started with a set of minimally adequate food budgets calculated for families of various sizes and composition by the U.S.D.A. for 1961. Based on evidence from the 1955 Household Food Consumption Survey, she determined that expenditures on food represented about one-third of after-tax income for the typical family. This relationship yielded a "multiplier" of three, that is, the minimally adequate food budgets were multiplied by a factor of three to obtain 124 poverty thresholds that differed by family size, number of children, age and sex of the family head, and farm or nonfarm residence (ad hoc adjustments were made for families of size one and two).

In 1969, the U.S. Bureau of the Budget (now the U.S. Office of Management and Budget) adopted the Orshansky measure using pre-tax money income as the standard government poverty measure and mandating that thresholds be adjusted for inflation using the Consumer Price Index (CPI); prior to 1969, the thresholds had been updated using only

the cost of food. With only minor modifications since then (mostly reducing the number of family size categories, now 48), the Orshansky thresholds adjusted using the CPI still form the basis for the official poverty statistics. The U.S. poverty thresholds are not necessarily relevant for other countries, just as the World Bank poverty thresholds are not necessarily relevant for the U.S. As Fisher (1992) notes, poverty thresholds are tied to a time and a place.

Since whether one is in or out of poverty results from a simple comparison of family income with a single number (the poverty threshold for a family of that size and composition), it is a relatively insensitive measure of well-being. The U.S. Census Bureau also reports the percentage of the population whose family money income is below a specified fraction of the threshold (for example 50 percent or 125 percent), to give a picture of the distribution of the population around the poverty threshold.

More recently, there has been an interest in examining and possibly changing the way poverty is measured in the U.S. The National Academy of Sciences (NAS) Committee on National Statistics released a report in May 1995 entitled *Measuring Poverty: A New Approach* (Citro and Michael 1995). In that report, the committee recommended that the U.S. government redefine the way it measures poverty. The key recommended changes are threefold – change the income measure, change the poverty thresholds, and change the survey used.

To change the income measure from the current money income definition, they proposed to value and count noncash benefits, subtract income and payroll (Social Security) taxes, subtract work expenses, subtract childcare expenses, subtract child support paid, and subtract medical out-of-pocket expenses. The poverty thresholds they recommended are to be based on the cost of food, clothing, shelter (including utilities), and "a little bit more" (75–83 percent of median expenditures on these items multiplied by 1.15–1.25), a new equivalence scale to better represent the different relative costs of supporting different families at minimally adequate levels, an allowance for geographic variation, and updated annually based on growth in median expenditures. Finally, the NAS recommended that the government use the Survey of Income and Program Participation (SIPP) instead of the CPS ASEC to collect the basic income and poverty-related data. (Because of the perceived benefits, an earlier NAS panel on the future of the SIPP also recommended moving toward the use of the SIPP for official income and poverty measurement; see Citro and Kalton 1993.)

The U.S. Office of Management and Budget, in consultation with stakeholders, will decide if it is appropriate to change the official poverty measure. Meanwhile, the U.S. Census Bureau has published a series of reports on experimental poverty measures (see, Short et al. 1999 and Short 2001) and has published several alternate measures in its annual reports (see, Proctor and Dalaker 2003, for more recent examples).

9.3. The American Community Survey

The U.S. Census Bureau has also collected some information on income every 10 years since 1940 on each decennial census for a sample of the population. This enables the calculation of income measures such as median and average household income for small geographic areas (as small as census tracts, which average roughly 1,500 housing units).

Collection of such information and reporting for small areas will become the province of the American Community Survey (ACS), whose full implementation began in January 2005 (2,922,984 housing units have been selected for interview in 2005, including for the first time a representative sample of Puerto Rico, a U.S. commonwealth, not a state). More information on the ACS can be found at ⟨http://www.census.gov/acs/www/⟩. A smaller-scale but still large and nationally representative sample was fielded in 2000–2004. As in all large-scale census-type collections, the ACS collects little detail on any one subject, but basic data on a broad range of subjects.

Annual observations of income are but one perspective on income receipt. The U.S. also has two nationally representative longitudinal surveys that provide perspectives on income receipt over time – the Panel Study of Income Dynamics and the Survey of Income and Program Participation.

