The Under-Reporting of Transfers in Household Surveys: Its Nature and Consequences

Bruce D. Meyer, Wallace K.C. Mok and James X. Sullivan*

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Abstract

Benefit receipt in major household surveys is often under-reported. In recent years, as many as half of the dollars received through Food Stamps, Temporary Assistance for Needy Families (TANF) and Workers' Compensation has not been reported in the Current Population Survey (CPS). High rates of understatement are found for many other government transfer programs and in datasets such as the Survey of Income and Program Participation (SIPP) and the Panel Study of Income Dynamics (PSID). These datasets are among our most important for analyzing incomes and their distribution as well as transfer receipt. Thus, this understatement has major implications for our understanding of the economic circumstances of the population and the working of government programs. We provide estimates of the extent of transfer under-reporting for ten of the main transfer programs and five major nationally representative household surveys. We obtain estimates by comparing weighted totals reported by households for these programs with those obtained from government agencies. We also examine imputation procedures and the share of reported benefits that are imputed. Our results show increases in under-reporting and imputation over time and sharp differences across programs and surveys. These differences shed light on the relative importance of the various reasons for under-reporting. Our estimates provide evidence on the extent of bias in existing studies of program effects and program take-up. In addition, our estimates can be used to adjust for these biases.

1. Introduction

Under-reporting of benefit receipt (or misreporting in general) has important consequences for many types of analyses.[1] First, it is common to analyze features of the income distributions of the entire population and various demographic groups, such as the aged. For example, the official income and poverty report for the U.S. (U.S. Census Bureau 2008) provides such statistics. Second, it is common to analyze the effect of income transfer programs or taxes on these distributions.[2] Third, many studies examine program take-up—the fraction of those eligible for a program who participate.[3] All of these analyses are subject to considerable bias if the receipt of the major transfer programs is significantly under-reported. In particular, the income distribution would appear less equal, the effects of transfer programs on income would be understated, and take-up rates would be biased downward.

This paper provides information on the quality of individual reports of receipt of program benefits for ten large transfer programs in five key household surveys. We calculate the reporting rate—the ratio of weighted survey reports of benefits received to administrative totals for benefits paid out—for a wide range of programs, datasets and years., These reporting rates (when subtracted from one) generally provide a lower bound on the extent of under-reporting. We relate the degree of under-reporting to survey and program characteristics, such as form of interview, type of questionnaire, or potential for stigma. This information is informative for both survey designers and data users. We consider ways our results can be used to correct different types of data analyses. For example, the reporting rates we calculate, under certain circumstances, can be used to make under-reporting adjustments to survey estimates of benefit takeup rates.

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[1] We refer to the subject of the paper as under-reporting rather than measurement error because the main pattern appears to be under-statement of benefits, rather than unbiased but potentially erroneous reporting. We should emphasize that we think of under-reporting as a synonym for under-statement or under-recording, since it is likely due to errors by both interviewers and interviewees.

[2] For example, Jolliffe et al. (2005) examines the effects of the Food Stamp Program on poverty. Engelhardt and Gruber (2006) analyze the effects of social security on poverty and the income distribution. Meyer (2007), U.S. Census (2007) and Scholz, Moffitt and Cowan (2008) analyze the mechanical effects of a wide variety of programs and taxes on features of the income distribution.

[3] For example, Blank and Ruggles (1996) examine the takeup of Aid to Families with Dependent Children (AFDC) and Food Stamps, while McGarry (2002) analyzes the takeup rate for Supplemental Security Income (SSI). Bitler, Currie and Scholz (2003) examine Women, Infants and Children (WIC) program takeup. See Currie (2006) for a thorough survey of research on program takeup.

The reporting rates that we discuss in the paper count imputed values as reported numbers. The reporting rates would be much lower in many cases if these imputed values were ignored. As a consequence, we also examine imputation rates and procedures, as they are both needed to interpret reporting rates and are an independent measure of data quality. Our results provide an important measure of data quality, but are only part of the picture.[4]

The programs we examine are Unemployment Insurance (UI), Workers' Compensation (WC), Social Security Retirement (OASI) and Social Security Disability Insurance (SSDI), Supplemental Security Income (SSI), the Food Stamp Program (FSP), the Earned Income Tax Credit (EITC), Aid to Families with Dependent Children/Temporary Assistance for Needy Families (AFDC/TANF), the Women, Infants and Children (WIC) program and the National School Lunch Program (NSLP). We calculate reporting rates in five large household surveys that are approximately random samples of the entire U.S. population.[5] The datasets are the Current Population Survey – Annual Demographic File/Annual Social and Economic Supplement (CPS), the Survey of Income and Program Participation (SIPP), the Panel Study of Income Dynamics (PSID), the American Community Survey (ACS), and the Consumer Expenditure Interview Survey (CE Survey). We calculate reporting rates and imputation rates for as many years as is feasible. We account for definition and universe differences as well as other data issues.

The datasets that we analyze are among the most important for social science research and government policy. Income numbers from the CPS are the source of the official U.S. poverty rate and income distribution statistics. The SIPP was specifically designed to determine eligibility and receipt of government transfers. The PSID is the main source for information on changes in income and poverty over a lifetime and for changes in income and inequality across generations.[6] The ACS is the replacement for the Census Long Form data and is the largest basic economic survey. The CE Survey is the main source of consumption information in the U.S. These datasets are among our most important for analyzing incomes and their distribution as well as transfer receipt. Thus, the understatement of transfers in these data has major implications for

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[4] Excellent summaries of data reporting issues in surveys include Moore, Stinson and Welniak (2000), Bound, Brown and Mathiowetz (2001), and Hotz and Scholz (2002).
[5] We only consider surveys that cover the entire U.S. population to facilitate accurate comparisons since administrative data are often not available for all age groups and other characteristics that define certain surveys.
[6] The PSID is also the only survey dataset that allows the longitudinal analysis of the income and consumption of a random sample of the disabled (Stephens 2001; Charles 2003; and Meyer and Mok 2008).

our understanding of the economic circumstances of the population and the working of government programs.

2.   Research Design and Methods

Past work on the extent of transfer under-reporting has used two approaches. The first approach is the one taken here, the comparison of weighted microdata to administrative aggregates. A second approach compares individual microdata to administrative microdata.[7] Neither approach has been used on a broad scale. Comparisons to administrative aggregates, has been used more widely, but results are only available for a few years, for a few transfer programs and for some of the key datasets. Important papers include Duncan and Hill (1989), Coder and Scoon-Rogers (1996), and Roemer (2000). These papers tend to find substantial under-reporting that varies across program. Comparisons to administrative microdata is even more limited in the literature. This approach has often been restricted to a single state, year, program and dataset (Taeuber et al. 2004). Examples of studies that examine more than one program (but still a single dataset) include Moore, Marquis and Bogen (1996), Sears and Rupp (2003) and Huynh et al. (2002).[8]

A third way to examine under-reporting is to compare the characteristics of program recipients in administrative and survey data. This approach has been applied to under-reporting in the Food Stamp Program (Meyer and Sullivan 2007). Intuitively, the differences between the characteristics of recipients in the two data sources can be used to determine how those characteristics affect reporting. To see how one can formally estimate the determinants of reporting, suppose we want to estimate the probability that a person i with characteristics X_i reports receipt in the survey dataset conditional on truly receiving benefits. We might estimate a logit equation for this probability of the form $P[y_i = 1] = \Lambda(X_i\beta)$ where $\Lambda(.)$ denotes the cumulative logistic function. If one has a random sample of recipients from an administrative dataset and a random sample of reporting recipients from a survey dataset, one can obtain an estimate of β, by finding the value that solves the moment condition, $k\Sigma_j X_j = \Sigma_i X_i\Lambda(X_i\beta)$, where

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[7] Bound et al. (2001, p. 3741) divide micro level comparisons into several types. We use a simpler categorization here and focus on their "complete record check study" category.
[8] In related work, Card, Hildreth and Shore-Sheppard 2001 examine Medicaid reporting in the SIPP in California for several years.

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j indexes the observations in the survey dataset and *i* indexes the observations from the administrative data source. *k* accounts for the difference in sampling rates across the two data sources. This method follows the approach applied in Guell and Hu (2006) to a slightly different problem (but one that is formally very similar). This approach can be used for many datasets and programs and many years, but relies on the survey data and the administrative data representing the same population. Biases in the estimated determinants of reporting could come from imputations, inaccurate weights and false positive reporting (i.e. non-recipients who report receipt) in the survey data.

Our analyses focus on how under-reporting has changed over time and how it differs across programs and datasets. We compare weighted survey data to administrative aggregates because this approach can be used for the widest range of transfer programs, the longest time period and many datasets. We would also like to know how reporting varies with individual characteristics, but matches to microdata have been quite limited in their scope. Furthermore, the use of information from microdata matches is likely to be combined with the aggregate data described here to adjust for changes over time or differences across datasets. This combination of data could be used to extrapolate results from a one-year microdata match to other years.

2A. Calculating Reporting Rates

A dollar reporting rate (RR_D) can be defined as the following ratio

$$RR_D = \frac{\text{dollars reported as received in a survey weighted to predict population totals}}{\text{dollars paid out as reported in an administrative data source}}$$

Similarly, one can define a month reporting rate (RR_M) as

$$RR_M = \frac{\text{months reported as received in a survey weighted to predict population totals}}{\text{months paid out as reported in an administrative data source.}}$$

The weaknesses of this approach are that it relies on the accuracy of weights and the comparability of sample universes. The approach may understate non-reporting by true recipients because of false positive reporting by non-recipients. We provide some estimates of false positive reporting rates in Section 5. We calculate dollar and month

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reporting rates for our ten programs for as many years as are available for the CPS, the SIPP, the ACS, the CE Survey and the PSID.   The benefit programs available by year and respondent type are reported in Appendix Tables 1 and 2 in summary form for the PSID and the CPS, respectively. The remaining datasets are less complicated, but descriptions of the data sources can be found in the Data Appendix. We calculate reporting rates for program-year-dataset cells.[9] We should note that our approach of examining reporting rates by calendar year will at times mask differences in reporting rates across SIPP survey panels and over time within panels, especially when data from multiple panels are available for the same calendar year.

2B.   Making the Numerator and Denominator Comparable

We make a number of adjustments in order to make the administrative and survey data totals comparable.[10] We exclude receipt by those in the U.S. territories and overseas from the administrative data when possible because the survey datasets do not include such individuals.[11] For some programs (SSI, SSDI, OASI), the institutionalized can receive benefits but such individuals are excluded from all of our survey datasets. To adjust for this, we rely on data from the Decennial Censuses (which include the institutionalized) to determine the share of dollars that are likely missed in surveys. We simply reduce the administrative data totals by the share of Census dollars that are received by the institutionalized.   Some programs, such as AFDC/TANF cannot be received while institutionalized, but it is possible that someone could receive such benefits in a given calendar year, and then become institutionalized by the time of a March CPS interview the next year. Currently, we ignore this possibility because we expect it to be infrequent.

Another issue is the possibility that recipients of transfers in the previous year could subsequently die before being interviewed the next year. Since all of the surveys (except for the SIPP) ask about income during the previous year, the potential for bias is nontrivial. However, the standard method that has been used to adjust for decedents has clear weaknesses. Roemer

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[9] We should emphasize that in some cases one can calculate dollar and month reporting rates for sub-groups using administrative totals for geographic areas or demographic groups defined by characteristics such as age and gender.
[10] A full description of the data sources and methods can be found in the Data Appendix.
[11] Currently, we make no adjustments to the data for WIC, WC, and EITC overseas payments.

(1996) applies age, gender, race specific death rates to the data to correct for this problem. However, it is unclear to us that such a correction is warranted if survey weights have previously been calculated to lead survey weighted population totals to match universe population estimates by age, gender and race. A case could be made for adjusting the data based on additional individual characteristics that are related to death, such as receipt of SSDI or SSI or other programs. Without this information, it does not seem like there is a strong case for a decedent adjustment. However, SSDI and SSI reporting ratios are likely to be biased downward somewhat, since recipients likely have a higher mortality rate than the average person of their age, and consequently are more likely to miss the interview the following year.[12]

A significant difficulty in several of the datasets is that there are at least some cases where Social Security Disability benefits are combined with Social Security Retirement benefits. In these circumstances, we will use the data published in the various issues of the Annual Statistical Supplement to the Social Security Bulletin to calculate for each year, age, schooling status, and gender, the proportions of total social security dollars that are paid to OASI and SSDI recipients. We use these proportions to allocate combined SSDI and OASI benefits to the separate programs whenever we have incomplete information about which program was received and whenever a combined amount was reported for the programs. This allocation procedure is used for all OASDI dollars and months in the CPS, ACS, and CE Survey. For the SIPP and the PSID, it applies to a small share of dollars as indicated in section 4 of the Data Appendix.

The PSID sample weights are not appropriate for weighting to the universe in some years. We adjust them in a manner suggested by the PSID staff. Also in the PSID, benefit receipt by family members besides the head and spouse is not recorded in some years. We account for these other family members using estimates of their share from the years when their benefit receipt is available. Finally, we convert fiscal year administrative data to a calendar basis by appropriately weighting the fiscal years.

2C.   Statistical Framework

Program reporting can be separated out into a possibly mismeasured binary random variable R_i for receipt and a nonnegative random variable for dollars D_i, or the length of period

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[12] It might be possible to correct for this potential source of bias with data from the PSID.

received, such as months, M_i conditional on recorded recipiency (these last two variables are taken to be zero when receipt is not recorded). Denote the corresponding correctly measured, but unobserved, random variables R_i^*, D_i^* and M_i^*. Recorded dollars and months are R_iD_i and R_iM_i. The expected values of the dollar and month reporting rates can then be written as $E[RR_D]=E[RD]/E[R^*D^*]$, while $E[RR_M]=E[RM]/E[R^*M^*]$. In the case where a receipt response is available for each month (as is typically true in the SIPP) $E[RR_M]$ has the simpler form $E[R]/E[R^*]$.

In general, we can write

$$(1) \qquad E[RR_D] = \frac{E[RD]}{E[R^*D^*]}$$

$$= \frac{\pi(1-\pi_{01})E[D|R=1, R^*=1] + (1-\pi)\pi_{10}E[D|R=1, R^*=0]}{\pi E[D^*|R^*=1]}$$

and

$$(2) \qquad E[RR_M] = \frac{E[RM]}{E[R^*M^*]}$$

$$= \frac{\pi(1-\pi_{01})E[M|R=1, R^*=1] + (1-\pi)\pi_{10}E[M|R=1, R^*=0]}{\pi E[M^*|R^*=1]}$$

where $\pi=E[R^*]$ is the probability of true receipt, $\pi_{01}=P[R=0|R^*=1]$ is the probability of not reporting given true receipt (the false negative rate), and $\pi_{10}=P[R=1|R^*=0]$ is the probability of reporting receipt given true non-receipt (the false positive rate).

The reporting rates are informative about the false negative rate in several cases that are worth considering. Let $D_{11}=[D|R=1, R^*=1]$, $D_{10}=[D|R=1, R^*=0]$, $M_{11}=[M|R=1, R^*=1]$, and $M_{10}=[M|R=1, R^*=0]$. Suppose there are no false positives ($\pi_{10}=0$), and the observed value of D conditional on recorded receipt is unbiased, i.e. the expected value of D given R=1 is the true mean (given true receipt), i.e. $D_{11}=E[D|R=1, R^*=1]=E[D^*|R^*=1]$. Then, the dollar reporting ratio is an unbiased estimate of $1-\pi_{01}$, i.e. $E[RR_D] = 1-\pi_{01}=E[R|R^*=1]$. The analogous result for months of receipt is that if $\pi_{10}=0$ and the observed value of M conditional on recorded receipt is unbiased, then $E[RR_M] = 1-\pi_{01}=E[R|R^*=1]$. Thus, in this case either RR_D or RR_M can be used to obtain an unbiased estimate of the probability of not reporting given true receipt. If π_{10} does not equal zero (but the other conditions hold), then RR_D and RR_M provide upper bound estimates of

the probability of reporting receipt given true receipt, i.e. $E[1-RR_D] > \pi_{01}$ and $E[1-RR_M] > \pi_{01}$. More generally, if $E[D|R=1, R^*=1]=E[D^*|R^*=1]$, we have

(3) $E[RR_D] = 1 - \pi_{01} + \pi_{10}(1-\pi) D_{10}/E[D^*|R^*=1]\pi.$

An analogous formula can be calculated for $E[RR_M]$ under similar assumptions. These relationships indicate that we expect that $1-RR_D$ will be an underestimate of the probability of not reporting receipt π_{01}, except if $E[D|R=1, R^*=1] < E[D^*|R^*=1]$ and the difference is sufficient to outweigh the last term on the right hand side of (3). A analogous result applies to $E[RR_M]$.

These equations are also informative regarding the interpretation of the relationship between RR_D and RR_M. In many cases, we will find that the two reporting rates are not that different, so it is useful to consider what might lead to this result. Suppose there are no false positives ($\pi_{10}=0$), $D_{11}=E[D^*|R^*=1]$, and $M_{11}=E[M^*|R^*=1]$, then the dollar and month reporting rates will be the same in expectation. More generally, even if dollar and month reporting conditional on reported receipt are biased, but biased by the same amount, then dollar and month reporting rates will be equal in expectation. An other important case to consider is one where month reporting is based on a yes or no question (as in the SIPP), so that trivially $M_{11}= M_{10}= [M^*|R^*=1]$. If RR_D and RR_M are equal, and we are willing to assume $D_{11}=D_{10}$, then we know $D_{11}= D_{10}=E[D^*|R^*=1]$, i.e. dollar amounts are reported correctly on average. Finally, in the case when months come from a question regarding the number of months received, if the two reporting rates are equal and we are willing to assume $D_{11}=D_{10}$ and $M_{11}=M_{10}$, then either we are estimating dollars and month on average right or we are understating both dollars and months by the same ratio.