9.4. The Panel Study of Income Dynamics

The Panel Study of Income Dynamics (PSID), collected by the University of Michigan's Survey Research Center (SRC), began in 1968 as a longitudinal study of a representative sample of U.S. individuals and the roughly 5,000 families in which they resided, with overrepresentation of low-income families (this latter component was dropped in 1997). It emphasizes the dynamic aspects of economic and demographic behavior, but its content is broad, including sociological and psychological measures. At the conclusion of 2003 data collection (the survey is now biennial), the PSID will have collected information about more than 65,000 individuals spanning as much as 36 years of their lives (Institute for Social Research 2004). The PSID expects to interview roughly 7,400 families in 2005.

Notwithstanding the relatively low year-to-year attrition for the PSID and the SRC's recontact efforts, estimates from *any* longitudinal survey are affected by attrition. With such a long time period covered, the PSID is also affected by lack of representativeness of immigrants (partially compensated for by the addition of a sample of 1968–1996 immigrants in 1997). The PSID is extremely useful for examining multiyear income averages and income changes from year to year or even decade to decade, and for intergenerational studies of income dynamics. The focus on income is supplemented by measures of other aspects of well-being, including housing and food expenditures, housework time, health, wealth, pensions, and savings.

9.5. The Survey of Income and Program Participation

In contrast to the many decades covered by the PSID with annual or biennial interviews, the Survey of Income and Program Participation (SIPP) was designed to collect *monthly* income for a fairly short period (originally 32 months when the program started in 1983, but now 36 or 48 months). The SIPP consists of nine or twelve interviews spaced four months apart over a three- or four-year period and asks a set of "core" questions about the previous four months by telephone and personal visit; there is an oversample of low-income households. The 2004 SIPP panel interviewed 43,709 households in February–May 2004; the twelfth interview for this panel will conclude in January 2008. Interviewers return to the

same *household* (not housing unit) and attempt to follow each *individual* interviewed in Wave 1, even if they move. Income data collection focuses on up to 81 sources of income and up to 73 individual income values. Like the PSID, the SIPP can be used to estimate multiyear income averages and to examine year to year changes (see, Hisnanick and Walker 2004 for a recent example). Like the National Health Interview Survey, the SIPP includes topical modules, some administered once per panel, some as frequently as once per year. More information on the SIPP can be found in U.S. Census Bureau (2004f) or at ⟨http://www.sipp.census.gov/sipp/⟩.

In contrast to the CPS ASEC, the SIPP is designed as an income (and transfer program) survey. According to benchmarking research, it generally though not uniformly does a more complete job of accounting for income than the CPS ASEC (Roemer 2002). However, the CPS ASEC does gather better data on wages and salaries, apparently because SIPP respondents tend to confuse gross pay and take-home pay. An improved questionnaire implemented for the 2004 SIPP panel may ameliorate this problem.

SIPP can be, and has been, used for other types of poverty estimates, such as subannual and multi-year estimates, for understanding other dimensions of poverty (assets, disability, gross flows), and for understanding the correlates and consequences of poverty spells. A recent study of short-term poverty dynamics using the SIPP is discussed by Iceland (2003).

10. Summary and Conclusions

Choosing which household survey to use for which well-being indicator is not straightforward. To my knowledge, in only three cases does the U.S. Office of Management and Budget designate a particular household survey as the source of an "official" measure through a Statistical Policy Directive: unemployment as measured on the Current Population Survey (CPS); poverty as measured on the CPS Annual Social and Economic Supplement; and rental vacancies as measured on the Housing Vacancy Survey (also part of the CPS), an economic indicator. In a few other cases, the statistical agency presents guidance on which survey to choose for which application. For example, since there are many surveys that collect information on income, the U.S. Census Bureau recommends the following (U.S. Census Bureau 2004e):

> The (Current Population Survey Annual Social and Economic Supplement) provides the most timely and most accurate cross-section data for the nation on income and poverty. Because of its large sample size and relatively rapid processing, the (American Community Survey) methodology holds the most promise of providing timely subnational data on income and poverty. The (Survey of Income and Program Participation) is focused on collecting accurate longitudinal income and program participation data to help understand the dynamics of a household's economic situation. Its timeliness is not comparable since one must wait until after a 3- or 4-year panel has concluded to analyze the longitudinal data.
>
> Yet estimates from any one survey will almost never match the estimates from any other (unless explicitly controlled), because of differences such as in questionnaires, data collection methodology, reference period, and edit procedures. The (Small Area Income and Poverty Estimates) program can reconcile the different results from these alternative surveys and reduce the standard errors of those estimates, although such

estimates will always be available with some delay because of the need to acquire relevant administrative records.