3.   Reporting Rate Results

Table 1 indicates the years and programs available for each dataset when a reporting rate can be calculated. Information on dollars received generally begins in the 1970s on programs in the PSID, CPS and CE Survey. SIPP program information begins generally in 1983, while the ACS is more recent beginning in 1999. The most complete data come from the SIPP, while the PSID, CPS, and CE Survey have information on

eight or more of the ten programs. Information on only five programs is available in the ACS. Information on monthly participation is more limited. We have information on six programs in the PSID, the SIPP and the CPS, three in the ACS, and none in the CE Survey. In Tables 2 through 10, we report dollar reporting rates for all of the programs except the NSLP. Since it is often hard to separate out OASI and SSDI reporting, we have a table for the combination (Table 4) as well as tables for the separate programs. Each table reports the dollar reporting rates by year. At the bottom, a simple average over all years available is reported for each dataset. The years this average covers differs across survey, which one should note when comparing them.

3A. Dollar Reporting Rates

Table 2 indicates that since 2003, the PSID, CPS and CE Survey have all had years when less than half of TANF dollars were recorded.[13] In the SIPP under sixty percent of dollars have been recorded in several recent years, while over eighty percent of TANF dollars have been captured by the ACS. There is a pronounced downward trend in the reporting rates in all surveys, except for the ACS. The CPS provides maybe the clearest case, with a dollar reporting rate of at least 0.72 in all years of the 1970s, but a reporting rate that has not exceeded 0.54 since 2000.

Table 3 provides information on Food Stamp Program dollar reporting. In the PSID and the SIPP, approximately eighty percent of Food Stamp dollars are reported, while in the remaining surveys it is close to sixty percent. There is a noticeable decline in reporting rates in the CPS and the CE Survey. In the case of the PSID, there is a low rate during much of the 1990s, but a recent improvement.

Tables 4 through 6 provide information on OASDI reporting, with the latter two tables dividing this total into disability and retirement benefits. We provide the combined table first, since some imputation is required to divide benefits into the two programs. The combined numbers in Table 4 indicate that Social Security benefits are recorded well in the surveys, with average reporting rates near ninety percent in all cases. There also is no apparent decline over time in reporting. Retirement benefits in Table 5 are reported

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[13] The surveys worked to lessen any confusion that occurred with welfare reform. For example, the CPS had interviewers in a given state ask about TANF using the state specific name for the program.

well in all datasets. Only about ten percent of benefit dollars seem to be missed. Table 6 indicates that SSDI is particularly well reported in the PSID and the CPS. There appears to be some over-reporting in the PSID, with reporting rates over one for much of the 1970s through 1990s. In the ACS, reporting of SSDI is not quite as good as the other sources, with about one-quarter of benefits not recorded.

Table 7 provides information on SSI dollar reporting. SSI is reported at a higher rate than AFDC/TANF or FSP, but one-third of dollars are missing in the PSID and one-quarter in the CPS. There is little pattern of decline in reporting over time, except in the PSID.

Unemployment insurance dollars, reported in Table 8, indicate somewhat better reporting than for AFDC/TANF, and less evidence of a decline over time, though a fall is still clear in the CPS and the CE Survey. Over seventy percent of dollars are on average reported in the PSID, the SIPP and the CPS, while considerably more than half are reported in the CE Survey. The ACS does not have specific questions about unemployment insurance (it is combined with Veterans'payments, child support and alimony).[14]

Under-reporting is particularly severe for Workers' Compensation, as shown in Table 9. Typically less than half of all WC dollars are recorded in the surveys (again the ACS does not ask specifically about WC). A decline in reporting over time is less evident, except for the PSID after 2000 and in the early years of the CE Survey. We should note that, we have included lump sum payments in the administrative totals (see appendix). It has been argued elsewhere that the CPS and the SIPP intend to exclude lump sum payments. It is difficult to see what wording in the questionnaires would lead to this exclusion, and past authors have suggested that lump sums may not be consistently excluded (see Coder and Scoon-Rogers 1996, pp. 15-16, Roemer 2000, pp. 33-34).

Table 10 reports Earned Income Tax Credit payments in the CPS.[15] CPS reporting rates for the EITC have a different interpretation than those for the other programs. All EITC payments are imputed based on family status, earnings, and income.

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[14] The PSID UI reporting rate in 2003 is very low, possibly due to the information being collected in the 2005 survey. Individuals may have more difficulty recalling receipt two years ago than one year ago.

[15] We considered including EITC reporting rates for the SIPP. However, most respondents to the topical module that asks about EITC receipt and amounts refuse to answer the questions, don't answer, or don't know (see Lerman and Mikelson 2004).

Therefore under-reporting comes from errors in one of these variables, the imputation process, or noncompliance as discussed in Section 6. The implicit assumption is that all eligible individuals receive the credit, which should lead the approach to overstate receipt. The numbers in Table 10 indicate a reporting rate of about seventy percent overall, and eighty percent in recent years. This result suggests that the types of errors suggested above are quite frequent.

3B. Month Reporting Rates

Tables 11 through 17 report average monthly participation reporting rates for seven programs (FSP, AFDC/TANF, SSI, OASI, SSDI, WIC, and NSLP). Tables 11 and 12, for AFDC/TANF and FSP, respectively, indicate monthly participation reporting rates that are very similar to the corresponding dollar reporting rates in Tables 2 and 3, respectively. In the case of AFDC/TANF the three datasets with both months and dollars indicate reporting rates of 0.53 (months) and 0.44 (dollars) for the PSID, 0.77 (months) and 0.71 (dollars) for the SIPP and 0.65 (months) and 0.63 (dollars) for the CPS. In the case of FSP, the similarity is even more pronounced, with the two types of reporting rates never differing by more than 0.028 for the three datasets. In the case of AFDC/TANF and the FSP, month reporting comes from a mix of direction questions about each month (the SIPP) and questions about the number of months received (the CPS and the PSID). In the case of the SIPP, assuming that the reported monthly benefit of those who are true recipients and those who are not is similar (D_{11} approximately equals D_{10}), this result suggests that individuals report about the right amount on average, conditional on reporting. Or, put another way, most of under-reporting consists of not reporting at all, rather than reporting too little conditional on reporting. The dollar reporting rates are slightly lower than the month reporting rates, suggesting that there is a small amount of under-reporting dollars conditional on receipt, nevertheless. In the case of the CPS and the PSID, the evidence suggests that total dollars and months are understated by similar amounts, again suggesting that monthly benefits are reported about right on average.

For the programs in Tables 13 through 15 and 17 (OASI, SSDI, SSI and WIC) reporting rates for monthly receipt are similar to dollar reporting rates, but the similarity

is not as close as it was for AFDC/TANF and FSP. In the case of these four programs, the surveys besides the SIPP do not report monthly participation, only annual unique participation. Since our administrative numbers are for monthly participation, we use the relationship between average monthly and annual unique participation calculated in the SIPP to adjust the estimates from the other sources. This adjustment step likely induces some error that accounts for the weaker similarity between month and dollar rates. If we just focus on the SIPP, where this adjustment step is not needed, the two rates are much closer and the dollar rate is lower than the month rate, as we saw above. The exception is WIC in the SIPP, where the dollar rate is 0.72, while the month rate is 0.63.

Table 16 reports average monthly participation reporting rates for the National School Lunch Program (NSLP). In the PSID and CPS, free and reduced price lunches are combined, while in the SIPP we have separate columns for the two types. Reporting seems to be quite low for the PSID at 72 percent, and for the CPS at 55 percent, on average. In the SIPP, on the other hand, more participants are reported than we see in the administrative data. For reduced price lunches, almost fifty percent more participants are reported than actually receive lunches. This result is likely due to our assumptions that all eligible family members (ages 5-18) receive lunches and that they do so for all four months of a given wave.

3C. Summary

Reporting rates for all programs, measured as dollars reported in a household survey divided by administrative reports of dollars of benefits paid out, are in almost all cases considerably below one. Household surveys fail to capture a large share of government transfers received by individuals.

Reporting rates vary sharply across programs. Social Security Old Age and Survivors Insurance (OASI) payments and Social Security Disability payments are reported at a reasonably high rate. Over eighty percent of OASI benefits are reported every year in the Current Population Survey (CPS) and the Survey of Income and Program Participation (SIPP) and over seventy percent in the Panel Study of Income Dynamics (PSID). The reporting rates for SSDI tend to be higher. Nevertheless,

typically more than ten percent and frequently a higher share of Social Security
retirement benefits are not reported.

Reporting rates are especially low for certain programs. Only about fifty percent
of Workers' Compensation benefits are reported in the SIPP and an even smaller share is
reported in the CPS and the PSID. Reporting rates for AFDC and its replacement TANF
average about seventy percent, as do reporting rates for UI and FSP. The reporting rate
for SSI differs sharply across surveys with over 90 percent reported in the SIPP, but
typically under 70 percent in the PSID.

Surveys differ systematically in their ability to capture benefit receipt. The SIPP
typically has the highest reporting rate for government transfers, followed by the CPS and
the PSID. There are programs, however, that the other surveys do seem to capture
somewhat better. Unemployment Insurance and Workers' Compensation are reported at
a slightly higher rate in the CPS than in the SIPP.

3D. Regression Estimates

To summarize and quantify the differences between surveys and programs described
above, we estimated a series of regressions with the reporting rate as the dependent variable.
Specifically, we estimated equations of the form

$$(1) \quad R_{pst} = \alpha + \sum_{p=1}^{P-1} \alpha_p 1_{\{program=p\}} + \sum_{s=1}^{S-1} \beta_s 1_{\{survey=s\}} + \sum_{t=1}^{T-1} \gamma_t 1_{\{year=t\}} + \varepsilon_{pst} \quad ,$$

where R_{pst} is the dollar or month reporting rate for program p in survey s in year t. We
exclude the EITC since it is qualitatively different from the other programs as it is
entirely imputed. We include separate reporting rates for OASI and SSDI, but not the
combined reporting rate. We estimate separate equations for dollar and month reporting
rates, using the set of programs that is available in each case. The results are reported in
Table 18.

The estimates in columns 1 and 2 indicate that the programs can be ranked by the
dollar reporting rate, from best to worst in the following order: SSDI, OASI, SSI, FSP,
UI, AFDC/TANF, and WC. Column 3 examines this relationship for recent years,
specifically since the year 2000. The same pattern holds in recent years, OASI is
reported better than the base group (SSDI) now. The month reporting rate regressions in

columns 4 through 6 are very similar to the dollar reporting rate ones, though we do not have rates for UI and WC. The National School Lunch Program monthly rates (there are no dollar rates) are higher than for all programs except OASI and the reference program, SSDI, however this coefficient is due to a mix of over-reporting in the SIPP and under-reporting in the other datasets.

Estimates of equation 1 also provide a ranking of the different surveys in terms of reporting. The estimates suggest that overall dollar reporting is highest in the SIPP and ACS, followed by the CPS, PSID, and CE Survey in that order. This ordering also holds when we examine the patterns after 2000, either by interacting survey with an indicator for the years starting with 2000 (column 2), or by estimating using only data from 2000 forward (column 3).   The ordering of the surveys is somewhat different for month reporting rates. Overall, the PSID is slightly better than the CPS, which in most, but not all specifications, is in turn slightly better than the ACS. All three surveys though, have reporting rates well below those of the SIPP.

We have also examined trends in reporting by program and dataset by regressing the dollar reporting rate on a constant and a time trend. The results indicate that most programs in the PSID, CPS and CE Survey show a significant decline over time. A decline is also apparent in the SIPP, but is less pronounced. In the ACS, reporting for most programs shows an improvement over time.

4.   Imputation Methods and Shares

Reporting rates are only one indicator of survey quality. Rates of survey and item nonresponse are two others. All of the surveys we examine impute answers in some cases of item nonresponse. We describe the methods used to impute these missing values below. We should emphasize that all of the reporting rates we have presented include imputed values in the survey totals. A survey's reporting rate may be high, in part, because a substantial amount of program dollars or months are imputed. In addition, as emphasized in Section 2C, reporting rates are biased upward as a measure of reporting conditional on true receipt if there are false positives. One of the most likely reasons for

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false positives is recipiency imputation.[16] Imputed dollars or months conditional on receipt is also likely to induce error.[17] Surveys may impute recipiency—whether or not a person received a given type of benefit at all—or dollars or months of benefits received conditional on reported or imputed receipt. In this section, we discuss the importance and implications of such imputation in our surveys.

4A. Imputation Methods

For the ACS and the CPS, the strategy employed to impute missing data is known as "Hot-Deck" imputation or "Allocation". Basically, a hot deck is a data table/matrix which stores the values of donor values, stratified by characteristics. Missing data are assigned by using the values from a donor in the hot deck who shares similar demographic and economic background.[18]

For the SIPP, a somewhat more complex algorithm is used to impute missing data. For the 1984-1993 panels, hot-deck imputation is used to impute missing data in each wave of the panel.[19] Beginning in the 1996 panel, however, the Census Bureau began to impute missing data in a wave by using the respondent's data in the previous wave (if available). In this study, we regard such method as a form of imputation. Readers who are interested in how the SIPP imputes missing data can refer to Chapter 4 of U.S. Census Bureau (2001) and Pennell (1993).[20]

To reduce non-response to the income questions, SIPP began the use of "Dependent Interviewing" in wave 2 of the 2004 panel in which the interviewers use information from the prior wave to tackle item non-response during the actual interview. For instance, in the event of

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[16] Clearly an alternative would be to exclude all observations with imputed values and reweight by scaling all weights upward by the inverse of the share of weights of non-imputed observations. However, if item nonresponse is nonrandom, then such a strategy will lead to bias.

[17] Not all types of imputation are necessarily bad. If the appropriate benefit schedule can be determined for an individual and one has the inputs to the formula well measured, the imputations may be more accurate than self reports. However, that is not the way imputation is done for the programs and surveys we examine. Hot deck imputation is the most common method, which likely leads to greater measurement error than self-reports.

[18] It is important to note that the imputation flags in the CPS-ASEC have to be used with caution. Since the CPS-ADF/ASEC is a supplement to the basic monthly CPS, there are interviewees who responded to the basic CPS survey, but not the ADF/ASEC. The imputation (allocation) flags for these individuals are set to zero (i.e. no allocation) even though data for these individuals are imputed. The variable FL-665 (available in the 1991-2008 surveys) is used to distinguish individuals who participated in the basic survey but not to the ADF/ASEC.

[19] The Census Bureau also provides SIPP "full panel files" for the 1984-1993 panels that link all the waves in a panel together. Additional imputations are implemented in these full panel files.

[20] For those who do not respond to the SIPP interview (person-non response), the imputation flags indicate whether the hot-deck donor is imputed, not the non-responding individual. Thus one has to adjust the imputation flags for these non-respondents (see section 4-13 of U.S. Census Bureau, 2001).

non-response, the interviewer asks "*It says here that you received $X in the last interview, does that still sound about right for the last 4 months?*" Although this method is designed to reduce non-response, Moore (2006b) finds that there "*is evidence of improper use of dependent follow-up procedures by SIPP interviewers, resulting in very high rates of initial non-response to the wave 2 amount items in the 2004 panel.*" Our SIPP imputation rates for 2004 are very high, a finding in line with Moore's conclusion.

For the CE Survey, we only include "complete income reporters" and reweight the estimates. Complete income reporters are those who do report at least one major sources of income (such as wages and salaries, self-employment income, social security income). For the CE Survey, missing income data are not imputed prior to the 2004 survey. Beginning with the 2004 survey, a regression-based method is used to impute missing income data. If an individual indicates receipt of a source of income, but does not provide an amount, then his amount is imputed. If a respondent provides no information on income for any sources at the consumer unit level and no member of the consumer unit provides income at the individual level, and no member is imputed to be a worker, then the receipt of transfers (yes/no) is imputed, along with amounts. First, the BLS runs a regression of a type of income on demographic characteristics and a variable that equals the quarterly expenditures of a consumer unit; the data used in this regression come from the valid non-zero reporters. After estimating the regression, the estimated coefficients are perturbed by adding random noise; an estimate is then produced using the resulting coefficients. This process is performed five times in total, yielding five estimates. The imputed value is then the mean of these five estimates. Readers who are interested in the CE Survey income imputation procedure can refer to Fisher (2006) and Paulin et al. (2006).

Prior to the 1994 survey, the PSID imputed missing income data by using hot-deck imputation method with the hot deck built using data from previous and current interviews. Beginning with the 1994 survey, however, the PSID ceased imputing missing data.

Imputation Shares

We report CPS, SIPP and ACS imputation shares as a consequence of item nonresponse for various transfer programs. For the PSID and CE Survey we do not have information on imputation shares. We also report total imputation rates for dollars or months that incorporate yes/no and imputation conditional on that yes/no response.

Table 19 reports the share of dollars recorded in the CPS for six of our programs that are imputed. We report both the share of dollars accounted for by observations where recipiency is inputed and the share accounted for by all types of imputation. Typical recipiency imputation shares are on the order of 10 percent, but they are frequently higher. There is substantial variation across program and over time. For most of the years since 2000, recipiency imputation exceeds 20 percent for AFDC/TANF. Imputations rates incorporating all types of imputation are necessarily larger. These rates are typically around 25 percent, but exceed 30 percent for several years for AFDC/TANF, OASDI and WC. In 2008, the imputation shares ranged from 25 percent of UI dollars, to 34 percent of social security dollars. Dollar imputation rates incorporating all types of imputation have risen considerably over time, while the trend for recipiency imputation alone is less pronounced.

Table 20 reports the share of months that are imputed in the CPS for four of our programs. The numbers are similar to those for dollars for both recipiency imputations and all imputations. We should emphasize that the all imputation numbers for OASDI and SSI are analogous to the recipiency imputations in Table 19, as months are not directly reported in the CPS and are calculated using averages based on the SIPP. In recent years, at least ten percent of months are imputed in the CPS for all four programs. Imputation rates were comparable across programs in the early 1990s, but rates for AFDC/TANF and the FSP have risen more noticeably over time.

Table 21 reports the share of dollars imputed in the SIPP for six of our programs. In recent years for all of the programs at least ten percent of dollars are attributed to those for whom recipiency is imputed, with twenty percent typical for UI and approximately 40 percent typical for WC. The shares of dollars for all types of imputations are much higher, at least twenty percent for all six programs in recent years. It is not uncommon for these rates to exceed thirty percent in recent years. Imputation rates rise sharply over time in the SIPP, as they are less than 10 percent for recipiency in five of the six programs in 1990. Overall, the SIPP has higher imputation rates than the CPS. This difference needs to be taken into account when comparing reporting rates and other measures of data quality across surveys.

Table 22 reports the share of months imputed in the SIPP for four of the programs. Shares are sometimes below ten percent, but are more typically between ten and twenty percent. OASDI tends to have the lowest imputation shares. The shares have generally risen over time. Table 23 reports dollar imputation shares for the ACS. The shares always exceed ten percent and are fairly similar across programs.

5.   Caveats and Biases

Some caveats are in order. First, the reporting of benefit receipt certainly contains some individuals who mistakenly report receipt despite not receiving benefits. As with previous research, we include imputed values in our survey totals. Even if not for other reasons, due to imputed observations benefit receipt will be recorded for some people who do not truly receive transfers. As discussed in Section 2C, false positive reporting of receipt ($\pi_{10} > 0$) likely implies that the fraction of dollars received by true recipients is strictly less than the calculated reporting rates, i.e. our reporting rates if applied to true recipients are biased upward. Results from matches of survey microdata to administrative microdata provide evidence on the extent of such false positives—reports of receipt for true non-recipients. In Table 24 we examine reporting rates analogous to ours from several studies that use matched data. Column 1 reports the month reporting rate conditional on true receipt, while column 2 reports the unconditional reporting rate that is analogous to our reporting rates. The difference between these two sets of numbers is the false positive rate. Note that the numbers in column 2 are lower, but tend to be not that much lower than the corresponding numbers in column 1, indicating that the false positive rate is not that high. In a couple of cases, however, the rates are substantial, such as WC in the Marquis and Moore study and some of the results for SSI in Huynh et al. (2002) and Sears and Rupp (2003). In the case of these latter two studies, another source of noncomparability between columns 1 and 2 is that the microdata studies exclude those under 18 (who may be especially likely to not report receipt).

Second, in the situation where we have incomplete information about the type of social security received, we apply the OASI and SSDI dollar proportions to determine participation of these programs. A more desirable method would calculate these

proportions based on participation rather than dollars. Applying these proportions essentially assumes that an individual can only receive benefit from either SSDI or OASI, but not both, in a particular year. Strictly speaking, individuals can receive benefits from both programs in a year, most commonly those whose SSDI benefit switches automatically to OASI when they reach retirement age. This issue leads to a bias downward in our social security retirement and disability participation estimates.

Third, in certain years of the PSID we do not have information about benefit receipt of non-head and non-spouse family members. Although we have attempted to alleviate this issue by using the share of total benefits received by these non-head, non-spouse family members in other years and scaling up the aggregates accordingly, such methods assume that these shares are relatively stable over time. Fourth, adults may receive social security and SSI benefits on behalf of their children. Since administrative data are based on awardees, calculating weighted total benefits based on payees rather than awardees may introduce biases. Unfortunately, most of the household surveys provide little information about exactly who is the true awardee of the benefit.[21] Fifth, it is important to emphasize that our survey totals do not include the institutionalized or decedents.

We should also note that the validity of these comparisons depends on unbiased survey weights.[22] The weights are based on the Census of Population, so an argument about underweighting is essentially an argument about individuals being missed in the Census count. Unfortunately, we have no estimates of the undercount for the populations receiving transfer income. In 1990 for example, estimates are only available for broader groups such as non-blacks and blacks, women and men, renters and owners, those in large urbanized areas and those in other areas, and by age (and some cross-classifications of these groups).[23] Estimates of the undercount for low-educated single mothers are not available. However, overall estimates of the 1990 undercount are fairly low, in the range of two percent. Estimates are higher for blacks and renters, but lower for women, especially women of childbearing age.

We are also encouraged that errors in the weights are not a substantial source of bias because the reporting rates are fairly similar to rates based on comparisons to administrative

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[21] The SIPP, however, does provide some information about who is the true awardee of Social Security benefits.
[22] As a check, for each survey and year, we have confirmed that our weighted population totals are close to Census population estimates.
[23] See Hogan (1993) and Robinson et al. (1993) for 1990 Census undercount estimates.

microdata, in the few cases where such comparisons are available. Column 2 of Table 24 reports reporting rates based on microdata comparisons, while column 3 reports numbers from our tables that are based on comparisons of aggregates usually for the same year (but not the same months or states).[24] These 1984 SIPP estimates from Marquis and Moore (1990) indicate that microdata based reporting rates are similar to ours based on aggregates. The same is true for the other studies, except for SSI for two years in one of the studies. The estimates from the microdata match studies are often quite close to our numbers, and do not show a pronounced tendency to be lower. Our reporting rates based on aggregates are particularly close (or higher) for FSP and TANF, the programs most targeted to the poor, the group that might be most plausibly under-weighted or under-represented. That the reporting ratios in the Marquis and Moore microdata are comparable to our estimates suggests that weighting is not a significant source of bias.

6.   Possible Reasons for Under-reporting

Benefit receipt in household surveys may be under-reported for reasons such as imperfect interviewee recall, a desire to reduce interview burden, the stigma of program participation, and the sensitivity of income information. Information on the extent of under-reporting, how it varies across programs and surveys and with characteristics of the interview and the respondent should be informative about the plausibility of different explanations for under-reporting.

The different explanations for under-reporting suggest different approaches to improve reporting. Comparisons of programs with different degrees of stigma, and surveys with different question timing and wording, should shed some light on the reasons for mis-reporting. If the pattern of mis-reporting seems most consistent with recall biases, then changing the timing of the questions relative to the period of receipt may be warranted. If interviewee time burden seems to be the explanation, then the length of the interview may need to be altered. If the stigma of program participation is a major issue, then a focus on question wording and the way interviewers ask the questions may be warranted. The results could also suggest that some dollar items should be calculated based on reported receipt and demographic characteristics, or that

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[24] In some cases we must substitute dollar for month reporting rates.

respondents should be encouraged to obtain check stubs. Some items could also be obtained through matching to administrative data.

A standard explanation of under-reporting is the stigma of reporting receipt of "welfare" programs, and the inclination to give "socially desirable" answers (Sudman and Bradburn 1974). This explanation is consistent with four of the programs most associated with "welfare" or idleness, AFDC/TANF, the FSP, UI and WIC, being near the bottom of the reporting rates. There have been noticeable declines over time in AFDC/TANF and food stamp reporting, which is broadly consistent with stigma as it has become less accepted for single mothers to be on welfare. However, some of the patterns of reporting by program do not fit with a stigma explanation for under-reporting. Workers' Compensation has the lowest reporting rate but is presumably not a program that greatly stigmatizes its recipients.

The frequency of receipt or public knowledge of a program seems to matter. Workers' Compensation is received by a small fraction of the population and has the lowest reporting rate. Workers' Compensation may also be the program of which the general public has the least knowledge. It may also be hard for an interviewer to guess that a given person is a recipient and probe further when asking the questions about receipt of Workers' Compensation. On the other hand, an interviewer will know that anyone 65 or older is likely to be an OASI recipient. Closely related to this issue is the degree of continuity of receipt. OASI is likely to be continuously received for many years, making it easy to remember. On the other hand, the receipt of benefits from TANF or the FSP is much more likely to be sporadic, and potentially harder to recall.

We also find the puzzling result that the EITC is sharply under-imputed in the CPS. This result suggests a problem with weights, misreporting of earnings or children, or tax noncompliance. However, evidence from an analysis of a CPS-IRS microdata match (Liebman, 2001) suggested that noncompliance is not the main explanation.

Survey Characteristics and Under-Reporting

[This section is incomplete.] The finding that SIPP has higher reporting rates than the other surveys is consistent with the focus of the survey, but the methods that lead to higher reporting merit exploration. Interviewees in the ACS are legally required to respond, possibly accounting for its high reporting rate for TANF and some other programs. The ACS relies on a mixture of mail, phone and in-person interviewing. The PSID was largely a traditional phone

survey until 1993, when it switched to computer aided telephone interviewing. We need to add a discussion of the SIPP, the CPS and the CE Survey. We may want to discuss issues related to non-random attrition here, and how under-reporting is more severe in later waves within a panel of the SIPP.

7.   Comparisons to Earlier Studies

Coder and Scoon-Rogers (1996) provide reporting rates for five of our programs for 1984 and 1990 for the CPS and the SIPP. Roemer (2000) reports reporting rates for the same five programs for 1990-1996 for the CPS and the SIPP also. Our reporting rates differ from Roemer's in a number ways. His reporting rates average about one percentage point higher than our OASDI numbers, likely due to differences in accounting for decedents. His SSI and WC reporting rates are each about five to ten percentage points higher. The SSI difference appears to be due to Roemer's adjustment for the decedents, while the WC difference seems to be due to his exclusion of lump sum payments from the administrative data. Our UI and AFDC/TANF numbers tend to be within a few percentage points, with his UI numbers lower and the AFDC/TANF numbers generally higher than ours. Nevertheless, both our results and Roemer's do suggest a decline in survey quality over time as measured by benefit reporting.

Duncan and Hill (1989) have also studied the extent of benefit under-reporting in the CPS and PSID. They report that in 1979, the CPS accounts for about 69% of SSI, 77% of AFDC income, and 91% of Social Security/Railroad Retirement income. They have also reported that in 1980, the PSID accounts for about 77% of AFDC income, 84% of SSI income and about 85% of Social Security Income. For Social Security and AFDC, their numbers are quite similar to ours. For SSI, however, our PSID reporting rates are somewhat lower than theirs. This difference might be due to the difference in the re-weighting algorithm employed, and that we do not account for those who receive benefits but die during the survey year. To account for this latter issue, Duncan and Hill adjust the reporting rate up 5 percent.

8.   Some Adjustment Methods

Reporting rates calculated as above can be used to adjust existing data analyses. In particular, the reporting rates we provide can be used to adjust estimated program effects on the income distribution as well as estimates of program takeup. A takeup rate is typically measured as the fraction of eligible individuals or families that receive a given transfer. A conservative adjustment to the typical takeup rate can be obtained by multiplying the takeup rate by the inverse of the reporting probability. For example, Blank and Ruggles (1996) examine the Food Stamp takeup rate in SIPP during 1986-1987. Their reported take-up rate is 0.52. Since our average monthly participation reporting rate for these years averages 0.876, an adjusted takeup rate for this period is 0.52/0.876 = 0.59. This adjustment is likely conservative because our reporting rate is likely to be too high because some true non-recipients report receipt. While it is possible that the bias could be reversed, we are implicitly assuming that the eligibility calculations and the likely exclusion of imputed observations implies that there are few false positives in the original analysis.

Other adjustments are possible in more complicated situations. When estimating the effect of a program on the income of a group, one can consider scaling up benefit receipt by one over the dollar reporting rate. As long as non-reporting recipients have the same distribution of characteristics as reporting recipients (where the set of characteristics is those that are used as conditioning variables), the approach is unbiased. One application is to scale up benefits for the group of potential recipients. If there are no false positives from outside the group of potential recipients, then scaling by the inverse of the dollar reporting rate provides the amount of program benefits received by potential recipients. If there are false positives from outside the group, then the rescaling is a downward biased estimate of benefits received by the group. An example of such an adjustment in the case of UI, FSP, WC, AFDC/TANF, SSI, SSDI and OASI is Meyer and Mok (2008). Other studies have assumed that under-reporting is constant in proportional terms across deciles or quintiles of the income distribution. Examples of adjustments based on this assumption can be found for the FSP and AFDC/TANF in Primus et al. (1999) and for unemployment insurance in Anderson and Meyer (2006).

However, in many analyses of income distributions or the distributional effects of transfers, it will be difficult to adjust the analyses for under-reporting using aggregate reporting

rates. One often needs to know exactly who under-reported, and by how much. An example of the difficulties of trying to make such an adjustment can be found in Meyer and Sullivan (2006) for the case of Food Stamps and AFDC/TANF in the CE Survey.

9.   Conclusions and Extensions

We provide estimates of the extent of under-reporting of dollars and months of participation for ten large transfer programs in five major household surveys. We find that under-reporting is common and has increased over time. Less than half of Workers' Compensation benefits are typically reported, only about two-thirds of Food Stamp Program, TANF, WIC and Unemployment Insurance benefits are commonly reported. Three-quarters of SSI benefits and a much larger share of SSDI and OASI benefits tend to recorded. There is substantial variation across surveys, with the Consumer Expenditure Survey typically having the lowest reporting rate and the SIPP having the highest rate for most programs.

Over time, the reporting of many programs in the surveys has sharply deteriorated. We have also seen a noticeable rise in the share of responses that are imputed. This rise in imputation and under-reporting is part of an overall pattern of decline in the quality of data from U.S. household surveys. Other papers have shown a rise in survey nonresponse and item nonresponse and a drop relative to alternative sources (Atrostic et al. 2001, Meyer and Sullivan 2007b, 2008).

The patterns of under-reporting that we find do not seem to be consistent with a simple story of stigma or the sensitivity of income reporting. While these reasons are plausible explanations for the low FSP and TANF reporting rates, they cannot explain the very low WC reporting rate. We suspect that other factors, including continuity of receipt, the ease of reporting and a desire to reduce the length of interviews play a large part in determining the degree of under-reporting.

We can extend these results by calculating aggregate based reporting rates for demographic groups, regions or states to make more refined adjustments. Ideally one would also use microdata to match these surveys to program data. It would be useful to analyze such matches to understand how mis-reporting varies with respondent and interviewer characteristics,

and to assess the extent of false positive reporting by nonrecipients to better adjust studies of the effects of transfer programs.

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Data Appendix

1. The Household Surveys

A. Surveys and Sample Selection

- **Panel Study of Income Dynamics (PSID)** – We use the 1968-1997, 1999, 2001, 2003, and first release 2005 waves. The initial sample of the PSID consisted of two independent samples: 1) A National Sample (2,930 families) of the civilian non-institutionalized population of the 48 conterminous states and 2) The SEO (Survey of Economic Opportunity) sample, which consisted of 1,972 low income families residing in Standard Metropolitan Statistical Areas (SMSAs) and non-SMSAs in the southern regions. In the 1990 wave, a sample of 2,043 Latino households was added, but we do not include them in this study. However, we do include the 1997 immigrant sample, which consists of 441 families.

- **Survey of Income Program Participation (SIPP)** – We use the 1984-1993, 1996, 2001 and 2004 panels. The periods covered by each panel can be seen in the table below.

SIPP Survey Period, by Panel

SIPP Panel	Begin (reference month)	End (reference month)	Number of Waves
1984	June 1983	July 1986	9
1985	October 1984	July 1987	8
1986	October 1985	March 1988	7
1987	October 1986	April 1989	7
1988	October 1987	December 1989	6
1989	October 1988	December 1989	3
1990	October 1989	August 1992	8
1991	October 1990	August 1993	8
1992	October 1991	December 1994	9
1993	October 1992	December 1995	9
1996	December 1995	February 2000	13
2001	October 2000	December 2003	9
2004	October 2003	Still Ongoing	4 (as of Sept. 2008)

The SIPP sample consists of individuals residing in the United States, excluding people who are:

a) Living in a household on a temporary basis and have a residence elsewhere.
b) Armed forces members who are in the household on a temporary basis.
c) Students whose living quarters are located elsewhere.
d) Inmates in an institution.
e) Nursing home residents.
f) Citizens of foreign countries.

- **Current Population Survey – Annual Demographic File/Annual Social and Economic Supplement** (CPS-ADF/ASEC) – We use the 1976-2008 surveys. The CPS-ADF/ASEC sample universe is the civilian non-institutional population living in the US and members of the Armed Forces living in civilian housing units on a military base or in a household not on a military base.

- **American Community Survey (ACS)** – We use the 2000-2006 surveys. The coverage of this survey is the non-institutionalized households and also excludes those in college dormitories and other group quarters.

- **Consumer Expenditure Survey** (CE Survey) – We use the 1980-2006 surveys. The eligible population is US civilian non-institutionalized persons. The survey excludes people such as patients, inmates, and those who live in camps, communes, convents, monasteries, flophouses, halfway houses, non-staff units in homes for the aged, infirm, or needy, transient quarters in hotels or motels and missions.

B. Weighting Schemes

Weights are needed to compute a population estimate.

- PSID: Email correspondence with the staff at the PSID Statistical Design Group indicated that although PSID weights in the publicly available datasets are suitable to compute scaling invariant statistics like the weighted mean, they are nevertheless unsuitable for the computation of weighted population totals. This situation occurs because PSID weights are not exactly calibrated to external population totals for families and individuals. The recommended approach is to scale the PSID weights linearly using an external dataset, based on characteristics such as age and gender. Doing so makes the sum of the revised PSID weights equal to the total population of the United States in any given year.

  We use the CPS-ADF/ASEC as the basis for revising the PSID weights for two reasons. First, our calculations show that the sum of the weights in the CPS-ADF/ASEC matches the U.S. population very well in any given year. Second, the sample frame of the CPS-ADF/ASEC is very similar to that of the PSID. Third, CPS-ADF/ASEC data are available for every year since 1968, the year that the PSID survey began.

  An important decision to make in this scaling strategy is the choice of individual characteristics to use for stratification when determining the revised PSID weights. If one chooses too few characteristics, it is sub-optimal if there is considerable heterogeneity across the population. If one chooses too many characteristics because the PSID is a small dataset, one may have few or no PSID observations in a particular stratum (combination of characteristics), making scaling sensitive or impossible. In addition, the PSID has already emphasized that the original PSID weights are designed to provide the correct proportionate representation of individual characteristics and family types in the US household population. Thus, the marginal bias reduction gain involved in introducing an extra characteristic may well be small.