The U.S. Census Bureau also provides "Guidance on Differences in Employment and Unemployment Estimates from Different Sources," (U.S. Census Bureau 2004c) and similar guidance for homeownership rate estimates, housing vacancy rate estimates, and housing cost and quality estimates (U.S. Census Bureau, 2004d, 2004b, and 2004a, respectively).

But no such guidance is available for other measures of well-being, such as health insurance coverage, or wealth, though federal funding formulae sometimes specify a data source. Choices among surveys depend on the uses to which the data are put, and often also on professional judgments about their accuracy. For example, though the Survey of Consumer Finances is widely judged as a more accurate source of asset and liability data than the Survey of Income and Program Participation (SIPP), its sample size is much smaller and this inhibits making distinctions in wealth holdings among demographic groups, especially relatively small ones (such as across racial groups). Similarly, for spending on household appliances one might look to the Residential Energy Consumption Survey, and for health care spending to the Medical Expenditure Panel Survey, but for total spending one would turn instead to the Consumer Expenditure Survey.

Improving household surveys of well-being is an ongoing commitment of all U.S. statistical agencies. New techniques of reducing response error and other forms of nonsampling error are being investigated, including cognitive testing of questionnaires and the use of incentives to improve responses (the latter especially for longitudinal surveys such as the SIPP). Small area estimation methods like the Small Area Income and Poverty Estimates program (and the Local Area Unemployment Statistics program) are continually being improved and extended to take advantage of new sources of data and statistical techniques; the American Community Survey will be especially useful in that endeavor. International meetings will also help improve these measures, such as those held for household income statistics (see, International Expert Group 2001). But researchers who desire to make international comparisons of well-being should also take account of known differences among countries, such as the presence or absence of public goods including national health care or a system of quality public education for all.

One area where further research would be valuable is that of the relationships among these indicators. Income is already used widely as a classification variable for other measures, but studies of other relationships are relatively rare. One recent example, though, is U.S. Census Bureau (2005), which includes an examination of the relationship between material measures of well-being and poverty.

As noted in many of the sections above, not only does the SIPP core of monthly questions cover many aspects of well-being, such as income and health insurance coverage, but the SIPP topical modules cover many other aspects of well-being – such as financial assets and liabilities, number and types of vehicles owned, home and business equity, health status and expenditures, disability, and various measures of both child and adult well-being – in fact, some measure of nearly every one of the topics mentioned in previous sections (except time use and a comprehensive measure of expenditures). Therefore, the SIPP is particularly useful for examining the relationships among the various measures of well-being in the U.S.

Appendix: Key Nationally Representative Household Surveys of Well-being in the United States

Survey (Acronym)	U.S. Agency sponsor	Topic areas and key indicators of well-being	Annual sample size (selected/ interviewed households)[a]	First year (annual except where noted)	URL (web site)
American Community Survey (ACS)	Census Bureau (Dept. of Commerce)	Income, poverty, disability, housing characteristics; provides small geographic area data	2004: 868,934/ 591,338 2005: 2,922,984 selected	2000; replaces Decennial Census "long form" collected every 10 years 1940–2000	www.census.gov /acs/www/
American Housing Survey (AHS)	Dept. of Housing and Urban Development	Housing costs and quality, neighborhood conditions, housing vacancies, homeownership (Longitudinal: same housing units since 1985, plus new construction)	2003: 63, 506/ 55,641	1973 (biennial); in addition, 47 metropolitan areas have separate periodic surveys	www.census.gov/hhes /www/ahs.html
American Time Use Survey (ATUS)	Bureau of Labor Statistics (Dept. of Labor)	Time use	2004: 36,000[b]/ 13,464	2003	www.bls.gov/tus /home.htm
Consumer Expenditures Survey (CEX)	Bureau of Labor Statistics	Expenditures; used to create Consumer Price Index market basket (Longitudinal: 5 surveys over 15 months)	2004: 15,992/ 9,832	1960–61[c]; continuous since 1979	www.bls.gov/cex/