We chose age and gender as the basis for scaling, simply because they are the two most clearly defined characteristics in both the PSID and the CPS-ADF/ASEC datasets.[25] We defined 19 age groups (0-4, 5-9, 10-14, 15-19, 20-24, 25-29,…, 80-84, 85-89 and 90 and above) and two gender groups. Together, these constitute 38 strata, upon which our scaling will be based. To scale the PSID individual weights, we first compute the original weighted PSID population (using original PSID individual weights) and weighted CPS-ADF/ASEC population in a particular stratum k, denoted as $N_{p,k}$ and $N_{c,k}$ respectively. Then we compute the ratio of these populations in this stratum R_k, i.e. $R_k = N_{c,k}/N_{p,k}$. Finally, for each person, i, in this stratum, we multiply his original PSID individual weight $W_{i,k,p}$ by this ratio, yielding his revised PSID individual weight $\hat{W}_{i,k,p}$,

i.e. $\hat{W}_{i,k,p} = W_{i,k,p}R_k$. We use the revised PSID weights to compute the PSID weighted totals in this paper.

- CPS-ADF/ASEC: Individual weights are used. The only exception is the calculation of Food Stamp totals (1988 survey onwards), where we use household weights because Food Stamp receipts are reported at the household level.

- SIPP: Calculating weights for the SIPP is non-trivial because of the overlapping panels. We follow an approach similar to that in the SIPP Users' Guide 2001 (pp. 8-19 to 8-23). Essentially, for each program, we compute the total weighted receipts (individual monthly weights are applied) in each month. Then, for the overlapping months, we weight each of the monthly estimates in proportion to the number of individuals included in that estimate. For example, there are three monthly estimates for January 1986, one each from the 1984, 1985 and 1986 panels. The number of individuals who were interviewed in the waves covering these months is 32,008, 33,043, and 30,566, respectively. Thus, the weights are 0.335, 0.346 and 0.32 when combining the three January 1986 estimates into one.[26]

- ACS - Individual weights are used throughout, except for Food Stamps (benefit dollars and participation aggregates), where household weights are used.

- CE Survey: Consumer Unit weights are used. For individual reported benefits such as social security and SSI (these benefits come from the Member Files), we first obtain the consumer unit total (sum across family members) then apply the consumer unit weights.

C. Technical Details/Assumptions

[25] On the other hand, race is not as clearly defined a characteristic. First, the PSID only has the race of the head of household and the spouse (beginning in 1985). Second, both the CPS and the PSID are unclear about the treatment of people with multiple racial backgrounds.

[26] Prior to applying these weights to the estimates, we have adjusted each of the estimates according to the number of rotation groups it represents to obtain a population estimate for that panel. For example, a monthly estimate which is based on 3 rotation groups will be multiplied by 4/3 so it becomes a population estimate for that panel (since each rotation group represents ¼ of the population). See pages 8-14 in the SIPP User Manual for a detailed explanation.

SIPP – Calendar Years 1983 and 2000

There are two calendar years in which the SIPP did not conduct interviews for all the months. In 1983, there are no interviews for January to May. In 2000, there are no interviews for March to September. For these years, we annualize the aggregate dollar estimates by taking the average across the months available and multiply the result by 12.

Fiscal Year to Calendar Year Conversion

Administrative aggregates for some programs (see sections 2 and 3 in this appendix) are originally reported on a fiscal year basis. The adjustment from fiscal to calendar year is done as follows: For the calendar year 1977 onwards, we take one quarter of the amount in the next fiscal year and three quarters of the amount in the current fiscal year. For the calendar years before 1977, we take one half from each of the current and the next fiscal year.

Missing data/Non-response

Those who answered "don't know" or "refused" are treated as missing data, and hence, they are treated as non-recipients.

Other Income in the CPS-ADF/ASEC

Note that in the CPS-ADF/ASEC, from the 1988 surveys, there was also a question asked at the end of the income section regarding "other income" received and the type of this other income. The possible types of "other income" include AFDC, Social Security, Worker's Compensation and Unemployment Compensation, amongst many other private income types. We therefore use these responses and add them to the amount they reported in the sections preceding the other income question. We do not include Unemployment Compensation because there is no indication as to whether it is state unemployment insurance. These factors are generally small; for Unemployment Compensation, it is usually less than 1% in a typical year.

PSID - Scaling up the aggregate benefits to account for non-head, non-spouse members of the family

In certain years of the PSID, certain benefits are only reported for the head of household and the spouse. To partially rectify this survey issue, we consider the share of benefits received by non-head, non-spouse family members (in the years when they are available). We apply these shares to scale up the benefits estimates in the years where appropriate.

D. Identifying recipients in the PSID

One of the major shortcomings of the PSID is the lack of individual data in certain waves of the survey. In this section, we explain how we obtain aggregates when there is incomplete information regarding individual recipiency. Readers may find it helpful to read this section in

conjunction with Appendix Table 1, which tabulates, by survey and benefit year, the availability of benefit data.

- Survey years 1968-1970: Benefits such as OASDI, UI and WC are only reported for the family head. Thus, the aggregates calculated will understate the actual amounts received by all PSID families. We thus do not report estimates for these programs in these years.

- Survey years 1971-1974: During these survey years, AFDC and Social Security are reported as the combined amounts received by the head of household and the spouse. We use the response to the type of income question in the PSID individual file to decide who the recipient is. The main possible responses are: Labor Income Only, Transfer Income Only, Asset Income Only, Combination Including Labor Income, Combination Excluding Labor Income. An individual is assumed to receive AFDC and Social Security if the answer to the above question suggests that transfer income is received. After we determine whether the head and/or the spouse received transfer income, we divide the reported amount of benefit equally. If only the head of the family is reported to receive transfer income, all AFDC and Social Security income received by this family will be allocated to the head. If both the head and the spouse are reported to receive transfer income, the head and the spouse will each get half of the reported AFDC and Social Security Income.

- Survey Years 1975-1993: In these survey years, there are two issues to confront. First, we again see that AFDC, SSI and Social Security benefits are reported as the combined amount received by the head and the spouse in 1975-1985. Secondly, all benefits (except Social Security in 1984-1992 waves) received by the OFUMs are also reported as combined amounts. Both issues can be tackled by using the type of transfer received question in the PSID individual file. The question asks what type of transfer was received, and the main possible responses are: 1) AFDC only; 2) Other welfare only; 3) Social Security only; 4) Other retirement pay, pensions, annuities only; 5) Unemployment, Worker Compensation only; 6) Alimony, child support only; 7) Help from relatives only; 8) Supplemental Security Income Only; and 9) Any combination. Thus, we assess what types of benefits each person in the family received using the response to the above question. In the event that the individual answered "Any Combination," we assume that he received several kinds of transfers. Again, we divide the reported benefit amount equally between all recipients if more than one individual reports recipiency of the benefit.[27]

- Survey years 1994-2003: Most benefits (except Food Stamps, Social Security and SSI (for 2 years)) are reported separately for the head and the spouse only. See the Social Security and SSI sections for more detail on how aggregates are obtained. In addition, the data format changed beginning in the 1994 wave, with most benefits now reported in

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[27] If the benefit is reported as the combined amount received by the head and the spouse (denoted as (H+W)), then we divide this amount only between the head and the spouse. If more than one OFUM received a particular type of benefit, we divide the total amount received by the OFUMs by the number of OFUMs who received the benefit. In other words, the reported amount received by the head and the spouse is always distributed between the head and the spouse only. Similarly, the amount received by the OFUMs is always distributed between the OFUMs.

the following format: First, how much benefit was received (the amount question)? Second, the frequency (per year, per month, per week, per two weeks etc) of the said amount (the frequency question). Third, during which months was the benefit received? Two sets of these responses are available, one for the head and one for the spouse. To determine the annual amount received based on these questions, we first determine the monthly amount received using the amount and the frequency questions. We then multiply the result by the number of months this benefit was received. However, if the individual answered "per year" in the frequency question, we assume that the reported dollars in the amount question is the annual amount he received. The reason for doing so is that the individual may have received the entire reported amount in one month, and obtaining the annual amount by the preceding method will understate the actual amount received.

- Survey year 2005: The public release of this wave contains the benefit amount received by the head and the spouse separately for 2004, reported just like the 1994-2003 waves.[28] In addition, the amount received by the entire family for 2003 is also available for all benefits. The individual file also includes indicator variables regarding individual recipiency of a particular type of benefit in 2003. Thus, for 2003, we divide the reported family amount equally between all persons in the family who reported receiving a particular type of benefit.

Based on these rules, we determine the amount of each type of benefit each member of the family received. The annual aggregate is obtained simply by multiplying the individual amount by the individual revised weight and then summing the result across all individuals in the year. In the case of Food Stamps and SSI (in 1997 and 1999), the annual aggregate is obtained by multiplying the family amount by the revised family weight (average revised weight of the head and the spouse) and then summing across all families.

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[28] The first public release of this wave also includes variables representing the benefit amounts received by the OFUMs in 2004, but their values are zeroes. It is likely that these variables will be made available in future public releases.

2. Administrative Data Sources and Details of the Calculations by Program – Benefit Dollars

A. Aid to Families with Dependent Children and Temporary Assistance for Needy Families (AFDC/TANF)

Administrative Data Sources

(1970-2004) – Fiscal Year Data
U.S. Department of Health and Human Services. 2008. *Indicators of Welfare Dependence.* Annual Report to Congress 2007.

(1970-2004) – Data on territories
U.S. Social Security Administration. Various Years. Annual Statistical Supplement to the Social Security Bulletin. Office of Research, Evaluation and Statistics.

Note: The administrative estimates have been adjusted to exclude amounts paid to Guam, Puerto Rico and Virgin Islands using various years of Annual Statistical Supplement of the Social Security Administration.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

No adjustment is made to account for institutionalized individuals.[29]

Technical Notes

- PSID: For the 1968 survey, the amount of AFDC is the family total. For the 1969-1970 surveys, we know only the amount of AFDC received by the head of the family. For the 1971-1974 surveys, AFDC is the combined amount received by the head and the spouse. For 1975-1985 surveys, the head and spouse combined amount and the other family members' combined amount are each available. For the 1986-1993, the dataset has the amount of AFDC received by the head and the spouse separately, but for other family members, only the combined amount is available. Beginning in the 1994 survey, only the amount received by the head and the amount received by the spouse are recorded, except in the 2005 survey, when the amount received by the family is recorded for 2003. We therefore scale up the benefits to account for the non-head, non spouse family members in 1970-1973, 1993-2002, and 2004.

- SIPP: Reported consistently.

- CPS-ADF/ASEC: For the 1968-1975 surveys, AFDC is combined with old age assistance, aid to the blind and to the disabled. There are no variables that indicate which

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[29] Using the 2000 Census, we find that about 9.4% of total reported welfare income (AFDC/TANF and General Assistance) was received by the institutional population. This suggests a high level of misreporting among the institutional population since we expect that they are not eligible for AFDC/TANF.

benefit the person received.   We exclude these years in calculating the average reporting rate. From the 1976 survey, AFDC/TANF is combined with General Assistance, but there are variables indicating whether the person received each of these benefits. We use these variables to exclude those who received only General Assistance. Nevertheless, it should be noted that in the case that the interviewee received both General Assistance and AFDC/TANF, we cannot discern the amount of these benefits separately. In this case, we include the benefits as if all amounts received are AFDC/TANF.

- ACS: The ACS reports the amount of Public Assistance received, which includes AFDC/TANF or General Assistance.

- CE Survey: The CE Survey reports the amount of public assistance, welfare, and money received for job training grants.

B. Food Stamps

Administrative Data Sources

(1973-2002)
Administrative totals for 1967-2002 were kindly provided to us (via email) by the Food and Nutrition Service.

(2003-2004)
Food Stamps Program Data. 2006. Food and Nutrition Service, U.S. Department of Agriculture http://www.fns.usda.gov/pd/fspmain.htm (accessed April, 2006)

(2005-2007)
Food Stamps Program Data. 2008. Food and Nutrition Service, U.S. Department of Agriculture http://www.fns.usda.gov/pd/fspmain.htm (accessed September 10, 2006)

Notes: The administrative aggregates have been adjusted to remove payments received by people in Puerto Rico, Guam and Virgin Islands. Note that Puerto Rico implemented Food Stamps beginning in fiscal Year 1975 until June of Fiscal Year 1982.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

No adjustment is made to account for institutionalized individuals.

Technical Notes

- PSID: There are Food Stamps questions in all the surveys except the 1973 survey. Note that the earlier Food Stamps estimates are implausibly large and hence are excluded in the table. Because free food was initially included (in the 1968 survey, the survey question was: *Did you (family) get any free food, clothing, or food stamps worth more than $50 in 1967? If yes, how much did that save you last year?*), the longitudinal nature

of the survey may have caused respondents in the subsequent waves to include free food when asked about Food Stamps. Since Food Stamps are reported on a family basis, we apply the revised family weights in obtaining the aggregate.

- SIPP: Asked consistently.

- CPS-ADF/ASEC: Food Stamp questions are asked beginning with the 1980 survey. These questions are asked at the household level and so are weighted using the household weight. Food Stamps data from the 2008 survey are withheld.

- CE Survey: The CE Survey reports the value of Food Stamps received. Food Stamps data for the 1982-1985 surveys are obtained from the Income File rather than from the Consumer Unit (Family) files. Food Stamps values beginning in the 2001 survey include electronic benefits.

C. Social Security

Administrative Data Sources

(1967-2007)
Social Security and Medicare Benefits. 2008. U.S. Social Security Administration.
http://www.socialsecurity.gov/OACT/STATS/table4a4.html (accessed September 10, 2008)

(1967-2007) – Data on the territories
U.S. Social Security Administration. Various Years. Annual Statistical Supplement to the Social Security Bulletin. Office of Research, Evaluation and Statistics.

Notes: The administrative estimates have been adjusted to exclude amounts paid to American Samoa, Guam, Puerto Rico, Virgin Islands and those living abroad using various years of Annual Statistical Supplements of the Social Security Administration.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

We used the 1970, 1980, 1990 and 2000 census data to estimate the fraction of total Social Security received by the institutional population (individuals in correctional facilities, mental institutions, and institutions for the elderly, the handicapped and the poor, and those in military facilities). We adjust the administrative aggregates downward by applying the 1970 fraction (2.93%) to the 1967-1974 aggregates, the 1980 fraction (1.43%) to the 1975-1984 aggregates, the 1990 fraction (2.75%) to the 1985-1994 aggregates, and the 2000 fraction (3.39%) to the 1995-2007 aggregates.

Inclusion of Railroad Retirement Benefits

In the CE Survey and the CPS-ADF/ASEC (1968-1975 surveys), Railroad Retirement benefits and Social Security benefits are combined. Hence, we adjust the administrative aggregates for these surveys by including Railroad Retirement benefits. We also assume that

SSDI recipients cannot get Railroad Retirement benefits – hence, we adjust only the OASI aggregates for the aforementioned surveys to include Railroad Retirement benefits.

Dividing Social Security Income

Social security income in the surveys we examine is sometimes reported without specifying the type of social security, and deducing whether it is SSDI or OASI becomes virtually impossible. In these circumstances, we use the data published in the various issues of Annual Statistical Supplements to calculate, for each year, age, gender, and schooling status, the proportion of social security dollars that is paid to OASI and SSDI recipients.[30] We use these proportions to determine the amount of SSDI and OASI the individual received whenever we have incomplete information about why he received social security or whenever he received money from both the SSDI and OASI programs without specifying the amount received from each type separately.[31]

Technical Notes

- PSID: For the 1968-1969 waves, benefit amounts are reported for the head only and are coded in bracketed form. We take the midpoint of each bracket as the amount the individual receives. For 1984-1993 waves, the type of social security is reported. If the individual reported receiving both SSDI and OASI, then his amount of social security income will be divided between the two programs using the Annual Statistical Supplements. For the 1994-2003 waves, in general we have only the total amount of social security income received by the family. To decide which member in the family received social security should the family social security receipt be positive in a particular year, we adopt two approaches: First, we use the panel structure of the PSID, and if the individual received social security in the 1993 wave (1992 for OFUMs), we assume that this individual always received social security in the 1994-2003 waves. Second, if the individual is reported as being permanently disabled or retired, we assume he received social security. The amount of social security received by the family will be divided equally between family members who we determine to be social security recipients, and the amount of OASI and SSDI each member received is then determined using the proportions obtained from the Annual Statistical Supplements. For the 2005 wave, we only have the amount of social security the family received in 2003, but we also know which member of the family received social security in 2003. Therefore, we divide the amount equally between recipients in the family and again determine OASI and SSDI amounts based on the proportions obtained in the Annual Statistical Supplements. We also scale up the benefits to account for the non-head, non spouse family members in 1970-1973.

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[30] To reduce computational burden, these proportions are calculated for the following age groups only: 0-17, 18, 19, 20, 21, 22, 23, 24, 25-29, 30-34, 35-39, 41-44, 45-49, 50-54, 55-59, 60, 61, 62, 63, 64, 65+. One set of these proportions are calculated for men and women separately. A separate set of proportions is also calculated for those students who were 18-24.

[31] Note that the demographic data published in the Annual Statistical Supplements represents what happened in December of each year. Thus, in constructing the official proportions for each calendar year, we take the average of these proportions in the two adjacent years.

- SIPP: Two variables that indicate the first two reasons for receiving social security income are available but are only asked once (the first time the individual indicated receipt of social security) in the 1984-1993 panels. Hence, we assume that the reasons for receiving social security are the same for all the waves in these panels. For the 1996 panel, the reasons for receiving social security are not asked in waves 2-8; thus, we take the nearest answer available. As such, reasons for receiving social security from wave 2 to wave 5 (second month) are the same as those in wave 1. When the reasons for receiving social security imply that the individual may have received from both the SSDI and OASI programs, we use the Annual Statistical Supplements to obtain the amounts of SSDI and OASI for this individual as described above.

- CPS-ADF/ASEC: The data include the total social security income received by the individual, with no information about the type of social security received until 2001. For the 1968-1987 surveys, social security income is combined with railroad retirement. For the 1976-1987 surveys, two variables indicating whether the person received social security and railroad retirement benefits are available. However, we cannot precisely distinguish the two benefits when both benefits are received. If the person indicated he received both railroad retirement benefits and social security, we treat the entire sum as social security for these years. Since no information on type of social security received is available until 2001, we determine the amount of SSDI and OASI the individual received using the Annual Statistical Supplements as described above.