Survey (Acronym)	U.S. Agency sponsor	Topic areas and key indicators of well-being	Annual sample size (selected/ interviewed households)[a]	First year (annual except where noted)	URL (web site)
Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC)	Bureau of Labor Statistics and U.S. Census Bureau	Income, poverty, health insurance coverage, transfer program participation, labor force behavior	2004: 98,979/ 77,571	1948; "Basic" (labor force) CPS started 1942	www.bls.census.gov /cps/ asec/adsmain.htm
CPS Food Security Supplement (FSS)	Dept. of Agriculture	Food consumption and food program participation	2004: 72,249/ 48,103	1995	www.ers.usda.gov /Briefing/FoodSecurity/
Medical Expenditure Panel Survey-Household Component (MEPS-HC)	Agency for Healthcare Research and Quality (Dept. of Health and Human Services)	Utilization and cost of health services, health insurance coverage (Longitudinal: 5 surveys over 30 months)	2004: 15,974[d]/ 14,097 families	1996[e]	www.meps.ahrq.gov /whatis.htm
National Health Interview Survey (NHIS)	National Center for Health Statistics (Dept. of Health and Human Services)	Health status, utilization of health services, health insurance coverage, disability	2004: 71,574/ 36,833	1957	www.cdc.gov/nchs /nhis.htm

Survey (Acronym)	U.S. Agency sponsor	Topic areas and key indicators of well-being	Annual sample size (selected/ interviewed households)[a]	First year (annual except where noted)	URL (web site)
National Health and Nutrition Examination Survey (NHANES)	National Center for Health Statistics	Health status including illness and disability; includes a physical examination and blood and other tests	2001 + 2002: 13,156/ 11,039 persons (10,477 examinations)	1960 (analysis should combine 2 or more years)	www.cdc.gov/nchs /nhanes.htm
Panel Study of Income Dynamics (PSID)	National Science Foundation; others	Dynamic aspects of economic and demographic behavior (labor force behavior, income, poverty, transfer program participation, assets and liabilities) (Longitudinal: annual, then biennial)	1968: approx. 5,000 families interviewed; 2005: approx. 7,400 families expected to respond	1968 (biennial since 1997 when the original sample was reduced and then supplemented with post-1968 immigrants)	psidonline.isr. umich.edu/
Survey of Consumer Finances (SCF)	Federal Reserve Board of Governors	Assets and liabilities	2004: 9,735/ 4,522 families	1983 (triennial)	www.federalreserve. gov/pubs/ oss/oss2 /scfindex.html

Survey (Acronym)	U.S. Agency sponsor	Topic areas and key indicators of well-being	Annual sample size (selected/ interviewed households)[a]	First year (annual except where noted)	URL (web site)
Survey of Income and Program Participation (SIPP)	Census Bureau	Dynamic aspects of economic and demographic behavior (labor force behavior, income, poverty, transfer program participation, health insurance coverage, disability, material measures of well-being, assets and liabilities) (Longitudinal: panels are currently 3 or 4 years; 3 interviews per year)	2004: 62,691/ 43,709 (wave 1 of 2004-2007 panel)	1983	www.sipp.census.gov/sipp/

Notes: URLs accurate as of March 1, 2005.

[a] The difference between the number of *housing units* selected for interview and the number of interviewed *households* (or families/ persons, where indicated) includes units out-of-scope (that is, ineligible for interview) and refusals. It is inappropriate to compute a response rate from just these two figures.

[b] Based on households formerly interviewed by the Current Population Survey.

[c] Prior Consumer Expenditure Surveys were not nationally representative.

[d] Based on households formerly interviewed by the National Health Interview Survey.

[e] Replaced the 1987 National Medical Expenditures Survey and 1977 the National Medical Care Expenditures Survey.

11. References

Aizcorbe, A.M., Kennickell, A.B., and Moore, K.B. (2003). Recent Changes in U.S. Family Finances: Evidence from the 1998 and 2001 Survey of Consumer Finances. Federal Reserve Bulletin, 1–32, January.