- ACS: The data include the total social security income received by the individual, with no information about the type of social security received. We use the Annual Statistical Supplements to determine the amounts of SSDI and OASI.

- CE Survey: The Member files of the CE Survey reports, for each member in the Consumer Unit, the total amount of Social Security and Railroad Retirement income received. We use the Annual Statistical Supplements to determine the amounts of SSDI and OASI as described above.

D. Supplemental Security Income

Administrative Data Sources

(1974-2005)
U.S. Social Security Administration. 2005. 2005 SSI Annual Report. Office of the Chief Actuary. (Tables IV C1, C4, C5)

(2006-2007)
U.S. Social Security Administration. 2008. 2008 SSI Annual Report. Office of the Chief Actuary. (Tables IV C1, C4)

(1978-2006) – Territories Data
U.S. Social Security Administration. Various Years. Annual Statistical Supplement to the Social Security Bulletin. Office of Research, Evaluation and Statistics.

The administrative aggregates have been adjusted to exclude SSI dollars received by people living in Mariana Islands. In general, only people living in the states of the US and those in Mariana Islands are eligible for SSI.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

We use the 2000 census data to estimate the fraction of total SSI dollars received by the institutional population (individuals in correctional facilities, mental institutions, and institutions for the elderly, the handicapped and the poor, and those in military facilities). The result suggests that the fraction is about 4.50%, and we adjust the administrative aggregates downwards using this number throughout.[32]

Technical Notes

- PSID: Beginning in the 1994 survey, SSI is only reported for the head and the spouse. However, in the 1999 and 2001 surveys, SSI for the family is also reported for the prior survey year (1997 and 1999 respectively). To calculate the weighted total SSI benefits in these two years, we apply the revised family weights since there is virtually no information regarding individual recipiency. We also scale up the benefits to account for the non-head, non spouse family members in 1993-2002 and 2004.

- SIPP: The SSI question only asks about federal SSI. We assume that reported amounts include state supplementation because there is not a separate question about state funded SSI, and we believe it is unlikely respondents understand the financing of the program.

- CPS-ADF/ASEC: Questions about SSI are asked consistently beginning with the 1976 survey.

- ACS: Amount of SSI received by the individual is available.

- CE Survey: The Member Files of the CE Survey report the amount of SSI received.

E. Unemployment Insurance

Administrative Data Sources

(1976-2004) – UI Data and Extended Programs Data (States and Territories)
U.S. Department of Labor. Various Years. *Unemployment Insurance Financial Data Handbook.* Employment and Training Administration. ET Handbook No. 394

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[32] We use only the 2000 Census because it is the only census data that reports SSI as a separate category. In the 1970-1990 census data, SSI, AFDC, General Assistance and other welfare are lumped together as "Welfare Income". Roemer (2000) uses the 1990 census and assumes that all welfare income received by institutionalized individuals is SSI and estimated that 7.4% of total SSI is paid to these individuals. Using the 2000 census, we find that only 4.5% of total SSI is paid to the institutionalized individuals and that the amount of AFDC/TANF received by institutionalized individuals is about 3.7% of the total SSI. These results suggest that the 7.4% adjustment Roemer (2000) uses may be overstated.

(2005-2007) – UI Data and Extended Programs Data (States and Territories)
Unemployment Insurance Data Summary. 2008. U.S. Department of Labor – Employment and Training Administration. http://workforcesecurity.doleta.gov/unemploy/content/data.asp (accessed September 12, 2008)

Note: The administrative aggregates have been adjusted to exclude payments to Puerto Rico and Virgin Islands.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

No adjustment is made to account for institutionalized individuals.

Technical Notes

- PSID: Unemployment Insurance and Workers' Compensation are combined in the 1968-1976 surveys. In addition, they are not reported for every family member. See Appendix Table 1 for more information. In calculating the average reporting rate, we only include the 1976-2004 years (i.e. 1977-2005 surveys). We also scale up the benefits to account for the non-head, non spouse family members in 1993-2002, and 2004.

- SIPP: Reported Consistently as "Amount of State Unemployment Compensation". SIPP also has "Supplemental Unemployment Compensation" and "Other Unemployment Compensation". The combined sum of these two non-state unemployment benefits never exceeds 5% of the total administrative state UI benefits payouts. In a typical year, total Supplemental Unemployment Compensation in the SIPP constitutes only about 2% of the administrative UI total. For Other Unemployment Compensation, that percentage is around 1%. Thus, we only count State Unemployment Compensation when computing UI weighted totals.

- CPS-ADF/ASEC: For the 1968-1987 surveys, Unemployment Insurance and Workers' Compensation are combined into one category. In some of the years, the category also includes veterans' benefits. See Appendix Table 2 for more detail. In calculating the average reporting rate, we only include the years 1987-2007.

- CE Survey: The CE Survey reports the amount of unemployment compensation received.

F. Workers' Compensation

Administrative Data Sources

(1976-1986)
Nelson Jr., William J. 1992. "Workers' Compensation: 1984–88 Benchmark Revisions."
Social Security Bulletin 55, no. 3:41–58.

(1987-2006)
Sengupta, I., V. Reno, and J.F. Burton, Jr. (2003), Workers' Compensation: Benefits, Coverage, and Costs (National Academy of Social Insurance, Washington DC)

Note: We consider only cash payments, obtained by removing the medical portion of the total program cost.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

No adjustment is made to account for institutionalized individuals.

Technical Notes

- PSID: Unemployment Insurance and Workers' Compensation are combined in the 1968-1974 waves. In addition, they are not reported for every family member. See Appendix Table 1 for more information. In calculating the average reporting rate, we only include the years 1976-2004. We also scale up the benefits to account for the non-head, non spouse family members in 1993-2002 and 2004.

- SIPP: Reported consistently as "Amount of Workers' Compensation"

- CPS-ADF/ASEC: For the 1968-1987 surveys, Unemployment Insurance and Workers' Compensation are combined as one category. In some of the years, the category also includes veterans' benefits. See Appendix Table 2 for more details. In calculating the average reporting rate, we include only the years 1987-2006.

- CE Survey: The CE Survey reports the amount of Worker's Compensation and Veterans' Benefits (include education benefits, but excluding military retirement benefits) combined.

G. Earned Income Tax Credit

Administrative Data Sources

(1991-2003)
U.S. Government Printing Office (2004), 2004 Green Book. US House of Representatives Committee on Ways and Means. Washington DC (Table 13-14)

(2004-2006)
U.S. Office of the President of the United States. 2008. Historical Tables for the Budget of the United States Government – Fiscal Year 2009. Office of Management and Budget

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

No adjustment is made to account for institutionalized individuals.

Technical Notes

- PSID: The PSID does not have information on EITC

- SIPP: Information on EITC is available in the topical modules as below:

<div align="center">EITC variable availability and Topcode in SIPP, by panel</div>

Panel	Topical Module in wave	Year of EITC	Topcode
1991	8	1992	$1000
1992	5	1992	$1000
1992	8	1993	$1000
1993	5	1993	$1000
1993	8	1994	$1000
1996	4	1996	$3500
1996	7	1997	$3500
1996	10	1998	$3500
2001	4	2001	$3500
2001	7	2002	$3500
2004	4	2003	$4000

The EITC amounts in SIPP are reported categorically, with many individuals' receipt topcoded.[33] For the non-topcoded value, we take the midpoint of the interval as the amount of EITC received. For the topcoded values, we rectify this by replacing the topcoded values by the mean of the truncated distribution of EITC amount reported in the CPS-ADF/ASEC. That is, we use the CPS-ADF/ASEC and select those individuals whose receipts of EITC are above the topcoded value in the SIPP, and we then take the average of EITC receipts of these individuals and replace the topcoded value in SIPP by these averages.[34] Another issue is the apparent low response rate of these EITC questions in the SIPP as Lerman and Mikelson (2004) reported.

- CPS-ADF/ASEC: Reported consistently from the 1992 survey onwards.

3. Administrative Data Sources and Details of the Calculations by Program – Benefit Participation

A. Aid to Families with Dependent Children and Temporary Assistance for Needy Families (AFDC/TANF)

Administrative Data Sources

(1980-2007)

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[33] As many as 55% of the recipients in the 1993 panel had their amounts received topcoded.

[34] These conditional means in the CPS are: 1264.58 (1992), 1338.74 (1993), 1776.56 (1994), 3553.61 (1995), 3634.98 (1997), 3709.19 (1998), 3855.40 (2001), 3954.76 (2002) and 4220.97 (2004).

TANF Caseload Data. 2008. Administration for Children and Families, U.S. Department of Health and Human Services. http://www.acf.hhs.gov/programs/ofa/data-reports/caseload/caseload_archive.html (accessed September 10, 2008)

Note: We use the fraction of dollars received by those living in the territories/overseas to adjust the administrative aggregates downward to discount those who are living in these areas.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

No adjustment is made to account for institutionalized individuals.

Technical Notes

We compute average monthly participation at a family level. All numbers are weighted using family weights.

- PSID: For the 1994 and later waves, it asks, for each month, whether AFDC/TANF were received separately for the head and the spouse. We assume, therefore, that either participation of the head or the spouse constitutes family participation.

- SIPP: Information on monthly recipiency is available. Note again that we do not have complete calendar year coverage for 1983 and 2000. Specifically, SIPP does not cover January 1983 – May 1983 and March 2000-September 2000. Thus, we adjust the administrative monthly average participation so it covers the same months for these two years as the SIPP.

- CPS-ADF/ASEC: The survey asks the number of months Public Assistance was received[35] (1988-2008 surveys). Note that since public assistance included General Assistance, we have made adjustment so those who received only General Assistance are not counted.

B. *Food Stamp Program*

Administrative Data Sources

(1973-2002)
Administrative totals for 1967-2002 are kindly provided to us (via email) by the Food and Nutrition Service.

(2003-2004)

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[35] In the codebooks, this question was phrased in many years as: "In how many months of 19.. did … receive social security payments?" This question was asked under the public assistance section and was asked immediately after the question of whether AFDC was received. Thus, we conjecture that the term "social security" in the above months question is a typographical error.

Food Stamps Program Data. 2006. Food and Nutrition Service, U.S. Department of Agriculture http://www.fns.usda.gov/pd/fspmain.htm (accessed April, 2006)

(2005-2007)
Food Stamps Program Data. 2008. Food and Nutrition Service, U.S. Department of Agriculture http://www.fns.usda.gov/pd/fspmain.htm (accessed September 10, 2006)

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

No adjustment is made to account for institutionalized individuals.

Technical Notes

We look at participation at a household level; this is primarily due to the limitations of the surveys. In the SIPP, the coverage indicator (i.e. whether a person is covered by food stamps) is not asked if the person is under 15 years of age. This issue becomes complicated when there are multiple families living in a household, and they can be related or not related. Note that Food Stamps distributions are officially determined on a household basis. The CPS-ADF/ASEC mainly asks only the number of children covered by food stamps. It is then not clear whether the spouse is also covered by food stamps.

- PSID: For the 1994 and later waves, it asks, for each month, whether food stamps were received. Prior to the 1994 surveys, it asked instead how many months in the previous calendar year did the individual use food stamps (monthly recipiency also available for 1984-1993 waves). Basically, we have information about how many months did the individual use/receive food stamps for the calendar years 1975-2002. The PSID also asked the number of persons in the family covered by food stamps, but we will not use this data as we are comparing household participation.

- SIPP: Information on monthly recipiency is available. Note again that we do not have complete calendar year coverage for 1983 and 2000. Specifically, SIPP does not cover January 1983 – May 1983 and March 2000-September 2000. Thus, we adjust the administrative monthly average participation so they cover the same months for these two years as the SIPP.

- CPS-ADF/ASEC: The CPS-ADF/ASEC asked the number of persons covered and the number of months covered by food stamps. These questions are asked in the 1980-2008 surveys.

C. National School Lunch Program (NSLP)

Administrative Data Sources

(1979-1988, 2002-2006)
National School Lunch Program Data. 2008. Food and Nutrition Service, U.S. Department of Agriculture

http://www.fns.usda.gov/pd/slsummar.htm (accessed September 25, 2008)

Note: These data show the average monthly participation (excluding June-August) of Free, Reduced Price and Full Price lunches for the fiscal years 1969-2007. We convert fiscal years to calendar years, taking into account that the summer months are excluded. Specifically, for the fiscal years 1979 and onwards, we calculate average monthly participation of calendar year t by taking 2/3 of the average monthly participation in fiscal year t and 1/3 of the average monthly participation in the fiscal year t+1.

(1989-2001)
Administrative totals for 1980-2002 were kindly provided to us (via email) by Food and Nutrition Service. These data include monthly participation numbers for the Free, Reduced Price and Full Price lunches under the NSLP. Participation during the summer season (June-August) is excluded in computing the average monthly participation for the year.

Technical Notes

In the CPS-ADF/ASEC and PSID, the data yield only unique participation of free *or* reduced price lunch estimates. We use the SIPP to convert these unique participation estimates to average monthly participation of free *or* reduced price lunches.

- SIPP: We use the response to the household-level question: *"In the past 4 months, were the lunches free, reduced-price, or were they full-price?"* to calculate participation. Note that this question is asked only once per wave and the answer to the question covered the 4 reference months (the 4 months before the survey month). Since the answer to this question covers all the children in the household, we assume that every eligible child (5-18 years of age) in a participating family receive the reported type of lunch from the NSLP.

- PSID: We use the family-level question *"During the (previous year), did any child in your family between 5 and 18 years old receive free or reduced-cost lunches at school?"* The response to this question yields a unique annual participation count, and we therefore convert these estimates to average monthly participation using the SIPP. Note that a person may have had both reduced price and free lunches in a year so that these unique participation count numbers may understate their true values. Also, we assume that every eligible child (5-18 years of age) in a participating family received lunches from the NSLP.

- CPS-ASEC: The survey asks about the number of children in the household receiving free or reduced price lunch. Thus, we cannot estimate numbers of free lunch and reduced price lunch recipients separately. We also do not know exactly which child in the household is a recipient. To calculate participation, we first calculate the average weight of those in the household who are between ages 5 and 18, multiply this average weight by the number of children who receive free or reduced price lunches, and sum the result across households. This method yields unique participation, and we convert it to average monthly participation as described above.

D. Social Security

Administrative Data Sources

(1974-2007)
Social Security Beneficiary Statistics. 2008. U.S. Social Security Administration.
http://www.ssa.gov/OACT/STATS/OASDIbenies.html (accessed September 15, 2008)

Note: Official Data give current participation as of December of each year. We compute average monthly participation of year t by taking the average of participation numbers in December of year t and year t-1.

We use the fraction of dollars received by those living in the territories/overseas to adjust the administrative aggregates downwards to discount those who are living in these areas.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

We use the 1970, 1980, 1990 and 2000 census data to estimate the fraction of Social Security benefit recipients who are institutionalized. We adjust the administrative aggregates downward by applying the 1970 fraction (3.49%) to the 1967-1974 aggregates, the 1980 fraction (2.48%) to the 1975-1984 aggregates, the 1990 fraction (3.43%) to the 1985-1994 aggregates, and the 2000 fraction (3.59%) to the 1995-2007 aggregates.

Technical Notes

In the PSID, CPS-ADF/ASEC, ACS (and sometimes SIPP), we do not know the type of social security the individual received (OASI or SSDI). Using data from the Annual Statistical Supplements, we look at the fraction of dollars spent on SSDI/OASI for someone in the same age and gender group, and we determine OASI/SSDI participations by splitting the individual's weight according to these fractions.[36,37]

Since we can obtain only unique participation in the PSID, CPS-ADF/ASEC and the ACS, we use the SIPP and obtain the ratio of unique participation to average monthly participation estimates, then we convert unique participation in the PSID, CPS-ADF/ASEC and the ACS using these ratios.

- PSID: These data give unique participation in a calendar year, and we convert to average monthly participation using the SIPP as described above. Note that in the 1975-1983 surveys, the type of social security (SSDI or OASI) is unknown. We therefore split the

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[36] In future revisions, we shall calculate these fractions by looking at the share of people (rather than dollars) who receive SSDI/SSDI for a given age and gender group.
[37] A major limitation of this method of determining OASI/SSDI participation is that certain individuals may receive both types of social security benefits in a given year. In future revisions, we can adjust our method by looking at the percentage of people who receive SSDI or OASI or both using the SIPP.

weight of the individual according to the fraction of social security dollars spent on SSDI/OASI as described above.

- CPS-ADF/ASEC: These data indicate unique participation in a calendar year, and we convert to average monthly participation using the SIPP as described above. Since the type of social security is unknown, we split the weight of the individual according to the fraction of social security dollars spent on SSDI/OASI as described above.

- ACS: These data indicate unique participation in a calendar year, and we convert to average monthly participation using the SIPP as described above. Since the type of social security is unknown, we split the weight of the individual according to the fraction of social security dollars spent on SSDI/OASI as described above.

- SIPP: SIPP data can indicate both unique and average monthly participation. In the event that we do not know the type of social security received, we split the weight of the individual according to the fraction of social security dollars spent on SSDI/OASI as described above.

E. Supplementary Security Income

Administrative Data Sources

(1974-2007)
U.S. Social Security Administration. Various Years. Annual Statistical Supplement to the Social Security Bulletin. Office of Research, Evaluation and Statistics.

Note: Official Data give current participation as of December of each year. We compute average monthly participation of year t by taking the average of participation numbers in December of year t and year t-1.

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

We use the 2000 census data to estimate the fraction of SSI recipients who are institutionalized (individuals in correctional facilities, mental institutions, and institutions for the elderly, the handicapped and the poor, and those in military facilities).[38] The fraction is estimated to be about 4.50%. We adjust all the average monthly participation numbers using this fraction.