Bauman, K.J. (1999). Extended Measures of Well-Being: Meeting Basic Needs: 1995. U.S. Census Bureau Household Economic Studies, P70–67, June.

Bauman, K.J. (2003). Extended Measures of Well-Being: Living Conditions in the United States: 1998. U.S. Census Bureau Household Economic Studies P70–87, March.

Bhandari, S. and Mills, R. (2003). Dynamics of Economic Well-Being: Health Insurance, 1996–1999. U.S. Census Bureau Household Economic Studies P70–92, August.

Citro, C.F. and Kalton, G. (eds). (1993). The Future of the Survey of Income and Program Participation. Washington, DC: National Academy Press.

Citro, C.F. and Michael, R.T. (eds). (1995). Measuring Poverty: A New Approach. Washington, DC: National Academy Press.

Czajka, J., Jacobson, J.E., and Cody, S. (2003). Survey Estimates of Wealth: A Comparative Analysis and Review of the Survey of Income and Program Participation. Final Report, MPR Reference Number 8896–501, August 22.

DeNavas-Walt, C., Cleveland, R.W., and Webster, Jr., B.H. (2003). Income in the United States: 2002. U.S. Census Bureau Current Population Reports P60–221, September.

Fisher, G.M. (1992). The Development and History of the Poverty Thresholds. Social Security Bulletin, 55, 3–14.

Friedman, M. (1957). A Theory of the Consumption Function. Princeton, NJ: Princeton University Press.

Garner, T.I., Ruiz-Castillo, J., and Sastre, M. (2003). The Influence of Demographics and Household-Specific Price Indexes on Consumption-Based Inequality and Welfare: A Comparison of Spain and the United States. Southern Economic Journal, 70, 22–48.

Hisnanick, J.J. and Walker, K.C. (2004). Dynamics of Economic Well-Being: Movements in the U.S. Income Distribution, 1996–1999. U.S. Census Bureau Household Economic Studies P70–95, June.

Iceland, J. (2003). Dynamics of Economic Well-Being: Poverty, 1996–1999. U.S. Census Bureau Household Economic Studies P70-91, July.

Institute for Social Research, University of Michigan. (2004). Panel Study of Income Dynamics: Users' Guide. Accessed June 22, at ⟨http://psidonline.isr.umich.edu/Guide/⟩.

International Expert (Canberra) Group on Household Income Statistics (2001). Guidelines for Income Distribution Statistics: Final Report of the International Expert (Canberra) Group on Household Income Statistics (to the United Nations Statistical Commission). Ottawa, Canada: Statistics Canada, March.

Johnson, D.S. and Shipp, S.S. (1997). Trends in Inequality in the United States Using Consumption Expenditures: The U.S. from 1960–1993. Review of Income and Wealth, 43, 133–152.

Jones, Jr., A.F. and Weinberg, D.H. (2000). The Changing Shape of the Nation's Income Distribution: 1947–1998. U.S. Census Bureau Current Population Reports P60–204, June.

Jorgenson, D. and Slesnick, D. (1987). Aggregate Consumer Behavior and Household Equivalence Scales. Journal of Business and Economic Statistics, 5, 219–232.

Kennickell, A.B. (2000). Wealth Measurement in the Survey of Consumer Finances: Methodology and Directions for Future Research. Paper prepared for the May 2000 meetings of the American Association for Public Opinion Research. Accessed June 22, 2004 at ⟨http://www.federalreserve.gov/pubs/oss/oss2/papers/measurement.pdf⟩.

Kennickell, A.B. (2003). A Rolling Tide: Changes in the Distribution of Wealth in the U.S., 1989–2001. U.S. Federal Reserve Board Survey of Consumer Finances Working Paper. September.

Luo, F. (2003). Consumption-Based Poverty in the United States: New Evidence and a Test for Robustness. Volume 12 of Research on Economic Inequality, John Bishop (ed.). Department of Economics, Duke University.

Nord, M., Andrews, M., and Carlson, S. (2003). Household Food Security in the United States, 2002. Food Assistance and Nutrition Research Report No. FANRR35. October. ⟨http://www.ers.usda.gov/publications/fanrr35/⟩.

Orshansky, M. (1963). Children of the Poor. Social Security Bulletin, 26, 3–13.