Technical Notes

We compute SSI participation at the individual level. Since we can obtain only unique participation in the PSID, CPS-ADF/ASEC and the ACS, we use the SIPP and obtain the ratio of

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[38] In the 1970, 1980 and 1990 census, SSI is combined with general assistance and AFDC, while the 2000 census reports SSI as a separate category. This makes identifying the number of SSI recipients difficult in the 1970, 1980 and 1990 census data. Thus, we use only the 2000 census data to estimate the number of SSI recipients that are institutionalized..

unique participation to average monthly participation estimates, then we convert unique participation in the PSID, CPS-ADF/ASEC and the ACS using these ratios.

- PSID: These data give unique participation in a calendar year, and we convert to average monthly participation using the SIPP as described above. We also scale up the participation aggregates to account for the non-head, non-spouse family members in 1993-2004.

- CPS-ADF/ASEC: These data give unique participation in a calendar year, and we convert to average monthly participation using the SIPP as described above.

- ACS: These data give unique participation in a calendar year, and we convert to average monthly participation using the SIPP as described above.

- SIPP: SIPP data can give both unique and average monthly participation.

F. Women, Infants and Children (WIC)

Administrative Data Sources

(1973-2002)
Administrative totals for 1980-2002 were kindly provided to us (via email) by Food and Nutrition Service.

(2003-September 2004)
WIC Program Data. 2006. Food and Nutrition Service, U.S. Department of Agriculture. http://www.fns.usda.gov/pd/WIC_Monthly.htm (accessed April, 2006)

(October 2004-December 2007)
WIC Program Data. 2008. Food and Nutrition Service, U.S. Department of Agriculture. http://www.fns.usda.gov/pd/wicmain.htm (accessed August 28, 2008)

Adjustments to the Administrative Aggregates due to Institutionalized Individuals

No adjustment is made to account for institutionalized individuals.

Technical Notes

- SIPP: Participation in WIC is determined by the survey response to the question: "*Was the person covered by WIC for this month?*"

- PSID: Family participation in the WIC program is determined by the survey question "*During the (previous year), did anyone in the family get food through the WIC program?*" Note that this is a family question, so we cannot identify who in the family received WIC. The following assumption is made: If the family

reported participating, then we assume that those in this family who were: 1) Females who were 15-45 years of age in the survey year or 2) Children between 0-5 years of age (in the survey year) participated the WIC program. The question response yields a unique participation count, which we convert to average monthly participation.

- CPS-ADF/ASEC: The question structure is very similar to the PSID. Thus, we proceed in the same fashion as we have done for the PSID. Though CPS-ADF/ASEC also asked the number of people in the household receiving WIC, we do not use this variable because it is not so clear whether this implies participation (an adult might receive WIC only because of his/her children).

4. Imputation Rates

Average Imputation Rates

For each survey and each benefit type, we look at the percentage of the weighted total benefits that were imputed.

Social Security Imputation Algorithm

We described in the above section the strategy we have taken to split the social security dollars into SSDI and OASI when no information regarding the type of social security received is available. The fractions of total social security dollars in the surveys that are subjected to our strategy in order to estimate OASI and SSDI are tabulated in the table below.[39]

Share of Social Security Dollars for which
Retirement/Disability/Survivors is uncertain

Calendar Year	PSID	SIPP
1983	0.016	0.127
1984	0.011	0.170
1985	0.011	0.167
1986	0.012	0.165
1987	0.015	0.147
1988	0.026	0.114
1989	0.016	0.099
1990	0.028	0.080
1991	0.032	0.106
1992	0.047	0.110
1993		0.107
1994		0.131
1995		0.140
1996		0.075
1997		0.103
1998		0.066
1999		0.049
2000		0.050
2001		0.045
2002		0.044
2003		0.046
2004		0.048
2005		0.039

Note: This table shows, for each calendar year and each survey, the percentage of total Social Security Benefits that must be subjected to the imputation algorithm to separately obtain SSDI and OASI.

Note that SIPP has higher imputation rates than those of the PSID because of: 1) Lack of program information about Children's Social Security benefits, which is about 4% in each year in the SIPP; and 2) When the individual is asked to nominate up to two reasons for receiving

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[39] For CPS-ADF/ASEC and the CE Survey, the type of social security received is never asked.

social security, one possible response is "Spouse or Dependent Child" and such social security income will be subjected to imputation.[40] The SIPP imputation rates in 1998-2003 are lower than those in the earlier years because the reason for social security receipt is available in every wave (and it is subjected to changes between waves). In 1983-1995, however, these responses are typically available only once per panel (thus, whether imputation is needed depends only on this response).

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[40] In the PSID (1984-1993 surveys), the type of social security received by the individual is categorized into one of the following: Disability, Retirement, Survivor benefits, Combination of the OASI and SSDI, Dependent of Disabled recipient, Dependent of Deceased recipient.

Table 1: Benefit Programs and Periods Examined, by Survey

A. Aggregate Dollars

Benefit Program	Survey and Calendar Years				
	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
AFDC/TANF	1970-2004	1983-2004	1975-2004	1999-2004	1979-2004
FSP	1973-2004	1983-2005	1979-2006	2004-2005	1979-2006
OASDI	1970-2003	1983-2005	1967-2006	1999-2005	1979-2006
OASI	1970-2003	1983-2005	1967-2006	1999-2005	1979-2006
SSDI	1970-2003	1983-2005	1967-2006	1999-2005	1979-2006
SSI	1974-2004	1983-2005	1975-2007	1999-2005	1979-2006
UI	1976-2004	1983-2005	1987-2007		1979-2006
WC	1976-2004	1983-2005	1987-2006		1979-2006
EITC			1991-2006		

B. Average Monthly Participation

Benefit Program	Survey and Calendar Years				
	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
AFDC/TANF	1993-2004	1983-2005	1987-2007		
FSP	1980-2004	1983-2005	1980-2006		
NSLP	1998-2004	1983-2005	1979-2006		
OASI	1974-2003	1983-2005	1974-2007	1999-2005	
SSDI	1974-2003	1983-2005	1974-2007	1999-2005	
SSI	1974-2004	1983-2005	1975-2007	1999-2005	
WIC	1998-2004	1983-2005	2000-2007		

Table 2

Aid to Families with Dependent Children/Temporary Assistance to Needy Families

Year	Admin Total (in millions of dollars)	Survey - Weighted Total (in millions of dollars)					Reporting Rate				
		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1970	4,750	4,379					0.922				
1971	5,984	4,703					0.786				
1972	6,747	4,413					0.654				
1973	7,155	4,306					0.602				
1974	7,861	5,716					0.727				
1975	9,016	6,035		6,630			0.669		0.735		
1976	10,004	6,644		7,234			0.664		0.723		
1977	10,417	6,522		7,832			0.626		0.752		
1978	10,631	6,938		7,658			0.653		0.720		
1979	11,003	7,116		8,117		9,266	0.647		0.738		0.842
1980	12,114	8,516		9,314		8,316	0.703		0.769		0.687
1981	12,770	9,196		9,673		8,210	0.720		0.757		0.643
1982	12,973	8,907		10,120		8,705	0.687		0.780		0.671
1983	13,727	9,803	10,830	10,786		9,287	0.714	0.789	0.786		0.677
1984	14,352	9,449	11,676	11,170		9,456	0.658	0.814	0.778		0.659
1985	14,676	8,768	11,452	11,419		8,952	0.597	0.780	0.778		0.610
1986	15,437	8,940	11,477	12,428		12,165	0.579	0.743	0.805		0.788
1987	16,336	9,179	11,926	12,156		12,804	0.562	0.730	0.744		0.784
1988	16,734	10,097	11,519	11,980		12,123	0.603	0.688	0.716		0.724
1989	17,486	10,098	12,359	12,167		11,965	0.577	0.707	0.696		0.684
1990	18,911	10,795	14,441	13,463		13,972	0.571	0.764	0.712		0.739
1991	20,743	12,937	15,405	14,813		16,241	0.624	0.743	0.714		0.783
1992	22,169	12,486	15,931	15,033		18,603	0.563	0.719	0.678		0.839
1993	22,318	11,614	18,191	16,712		19,103	0.520	0.815	0.749		0.856
1994	22,509	10,255	17,853	16,165		17,358	0.456	0.793	0.718		0.771
1995	21,534	10,349	18,359	14,940		15,309	0.481	0.853	0.694		0.711

(continued)

Table 2 (*continued*)
Aid to Families with Dependent Children/Temporary Assistance to Needy Families

Year	Admin Total (in millions of dollars)	Survey - Weighted Total (in millions of dollars)					Reporting Rate				
		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1996	19,611	10,109	15,104	13,107		11,851	0.515	0.770	0.668		0.604
1997	16,742		12,675	9,888		9,840		0.757	0.591		0.588
1998	14,282	5,555	9,692	7,797		8,017	0.389	0.679	0.546		0.561
1999	12,849		7,635	6,015	8,232	6,217		0.594	0.468	0.641	0.484
2000	10,867	4,181	6,760	5,741	7,983	5,161	0.385	0.622	0.528	0.735	0.475
2001	9,923		5,812	4,892	8,092	4,905		0.586	0.493	0.815	0.494
2002	9,576	3,051	5,384	4,920	8,763	4,473	0.319	0.562	0.514	0.915	0.467
2003	10,211	4,164	5,514	5,493	8,559	4,779	0.408	0.540	0.538	0.838	0.468
2004	10,421	5,333	6,486	5,075	8,789	4,569	0.512	0.622	0.487	0.843	0.438
2005			6,407	5,213	10,253	5,106					
2006				4,343		4,957					
2007				3,932							
Average							0.597	0.712	0.679	0.798	0.656

Note: The average reporting rate for the CPS-ADF/ASEC is based on 1975-2004. From the 1976 survey, AFDC/TANF is combined with General Assistance, but there are variables indicating whether the person received each of these benefits. We use these variables to exclude those who only received General Assistance. Nevertheless it should be noted that in the case that the interviewee received both General Assistance and AFDC/TANF, we cannot discern the amount of these benefits separately. In this case, we include it as if all amounts received are AFDC/TANF.

Table 3
Food Stamp Program

Year	Admin. Total (millions of dollars)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1973	2,202	3,047					1.384				
1974	3,313	3,297					0.995				
1975	4,558	3,586					0.787				
1976	4,729	3,505					0.741				
1977	4,507	3,436					0.762				
1978	4,706	3,671					0.780				
1979	6,392	5,055		4,828		4,503	0.791		0.755		0.705
1980	8,116	6,246		6,064		4,799	0.770		0.747		0.591
1981	9,852	7,586		6,343		4,689	0.770		0.644		0.476
1982	9,832	8,239		7,141		5,322	0.838		0.726		0.541
1983	11,083	9,011	9,003	7,477		6,192	0.813	0.812	0.675		0.559
1984	10,638	8,920	9,009	7,573		6,436	0.838	0.847	0.712		0.605
1985	10,672	8,776	8,760	7,369		6,658	0.822	0.821	0.690		0.624
1986	10,558	8,687	9,032	7,542		8,077	0.823	0.856	0.714		0.765
1987	10,603	9,433	9,106	7,863		8,430	0.890	0.859	0.742		0.795
1988	11,230	9,814	9,317	8,095		8,094	0.874	0.830	0.721		0.721
1989	11,635	11,609	9,927	8,582		8,883	0.998	0.853	0.738		0.763
1990	14,100	12,287	11,769	10,301		11,100	0.871	0.835	0.731		0.787
1991	17,264	13,053	14,044	12,370		13,661	0.756	0.814	0.717		0.791
1992	20,843	14,455	15,866	13,340		14,749	0.694	0.761	0.640		0.708
1993	21,940	13,719	17,909	14,921		15,043	0.625	0.816	0.680		0.686
1994	22,680	14,897	17,581	15,261		14,775	0.657	0.775	0.673		0.651
1995	22,696	14,680	17,822	14,487		14,496	0.647	0.785	0.638		0.639
1996	22,373	13,759	17,664	14,108		13,097	0.615	0.790	0.631		0.585
1997	19,490	9,967	15,260	12,219		10,905	0.511	0.783	0.627		0.559

(*continued*)

Table 3 (*continued*)
Food Stamp Program

Year	Admin. Total (millions of dollars)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1998	16,840	9,866	13,249	10,756		8,895	0.586	0.787	0.639		0.528
1999	15,722	10,446	12,167	9,449		8,537	0.664	0.774	0.601		0.543
2000	14,938	10,848	12,078	8,711		8,252	0.726	0.809	0.583		0.552
2001	15,501	8,651	13,712	9,655		6,922	0.558	0.885	0.623		0.447
2002	14,938	10,659	15,846	11,158		7,765	0.714	1.061	0.747		0.520
2003	22,205	20,199	17,771	12,823		10,003	0.910	0.800	0.577		0.450
2004	25,788	21,963	20,714	14,622	15,472	9,682	0.852	0.803	0.567	0.600	0.375
2005	29,540		22,572	16,132	16,000	10,998		0.764	0.546	0.542	0.372
2006	29,440			15,878		11,243			0.539		0.382
2007	30,988										
Average							0.783	0.823	0.665	0.571	0.597

Note: PSID Food Stamp receipt for 1967 is not included in the average reporting rate.

Table 4
Social Security Old Age, Survivors and Disability Insurance (OASDI)

Year	Admin. Total	Admin. Total (with Railroad Retirement)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
	(millions of dollars)		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1967	20,506	21,591			19,270					0.893		
1968	23,880	25,196			21,538					0.855		
1969	25,611	27,158										
1970	30,498	32,045	24,223		26,593			0.794		0.830		
1971	35,548	37,095	29,277		31,382			0.824		0.846		
1972	39,752	42,011	37,569		36,988			0.945		0.880		
1973	49,185	52,156	38,323		44,511			0.779		0.853		
1974	55,925	58,896	47,884		51,299			0.856		0.871		
1975	64,953	67,924	54,770		57,049			0.843		0.878		
1976	73,436	76,453	63,846		62,774			0.869		0.855		
1977	82,049	85,478	70,157		70,004			0.855		0.853		
1978	90,073	94,735	77,771		78,118			0.863		0.867		
1979	101,114	105,777	87,688		87,375		92,946	0.867		0.864		0.879
1980	116,863	121,663	104,290		103,255		94,073	0.892		0.884		0.773
1981	136,739	142,058	122,729		119,447		95,666	0.898		0.874		0.673
1982	151,482	157,204	135,318		132,178		111,969	0.893		0.873		0.712
1983	162,075	168,044	142,173	143,821	139,037		132,241	0.877	0.887	0.858		0.787
1984	170,554	176,604	153,390	159,679	148,419		152,911	0.899	0.936	0.870		0.866
1985	178,237	184,418	165,506	169,838	157,284		147,737	0.929	0.953	0.882		0.801
1986	188,306	194,508	175,747	178,348	164,882		172,284	0.933	0.947	0.876		0.886
1987	195,468	201,846	181,834	185,756	173,887		186,857	0.930	0.950	0.890		0.926

Year	Admin. Total	Admin. Total (with Railroad Retirement)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
	(millions of dollars)		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1988	207,982	214,560	194,194	197,863	184,189		196,106	0.934	0.951	0.886		0.914
1989	221,038	227,936	221,691	210,534	197,162		208,473	1.003	0.952	0.892		0.915
1990	237,310	244,468	233,242	228,329	209,783		221,739	0.983	0.962	0.884		0.907
1991	256,789	264,200	243,246	243,941	221,757		243,525	0.947	0.950	0.864		0.922
1992	273,976	281,575	254,224	251,658	235,734		261,749	0.928	0.919	0.860		0.930
1993	289,634	297,382	261,601	262,309	248,143		268,894	0.903	0.906	0.857		0.904
1994	303,389	311,231	273,655	270,954	274,696		275,323	0.902	0.893	0.905		0.885
1995	316,355	324,267	294,829	285,338	287,378		289,999	0.932	0.902	0.908		0.894
1996	330,139	338,064	308,459	292,735	298,819		314,163	0.934	0.887	0.905		0.929
1997	344,298	352,303		303,966	315,494		320,145		0.883	0.916		0.909
1998	356,673	364,700	325,602	313,496	320,133		328,639	0.913	0.879	0.898		0.901
1999	366,883	374,932		323,984	333,311	310,442	339,417		0.883	0.908	0.828	0.905
2000	387,687	395,809	368,864	345,768	352,480	336,735	297,242	0.951	0.892	0.909	0.851	0.751
2001	410,715	418,990		366,612	375,663	353,229	357,090		0.893	0.915	0.843	0.852
2002	431,448	439,945	388,333	382,062	386,170	368,006	378,217	0.900	0.886	0.895	0.836	0.860
2003	447,562	456,248	329,149	405,925	405,366	382,034	395,177	0.735	0.907	0.906	0.837	0.866
2004	468,926	477,748		456,915	425,986	396,749	389,007		0.974	0.908	0.830	0.814
2005	495,067	504,070		482,380	444,002	435,673	449,621		0.974	0.897	0.864	0.892
2006	525,507	534,785			470,328		423,956			0.895		0.793
2007					492,700							
Average								0.894	0.920	0.881	0.841	0.859

Note: The administrative totals include retirement benefits, survivors benefits and benefits paid to special age-72 beneficiaries and lump sum death payments. Survivor's benefits include payments to surviving children, widowed mothers and fathers, widows and widowers and parents.

Table 5
Social Security Old Aged and Survivors Insurance (OASI)

Year	Admin. Total	Admin. Total (with Railroad Retirement)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
	(millions of dollars)		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1967	18,646	19,731			17,085					0.866		
1968	21,683	22,999			19,238					0.836		
1969	23,180	24,727										
1970	27,569	29,116	20,431		23,671			0.741		0.813		
1971	31,962	33,509	24,415		27,833			0.764		0.831		
1972	35,488	37,747	31,715		32,531			0.894		0.862		
1973	43,740	46,711	32,525		38,719			0.744		0.829		
1974	49,355	52,326	40,650		44,482			0.824		0.850		
1975	56,838	59,855	45,650		48,960			0.803		0.861		
1976	63,833	66,849	53,660		53,830			0.841		0.843		
1977	71,023	74,452	59,192		59,760			0.833		0.841		
1978	78,056	82,719	64,769		66,870			0.830		0.857		
1979	87,959	92,622	73,850		74,776		79,891	0.840		0.850		0.863
1980	102,071	106,871	89,359		89,122		80,702	0.875		0.873		0.755
1981	120,258	125,578	103,931		103,781		83,295	0.864		0.863		0.663
1982	134,876	140,598	116,768		116,472		98,615	0.866		0.864		0.701
1983	145,297	151,266	124,441	129,502	123,350		117,602	0.856	0.891	0.849		0.777
1984	153,432	159,482	136,037	143,352	131,994		138,546	0.887	0.934	0.860		0.869
1985	160,471	166,569	147,166	152,394	140,472		133,008	0.917	0.950	0.875		0.799
1986	169,583	175,784	158,495	159,944	147,319		155,644	0.935	0.943	0.869		0.885
1987	176,093	182,471	163,622	167,268	154,490		168,666	0.929	0.950	0.877		0.924

(*continued*)

Table 5 (*continued*)
Social Security Old Aged and Survivors Insurance (OASI)

Year	Admin. Total	Admin. Total (with Railroad Retirement)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
	(millions of dollars)		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1988	187,486	194,064	177,372	178,025	164,376		177,220	0.946	0.950	0.877		0.913
1989	199,408	206,306	200,506	190,082	175,522		188,324	1.006	0.953	0.880		0.913
1990	213,825	220,982	207,648	206,833	187,052		200,766	0.971	0.967	0.875		0.909
1991	230,571	237,983	213,370	219,058	197,351		218,592	0.925	0.950	0.856		0.919
1992	244,487	252,087	222,736	225,840	207,877		234,914	0.911	0.924	0.850		0.932
1993	256,799	264,548	222,887	233,770	217,526		240,952	0.868	0.910	0.847		0.911
1994	267,650	275,492	233,663	239,679	241,010		246,682	0.873	0.895	0.900		0.895
1995	277,857	285,716	250,496	251,111	250,835		256,632	0.902	0.904	0.903		0.898
1996	288,557	296,483	263,592	259,750	260,612		274,170	0.913	0.900	0.903		0.925
1997	301,319	309,323		261,631	273,736		278,780		0.868	0.908		0.901
1998	311,327	319,354	281,268	261,522	278,750		286,308	0.903	0.840	0.895		0.897
1999	318,469	326,518		272,399	288,344	273,532	291,118		0.855	0.905	0.838	0.892
2000	335,879	344,001	322,318	302,932	308,420	296,445	254,479	0.960	0.902	0.918	0.862	0.740
2001	354,518	362,793		324,550	327,070	310,013	302,642		0.915	0.923	0.855	0.834
2002	369,504	378,002	332,445	337,427	335,870	320,748	325,241	0.900	0.913	0.909	0.849	0.860
2003	380,612	389,298	289,711	355,405	352,088	332,643	343,873	0.761	0.934	0.925	0.854	0.883
2004	395,005	403,828		394,457	365,943	343,495	333,397		0.999	0.926	0.851	0.826
2005	414,278	423,281		413,833	377,881	375,763	382,863		0.999	0.912	0.888	0.905
2006	438,054	447,331			398,559		364,938			0.910		0.816
2007					415,921							
Average								0.874	0.924	0.874	0.856	0.857

Note: The administrative totals include retirement benefits, survivors benefits and benefits paid to special age-72 beneficiaries and lump sum death payments. Survivor's benefits include payments to surviving children, widowed mothers and fathers, widows and widowers and parents.

Table 6
Social Security Disability Insurance (SSDI)

Year	Admin. Total (millions of dollars)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1967	1,860			2,185					1.175		
1968	2,197			2,300					1.047		
1969	2,431										
1970	2,929	3,793		2,922			1.295		0.998		
1971	3,587	4,862		3,549			1.356		0.990		
1972	4,264	5,854		4,457			1.373		1.045		
1973	5,445	5,798		5,791			1.065		1.064		
1974	6,570	7,235		6,817			1.101		1.038		
1975	8,115	9,120		8,090			1.124		0.997		
1976	9,603	10,186		8,944			1.061		0.931		
1977	11,026	10,965		10,244			0.994		0.929		
1978	12,016	13,002		11,249			1.082		0.936		
1979	13,156	13,838		12,599		13,055	1.052		0.958		0.992
1980	14,791	14,931		14,133		13,371	1.009		0.955		0.904
1981	16,481	18,798		15,666		12,371	1.141		0.951		0.751
1982	16,606	18,550		15,706		13,353	1.117		0.946		0.804
1983	16,778	17,732	14,319	15,687		14,639	1.057	0.853	0.935		0.873
1984	17,122	17,353	16,328	16,424		14,364	1.014	0.954	0.959		0.839
1985	17,766	18,340	17,444	16,812		14,729	1.032	0.982	0.946		0.829
1986	18,724	17,252	18,404	17,564		16,640	0.921	0.983	0.938		0.889
1987	19,375	18,212	18,489	19,398		18,192	0.940	0.954	1.001		0.939

(*continued*)

Table 6 (*continued*)
Social Security Disability Insurance (SSDI)

Year	Admin. Total (millions of dollars)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1988	20,495	16,822	19,838	19,813		18,886	0.821	0.968	0.967		0.921
1989	21,629	21,185	20,452	21,640		20,150	0.979	0.946	1.000		0.932
1990	23,486	25,594	21,495	22,732		20,973	1.090	0.915	0.968		0.893
1991	26,218	29,876	24,883	24,406		24,933	1.140	0.949	0.931		0.951
1992	29,488	31,488	25,818	27,857		26,835	1.068	0.876	0.945		0.910
1993	32,835	38,714	28,539	30,617		27,942	1.179	0.869	0.932		0.851
1994	35,739	39,993	31,275	33,686		28,641	1.119	0.875	0.943		0.801
1995	38,498	44,333	34,226	36,543		33,366	1.152	0.889	0.949		0.867
1996	41,582	44,867	32,986	38,206		39,993	1.079	0.793	0.919		0.962
1997	42,980		42,334	41,759		41,365		0.985	0.972		0.962
1998	45,346	44,334	51,974	41,383		42,331	0.978	1.146	0.913		0.933
1999	48,414		51,585	44,967	36,911	48,299		1.065	0.929	0.762	0.998
2000	51,808	46,547	42,836	44,059	40,290	42,763	0.898	0.827	0.850	0.778	0.825
2001	56,197		42,062	48,590	43,215	54,448		0.748	0.865	0.769	0.969
2002	61,943	55,887	44,636	50,297	47,258	52,976	0.902	0.721	0.812	0.763	0.855
2003	66,951	39,438	50,521	53,262	49,391	51,304	0.589	0.755	0.796	0.738	0.766
2004	73,920		62,458	59,962	53,254	55,610		0.845	0.811	0.720	0.752
2005	80,789		68,547	66,087	59,909	66,758		0.848	0.818	0.742	0.826
2006	87,453			71,757		59,017			0.821		0.675
2007				76,767							
Average							1.056	0.902	0.946	0.753	0.874

Note: The administrative totals include payments received by the disabled workers, their spouse and their children.

Table 7
Supplemental Security Income

Year	Admin.Total (in millions of dollars)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1974	5,010	3,518					0.702				
1975	5,614	3,625		3,609			0.646		0.643		
1976	5,793	3,497		4,057			0.604		0.700		
1977	6,022	4,406		4,344			0.732		0.721		
1978	6,653	4,216		4,573			0.634		0.687		
1979	6,782	5,776		4,967		6,925	0.852		0.732		1.021
1980	7,636	5,733		6,055		6,471	0.751		0.793		0.848
1981	8,236	7,205		6,505		4,329	0.875		0.790		0.526
1982	8,598	6,928		6,597		4,410	0.806		0.767		0.513
1983	9,081	7,942	7,880	7,629		6,314	0.875	0.868	0.840		0.695
1984	9,939	7,818	9,211	8,445		6,305	0.787	0.927	0.850		0.634
1985	10,592	7,990	9,638	8,876		5,381	0.754	0.910	0.838		0.508
1986	11,558	9,046	10,325	9,005		6,484	0.783	0.893	0.779		0.561
1987	12,405	7,907	11,120	9,517		6,734	0.637	0.896	0.767		0.543
1988	13,173	9,347	12,076	10,244		8,611	0.710	0.917	0.778		0.654
1989	14,343	10,194	12,515	11,225		8,885	0.711	0.873	0.783		0.619
1990	15,897	10,020	12,853	12,050		9,927	0.630	0.809	0.758		0.624
1991	18,303	10,603	14,726	14,397		11,707	0.579	0.805	0.787		0.640
1992	21,974	11,938	16,904	15,351		13,796	0.543	0.769	0.699		0.628
1993	24,363	15,374	18,918	18,532		13,644	0.631	0.776	0.761		0.560
1994	25,557	13,908	20,323	18,174		15,944	0.544	0.795	0.711		0.624
1995	27,323	13,843	22,276	19,550		17,562	0.507	0.815	0.715		0.643
1996	28,674	15,116	26,772	22,261		19,001	0.527	0.934	0.776		0.663
1997	28,904	16,295	28,679	22,717		17,395	0.564	0.992	0.786		0.602

(*continued*)

Table 7 (*continued*)
Supplemental Security Income

Year	Admin.Total (in millions of dollars)	Surveys - Weighted Total (in millions of dollars)					Reporting Rate				
		PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey	PSID	SIPP	CPS-ADF/ASEC	ACS	CE Survey
1998	30,085	15,984	29,138	22,309		18,971	0.531	0.969	0.742		0.631
1999	30,907	20,719	29,805	22,583	25,099	18,995	0.670	0.964	0.731	0.812	0.615
2000	31,562	17,252	31,501	22,468	25,847	21,209	0.547	0.998	0.712	0.819	0.672
2001	33,314		33,188	25,652	26,920	28,881		0.996	0.770	0.808	0.867
2002	34,708	17,037	35,161	25,924	28,901	25,957	0.491	1.013	0.747	0.833	0.748
2003	36,151	18,445	37,231	28,022	29,537	22,533	0.510	1.030	0.775	0.817	0.623
2004	37,504	23,857	39,901	30,634	32,350	21,749	0.636	1.064	0.817	0.863	0.580
2005	39,221		43,139	31,150	37,815	26,095		1.100	0.794	0.964	0.665
2006	41,018			31,977		21,808			0.780		0.532
2007	42,882			33,008					0.770		
Average							0.659	0.918	0.761	0.845	0.644

Table 8
Unemployment Insurance

Year	Admin. Total (millions of dollars)	Survey - Weighted Total (in millions of dollars)				Reporting Rate			
		PSID	SIPP	CPS-ADF/ASEC	CE Survey	PSID	SIPP	CPS-ADF/ASEC	CE Survey
1976	11,141	8,772				0.787			
1977	9,989	6,046				0.605			
1978	8,318	5,631				0.677			
1979	8,703	5,213			8,022	0.599			0.922
1980	15,364	10,527			10,191	0.685			0.663
1981	14,392	10,388			9,216	0.722			0.640
1982	24,146	20,321			11,124	0.842			0.461
1983	24,726	15,495	15,065		14,787	0.627	0.609		0.598
1984	14,760	8,660	11,447		11,100	0.587	0.776		0.752
1985	14,763	10,998	11,990		8,581	0.745	0.812		0.581
1986	15,425	11,546	12,584		9,553	0.749	0.816		0.619
1987	13,584	9,839	11,151	10,417	8,401	0.724	0.821	0.767	0.618
1988	12,490	10,197	9,801	9,476	8,108	0.816	0.785	0.759	0.649
1989	13,529	10,263	10,170	10,310	7,624	0.759	0.752	0.762	0.564
1990	17,195	13,502	14,237	14,172	10,087	0.785	0.828	0.824	0.587
1991	25,435	18,768	22,064	21,652	16,392	0.738	0.867	0.851	0.644
1992	37,239	25,352	30,858	27,786	20,021	0.681	0.829	0.746	0.538
1993	32,357	23,275	28,343	25,811	18,167	0.719	0.876	0.798	0.561
1994	21,761	18,983	18,192	20,497	15,219	0.872	0.836	0.942	0.699
1995	19,909	13,804	16,080	18,808	11,773	0.693	0.808	0.945	0.591
1996	20,418	16,454	14,222	17,591	8,921	0.806	0.697	0.862	0.437
1997	18,375		11,687	15,856	9,092		0.636	0.863	0.495
1998	18,187	19,805	10,417	15,728	8,787	1.089	0.573	0.865	0.483
1999	19,027		12,007	14,606	8,168		0.631	0.768	0.429
2000	19,218	15,384	14,713	14,469	7,937	0.801	0.766	0.753	0.413
2001	30,143		19,365	24,291	11,718		0.642	0.806	0.389
2002	51,086	36,234	28,903	37,912	19,394	0.709	0.566	0.742	0.380
2003	50,163	21,822	31,047	36,932	21,881	0.435	0.619	0.736	0.436
2004	33,512	30,978	25,405	25,058	15,907	0.924	0.758	0.748	0.475
2005	31,104		27,073	22,290	13,728		0.870	0.717	0.441
2006	29,885			20,650	12,425			0.691	0.416
2007	32,213			21,876				0.679	
Average						0.738	0.747	0.792	0.553

Table 9
Workers' Compensation

Year	Admin. Total (millions of dollars)	Survey - Weighted Total (in millions of dollars)				Reporting Rate			
		PSID	SIPP	CPS-ADF/ASEC	CE Survey	PSID	SIPP	CPS-ADF/ASEC	CE Survey
1976	5,204	1,788				0.344			
1977	5,950	2,343				0.394			
1978	6,816	2,854				0.419			
1979	8,507	2,573			9,076	0.302			1.067
1980	9,671	3,420			9,770	0.354			1.010
1981	10,623	4,081			8,239	0.384			0.776
1982	11,349	3,728			6,902	0.328			0.608
1983	11,894	4,777	5,536		10,011	0.402	0.465		0.842
1984	13,261	4,139	5,484		10,348	0.312	0.414		0.780
1985	14,719	5,210	5,822		8,024	0.354	0.396		0.545
1986	15,971	7,521	5,728		9,631	0.471	0.359		0.603
1987	17,405	7,155	7,313	8,375	12,927	0.411	0.420	0.481	0.743
1988	19,196	7,214	7,054	10,726	13,611	0.376	0.367	0.559	0.709
1989	20,892	8,893	8,582	12,822	12,103	0.426	0.411	0.614	0.579
1990	23,050	7,510	9,684	13,005	11,885	0.326	0.420	0.564	0.516
1991	25,355	9,512	9,958	14,412	11,839	0.375	0.393	0.568	0.467
1992	25,996	11,141	9,989	13,660	12,168	0.429	0.384	0.525	0.468
1993	24,422	7,352	9,687	13,434	14,855	0.301	0.397	0.550	0.608
1994	26,288	9,987	9,773	13,554	15,104	0.380	0.372	0.516	0.575
1995	25,389	8,447	8,465	11,752	13,235	0.333	0.333	0.463	0.521
1996	25,221	6,843	11,946	10,263	12,742	0.271	0.474	0.407	0.505
1997	24,574		10,949	12,417	12,675		0.446	0.505	0.516
1998	25,365	9,589	10,659	11,089	10,947	0.378	0.420	0.437	0.432
1999	26,258		11,678	11,799	12,105		0.445	0.449	0.461
2000	26,766	10,597	9,807	12,944	11,750	0.396	0.366	0.484	0.439
2001	27,690		9,930	12,246	9,515		0.359	0.442	0.344
2002	28,094	5,935	10,905	12,943	8,999	0.211	0.388	0.461	0.320
2003	29,147	5,491	11,223	13,926	9,577	0.188	0.385	0.478	0.329
2004	29,719	10,202	9,859	13,658	9,683	0.343	0.332	0.460	0.326
2005	29,228		11,541	15,323	11,051		0.395	0.524	0.378
2006	28,207			14,870	11,787			0.527	0.418
2007				12,820					
Average						0.354	0.397	0.501	0.567

Note: The administrative totals refer to only cash payments, obtained by removing the medical portion of the total program cost.