Orshansky, M. (1965). Counting the Poor. Social Security Bulletin, 28, 3–29.

Orzechowski, S. and Sepielli, P. (2003). Net Worth and Asset Ownership of Households: 1998 and 2000. U.S. Census Bureau Household Economic Studies P70–88, May.

Proctor, B.D. and Dalaker, J. (2003). Poverty in the United States: 2002. U.S. Census Bureau Current Population Reports P60–222, September.

Radbill, L.M. and Short, K. (1992). Extended Measures of Well-Being: Selected Data from the 1984 Survey of Income and Program Participation. U.S. Census Bureau Household Economic Studies P70–26, April.

Roemer, M.I. (2000). Assessing the Quality of the March Current Population Survey and the Survey of Income and Program Participation Income Estimates, 1990–1996. U.S. Census Bureau Working Paper, Housing and Household Economic Statistics Division, June. ⟨http://www.census.gov/hhes/www/income/assess1.pdf⟩.

Roemer, M.I. (2002). Using Administrative Earnings Records to Assess Wage Data Quality in the March Current Population Survey and the Survey of Income and Program Participation, November. ⟨http://www.census.gov/hhes/www/income/asa2002.pdf⟩.

Short, K. (2001). Experimental Poverty Measures: 1999. U.S. Census Bureau Current Population Report P60–216. Washington D.C. October.

Short, K. (2003). Alternative Poverty Measures in the Survey of Income and Program Participation. U.S. Census Bureau Working Paper, January. ⟨http://www.census.gov/hhes/poverty/povmeas/papers/sipp.pdf⟩.

Short, K., Garner, T., Johnson, D., and Doyle, P. (1999). Experimental Poverty Measures: 1990 to 1997. U.S. Census Bureau Current Population Reports P60–205, June.

Short, K. and Shea, M. (1995). Beyond Poverty: Extended Measures of Well-Being: 1992. U.S. Census Bureau Household Economic Studies P70-50RV, November.

Slesnick, D. (2001). Consumption and Social Welfare. Cambridge: Cambridge University Press.

U.S. Bureau of Labor Statistics (1997). Consumer Expenditures and Income. BLS Handbook of Methods, Chapter 16, April. ⟨http:stats.bls.gov/hom/homch16.pdf⟩.

U.S. Census Bureau (2003). Supplemental Measures of Material Well-Being: Expenditures, Consumption, and Poverty: 1998 and 2001. Special Studies P23–201, September.

U.S. Census Bureau (2004a). Differences Between the Housing Cost and Housing Quality Estimates from the American Community Survey and the American Housing Survey dated November 30. ⟨http://www.census.gov/hhes/www/housing/hsgcostfactsheet.html⟩.

U.S. Census Bureau (2004b). Differences between the Vacancy Rate Estimates from the American Community Survey, the Current Population Survey/Housing Vacancy Survey, and the American Housing Survey dated November 30. ⟨http://www.census.gov/hhes/www/housing/vacanciesfactsheet.html⟩.

U.S. Census Bureau (2004c). Guidance on Differences in Employment and Unemployment Estimates from Different Sources dated August 23. ⟨http://www.census.gov/hhes/www/laborfor/laborguidance082504.html⟩.

U.S. Census Bureau (2004d). Guidance on Differences between the Homeownership Rate Estimates from the American Community Survey, the Current Population Survey/Housing Vacancy Survey, and the American Housing Survey dated November 30. ⟨http://www.census.gov/hhes/www/housing/homeownershipfactsheet.html⟩.

U.S. Census Bureau (2004e). Guidance on Differences in Income and Poverty Estimates from Different Sources dated August 14. ⟨http://www.census.gov/hhes/income/guidance081904.html⟩.

U.S. Census Bureau (2004f). Survey of Income and Program Participation: Users' Guide. Accessed June 22, at ⟨http://www.sipp.census.gov/sipp/⟩.

U.S. Census Bureau (2005). Supplemental Measures of Material Well-Being: Basic Needs, Consumer Durables, Energy, and Poverty: 1981 to 2002. Current Population Reports, P23-202, December.

Welniak, Jr., E.J. (1990). Effects of the March Current Population Survey's New Processing System on Estimates of Income and Poverty. Paper prepared for American Statistical Association Annual Meeting, August.

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