Table 10
Earned Income Tax Credit

Year	Admin. Total (in millions of dollars)	Survey - Weighted Total (in dollars) CPS-ADF/ASEC	Reporting Rate CPS-ADF/ASEC
1991	11,105	7,114,273,167	0.641
1992	13,028	8,557,786,177	0.657
1993	15,537	9,838,109,512	0.633
1994	21,105	15,657,377,258	0.742
1995	25,956	18,745,177,769	0.722
1996	28,825	21,759,768,835	0.755
1997	30,389	21,853,593,976	0.719
1998	32,340	22,746,758,857	0.703
1999	31,901	22,925,582,818	0.719
2000	32,296	22,114,667,940	0.685
2001	33,376	23,249,556,083	0.697
2002	35,784	25,758,259,544	0.720
2003	34,412	25,280,285,195	0.735
2004	33,490	26,180,929,642	0.782
2005	34,961	28,419,265,886	0.813
2006	36,693	30,332,485,115	0.827
Average			0.722

Table 11
AFDC/TANF Average Monthly Participation

Year	Administrative Average Monthly Participation (Families)	Surveys – Average Monthly Participation (family level)			Reporting Rate		
		PSID	SIPP	CPS-ADF/ASEC	PSID	SIPP	CPS-ADF/ASEC
1980	3,692,608						
1981	3,812,123						
1982	3,522,001						
1983	3,667,080		2,851,592			0.778	
1984	3,695,574		3,040,356			0.823	
1985	3,683,941		2,900,857			0.787	
1986	3,746,240		2,801,266			0.748	
1987	3,759,011		2,871,043	3,025,954		0.764	0.805
1988	3,732,307		2,795,287	2,968,807		0.749	0.795
1989	3,781,426		2,902,077	2,816,732		0.767	0.745
1990	4,039,016		3,209,590	3,120,412		0.795	0.773
1991	4,478,428		3,436,155	3,419,110		0.767	0.763
1992	4,809,566		3,579,069	3,468,416		0.744	0.721
1993	4,990,435	3,099,655	4,020,104	3,713,955	0.621	0.806	0.744
1994	5,011,151	2,840,407	3,966,091	3,451,463	0.567	0.791	0.689
1995	4,770,300	2,603,520	3,942,927	3,124,368	0.546	0.827	0.655
1996	4,415,233	2,347,537	3,510,786	2,957,559	0.532	0.795	0.670
1997	3,724,214		3,001,523	2,275,387		0.806	0.611
1998	3,041,589	1,217,162	2,376,098	1,824,069	0.400	0.781	0.600
1999	2,547,606		1,866,543	1,401,124		0.733	0.550
2000	2,203,417	1,117,209	1,656,865	1,283,230	0.507	0.752	0.582
2001	2,093,124		1,519,928	1,173,244		0.726	0.561
2002	2,040,879	708,284	1,337,550	1,089,399	0.347	0.655	0.534
2003	2,014,886	1,369,355	1,397,108	1,290,115	0.680	0.693	0.640
2004	1,971,090	1,130,092	1,632,136	1,117,250	0.573	0.828	0.567
2005	1,887,309		1,527,558	1,189,858		0.809	0.630
2006	1,774,635			935,072			0.527
2007	1,662,727			875,565			0.527
Average					0.530	0.771	0.652
Average Dollars Reporting Rate for Comparable Years					0.443	0.712	0.625

Table 12
Food Stamp Program Average Monthly Participation

Year	Administrative Average Monthly Participation (Households)	Surveys – Average Monthly Participation			Reporting rate		
		PSID	SIPP	CPS-ADF/ASEC	PSID	SIPP	CPS-ADF/ASEC
1980	7,763,714	5,659,991		5,130,682	0.729		0.661
1981	8,231,565	5,986,317		5,273,484	0.727		0.641
1982	7,817,518	6,341,138		5,351,906	0.811		0.685
1983	7,839,288	6,414,963	6,561,402	5,560,356	0.818	0.837	0.709
1984	7,515,342	5,921,546	6,656,248	5,533,007	0.788	0.886	0.736
1985	7,291,303	5,742,227	6,228,872	5,314,065	0.788	0.854	0.729
1986	7,202,921	6,063,710	6,272,349	5,239,128	0.842	0.871	0.727
1987	7,084,390	6,082,936	6,242,591	5,183,350	0.859	0.881	0.732
1988	7,092,014	6,039,197	6,133,158	5,249,217	0.852	0.865	0.740
1989	7,337,547	6,261,035	6,164,276	5,159,889	0.853	0.840	0.703
1990	7,999,990	6,200,845	6,582,906	5,697,878	0.775	0.823	0.712
1991	9,208,275	6,238,023	7,263,082	6,294,527	0.677	0.789	0.684
1992	10,282,358	6,982,771	7,891,822	6,816,542	0.679	0.768	0.663
1993	10,902,288	7,598,139	8,733,851	7,329,268	0.697	0.801	0.672
1994	11,093,566	7,796,566	8,561,080	7,420,375	0.703	0.772	0.669
1995	10,791,655	7,273,270	8,474,133	7,071,615	0.674	0.785	0.655
1996	10,395,150	6,912,900	8,751,572	6,896,048	0.665	0.842	0.663
1997	9,087,686	5,179,876	8,001,126	6,111,001	0.570	0.880	0.672
1998	8,068,051	4,884,314	7,075,561	5,374,420	0.605	0.877	0.666
1999	7,568,908	4,504,903	6,564,475	4,780,595	0.595	0.867	0.632
2000	7,326,583	4,441,331	6,304,656	4,606,152	0.606	0.861	0.629
2001	7,595,058	4,622,812	6,827,110	4,823,717	0.609	0.899	0.635
2002	8,402,369	5,017,984	7,393,731	5,149,868	0.597	0.880	0.613
2003	9,447,575	7,502,129	8,007,800	5,704,880	0.794	0.848	0.604
2004	10,566,039	8,464,400	8,914,594	6,002,098	0.801	0.844	0.568
2005	11,485,609		9,525,628	6,484,700		0.829	0.565
2006	11,592,557			6,147,814			0.530
2007	11,927,826						
Average					0.725	0.843	0.663
Average Dollars Reporting Rate for Comparable Years					0.753	0.823	0.662

Table 13
OASI Average Monthly Participation

Year	Admin Average Monthly Participation (thousands)	Survey Aggregates (thousands)				Reporting Rate			
		PSID	SIPP	CPS-ADF/ASEC	ACS	PSID	SIPP	CPS-ADF/ASEC	ACS
1974	25,007	18,360		19,874		0.734		0.795	
1975	26,033	18,739		20,286		0.720		0.779	
1976	26,781	19,562		20,716		0.730		0.774	
1977	27,525	20,380		21,638		0.740		0.786	
1978	28,185	21,136		22,780		0.750		0.808	
1979	28,743	21,607		23,787		0.752		0.828	
1980	29,351	23,050		24,929		0.785		0.849	
1981	29,946	23,914		25,722		0.799		0.859	
1982	30,417	24,315		25,912		0.799		0.852	
1983	30,781	26,007	27,254	26,354		0.845	0.885	0.856	
1984	31,174	26,967	29,024	26,732		0.865	0.931	0.858	
1985	31,295	27,803	29,360	27,265		0.888	0.938	0.871	
1986	31,809	28,910	29,853	27,353		0.909	0.939	0.860	
1987	32,287	28,969	30,522	28,403		0.897	0.945	0.880	
1988	32,691	29,861	30,946	28,878		0.913	0.947	0.883	
1989	33,110	32,925	31,436	29,264		0.994	0.949	0.884	
1990	33,598	31,735	32,234	29,622		0.945	0.959	0.882	
1991	34,107	31,133	32,682	29,711		0.913	0.958	0.871	
1992	34,610	30,259	32,540	30,544		0.874	0.940	0.883	
1993	35,043		32,740	29,834			0.934	0.851	
1994	35,369		32,523	30,433			0.920	0.860	
1995	35,566		32,871	30,829			0.924	0.867	
1996	35,740		33,668	30,121			0.942	0.843	
1997	35,878		32,889	29,645			0.917	0.826	
1998	35,995		32,038	30,028			0.890	0.834	
1999	36,103		32,559	30,088	29,091		0.902	0.833	0.806
2000	36,499		34,651	30,708	30,299		0.949	0.841	0.830
2001	36,914		36,390	31,535	30,352		0.986	0.854	0.822
2002	37,137		36,485	31,229	30,886		0.982	0.841	0.832
2003	37,359	31,747	36,785	31,871	30,943	0.850	0.985	0.853	0.828
2004	37,598		36,763	31,689	30,958		0.978	0.843	0.823
2005	37,916		36,823	31,423	32,773		0.971	0.829	0.864
2006	38,271			31,259				0.817	
2007	39,262			31,566				0.804	
Average						0.835	0.942	0.843	0.829
Average Dollars Reporting Rate for Comparable Years						0.881	0.926	0.881	0.856

Table 14
SSDI Average Monthly Participation

Year	Admin Average Monthly Participation (thousands)	Survey Aggregates (thousands)				Reporting rates			
		PSID	SIPP	CPS-ADF/ ASEC	ACS	PSID	SIPP	CPS-ADF/ ASEC	ACS
1974	3,535	2,814		3,066		0.796		0.867	
1975	3,943	3,010		3,389		0.764		0.860	
1976	4,279	3,170		3,453		0.741		0.807	
1977	4,510	3,332		3,645		0.739		0.808	
1978	4,619	3,481		3,782		0.754		0.819	
1979	4,579	3,626		4,076		0.792		0.890	
1980	4,484	3,419		3,974		0.763		0.886	
1981	4,332	3,716		3,924		0.858		0.906	
1982	3,994	3,430		3,721		0.859		0.932	
1983	3,686	3,787	3,342	3,599		1.027	0.907	0.976	
1984	3,612	3,684	3,664	3,648		1.020	1.014	1.010	
1985	3,619	3,613	3,725	3,511		0.998	1.029	0.970	
1986	3,701	3,215	3,800	3,557		0.869	1.027	0.961	
1987	3,770	3,623	3,820	3,831		0.961	1.013	1.016	
1988	3,809	3,668	3,905	3,758		0.963	1.025	0.987	
1989	3,851	4,109	3,978	3,882		1.067	1.033	1.008	
1990	3,947	4,228	4,121	3,954		1.071	1.044	1.002	
1991	4,131	4,907	4,804	3,935		1.188	1.163	0.953	
1992	4,428	4,329	4,923	4,383		0.978	1.112	0.990	
1993	4,779		4,988	4,484			1.044	0.938	
1994	5,098		4,837	4,688			0.949	0.919	
1995	5,374		5,035	4,970			0.937	0.925	
1996	5,603		5,075	5,024			0.906	0.897	
1997	5,742		6,138	5,006			1.069	0.872	
1998	5,865		7,379	4,921			1.258	0.839	
1999	6,051		7,146	5,114	4,530		1.181	0.845	0.749
2000	6,210		5,868	4,866	4,697		0.945	0.784	0.756
2001	6,395		5,581	5,207	4,769		0.873	0.814	0.746
2002	6,655		5,696	5,260	5,067		0.856	0.790	0.761
2003	6,981	6,662	6,159	5,491	5,137	0.954	0.882	0.787	0.736
2004	7,332		6,863	5,812	5,425		0.936	0.793	0.740
2005	7,677		7,199	6,049	5,904		0.938	0.788	0.769
2006	7,998			6,050				0.756	
2007	8,455			6,387				0.755	
Average						0.908	1.006	0.887	0.751
Average Dollars Reporting Rate for Comparable Years						1.017	0.907	0.926	0.753

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Table 15
SSI Average Monthly Participation

Year	Admin Average Monthly Participation (thousands)	Survey Aggregates (thousands)				Reporting rates			
		PSID	SIPP	CPS-ADF/ASEC	ACS	PSID	SIPP	CPS-ADF/ASEC	ACS
1974	3,475	3,103				0.893			
1975	4,005	2,718		2,888		0.679		0.721	
1976	4,128	2,388		2,911		0.578		0.705	
1977	4,093	2,648		2,908		0.647		0.710	
1978	4,084	2,556		2,898		0.626		0.710	
1979	4,044	2,777		2,868		0.687		0.709	
1980	4,010	2,579		3,082		0.643		0.769	
1981	3,945	2,935		2,986		0.744		0.757	
1982	3,808	2,736		2,760		0.718		0.725	
1983	3,755	2,837	3,061	2,972		0.755	0.815	0.791	
1984	3,844	2,457	3,498	3,081		0.639	0.910	0.802	
1985	3,960	2,484	3,582	3,074		0.627	0.904	0.776	
1986	4,081	2,644	3,684	3,078		0.648	0.903	0.754	
1987	4,204	2,471	3,797	3,057		0.588	0.903	0.727	
1988	4,297	2,857	3,985	3,271		0.665	0.927	0.761	
1989	4,400	3,071	4,075	3,434		0.698	0.926	0.781	
1990	4,565	2,759	3,912	3,438		0.604	0.857	0.753	
1991	4,817	2,703	4,199	3,695		0.561	0.872	0.767	
1992	5,179	2,883	4,573	3,870		0.557	0.883	0.747	
1993	5,592	3,540	4,874	4,117		0.633	0.872	0.736	
1994	5,941	3,282	5,124	3,979		0.553	0.862	0.670	
1995	6,185	3,360	5,271	4,073		0.543	0.852	0.659	
1996	6,328	3,003	5,971	4,164		0.475	0.944	0.658	
1997	6,323		6,429	3,851			1.017	0.609	
1998	6,310	3,154	6,451	3,966		0.500	1.022	0.628	
1999	6,346		6,406	3,970	3,516		1.009	0.626	0.554
2000	6,363	3,012	6,346	3,682	3,491	0.473	0.997	0.579	0.549
2001	6,427		6,330	3,931	3,462		0.985	0.612	0.539
2002	6,477	2,838	6,669	3,724	3,740	0.438	1.030	0.575	0.578
2003	6,537		6,804	4,049	3,631		1.041	0.619	0.556
2004	6,633	3,511	6,569	4,090	3,773	0.529	0.990	0.617	0.569
2005	6,734		6,917	3,904	4,310		1.027	0.580	0.640
2006	6,852			3,737				0.545	
2007	6,969			3,773				0.541	
Average						0.619	0.937	0.688	0.569
Average Dollars Reporting Rate for Comparable Years						0.659	0.918	0.761	0.845

Table 16
National School Lunch Program (NSLP) - Average Monthly Participation (in thousands)

Year	Administrative Average Monthly Participation			Survey- Average Monthly Participation					Reporting Rates				
	Free	Reduced	Free or Reduced Price	PSID	SIPP (Free)	SIPP (Reduced Price)	SIPP (Free or Reduced Price)	CPS-ADF/ ASEC	PSID	SIPP (Free)	SIPP (Reduced Price)	SIPP (Free or Reduced Price)	CPS-ADF/ ASEC
1979	10,000	1,767	11,767					5,704					0.485
1980	10,200	1,900	12,100					6,212					0.513
1981	10,333	1,800	12,133					5,963					0.491
1982	9,967	1,567	11,533					6,241					0.541
1983	10,300	1,500	11,800		10,444	2,353	12,796	6,186		1.014	1.569	1.084	0.524
1984	10,167	1,533	11,700		9,648	2,343	11,991	6,163		0.949	1.528	1.025	0.527
1985	9,933	1,600	11,533		9,560	2,576	12,136	6,340		0.962	1.610	1.052	0.550
1986	10,000	1,600	11,600		10,103	2,791	12,894	6,382		1.010	1.744	1.112	0.550
1987	9,933	1,600	11,533		10,479	2,633	13,112	6,273		1.055	1.645	1.137	0.544
1988	9,767	1,600	11,367		10,496	2,574	13,070	5,869		1.075	1.609	1.150	0.516
1989	9,704	1,609	11,313		10,019	2,446	12,465	6,253		1.032	1.520	1.102	0.553
1990	9,980	1,696	11,675		10,292	2,278	12,570	6,419		1.031	1.343	1.077	0.550
1991	10,590	1,742	12,331		11,196	2,544	13,741	7,186		1.057	1.461	1.114	0.583
1992	11,400	1,734	13,133		12,164	2,665	14,829	7,505		1.067	1.537	1.129	0.571
1993	11,874	1,762	13,637		13,158	2,713	15,871	8,515		1.108	1.539	1.164	0.624
1994	12,272	1,836	14,108		13,791	2,860	16,651	9,033		1.124	1.558	1.180	0.640
1995	12,469	1,910	14,379		14,677	2,939	17,616	9,374		1.177	1.539	1.225	0.652
1996	12,774	2,025	14,799		13,793	2,724	16,517	9,497		1.080	1.345	1.116	0.642
1997	12,969	2,126	15,095		13,592	2,905	16,497	8,508		1.048	1.366	1.093	0.564
1998	13,031	2,255	15,286	11,333	13,623	3,048	16,671	9,292	0.741	1.045	1.352	1.091	0.608
1999	12,956	2,391	15,347		13,586	3,248	16,834	8,129		1.049	1.358	1.097	0.530
2000	12,951	2,497	15,448	10,736	14,587	3,016	17,603	7,934	0.695	1.126	1.208	1.139	0.514
2001	13,047	2,591	15,638		14,607	3,282	17,889	8,076		1.120	1.266	1.144	0.516

Table 16 (*continued*)
National School Lunch Program (NSLP) - Average Monthly Participation (in thousands)

Year	Administrative Average Monthly Participation			Survey- Average Monthly Participation					Reporting Rates				
	Free	Reduced	Free or Reduced Price	PSID	SIPP (Free)	SIPP (Reduced Price)	SIPP (Free or Reduced Price)	CPS-ADF/ASEC	PSID	SIPP (Free)	SIPP (Reduced Price)	SIPP (Free or Reduced Price)	CPS-ADF/ASEC
2002	13,433	2,633	16,067	11,645	15,026	3,294	18,320	8,901	0.725	1.119	1.251	1.140	0.554
2003	13,833	2,733	16,567		14,781	3,421	18,202	8,858		1.069	1.252	1.099	0.535
2004	14,267	2,833	17,100	12,155	15,707	3,923	19,630	8,628	0.711	1.101	1.385	1.148	0.505
2005	14,667	2,900	17,567		15,879	3,884	19,763	8,503		1.083	1.339	1.125	0.484
2006	14,833	2,933	17,767					8,288					0.466
2007								8,380					
Average									0.718	1.065	1.449	1.119	0.548

Table 17
Women, Infants and Children (WIC) - Average Monthly Participation

Year	Average Monthly Participation				Surveys			Reporting Rates		
	Women	Infants	Children	Total	PSID	SIPP	CPS-ADF/ASEC	PSID	SIPP	CPS-ADF/ASEC
1983	578,010	762,100	1,341,762	2,681,873		2,548,915			0.950	
1984	656,534	834,477	1,575,325	3,066,336		2,857,268			0.932	
1985	678,098	891,376	1,625,838	3,195,311		2,741,860			0.858	
1986	717,986	963,642	1,653,688	3,335,315		2,438,474			0.731	
1987	758,672	1,030,236	1,651,786	3,440,693		2,269,432			0.660	
1988	845,065	1,131,385	1,717,037	3,693,487		2,165,192			0.586	
1989	986,097	1,299,690	1,985,077	4,270,865		2,371,682			0.555	
1990	1,040,887	1,444,443	2,065,124	4,550,454		2,694,798			0.592	
1991	1,154,320	1,602,121	2,295,770	5,052,210		3,176,805			0.629	
1992	1,252,709	1,696,693	2,555,337	5,504,738		3,469,799			0.630	
1993	1,404,240	1,757,864	2,909,770	6,071,873		3,924,523			0.646	
1994	1,524,576	1,796,083	3,298,240	6,618,898		3,997,409			0.604	
1995	1,589,327	1,816,872	3,541,696	6,947,895		4,073,833			0.586	
1996	1,675,121	1,834,936	3,769,028	7,279,085		4,087,180			0.561	
1997	1,708,688	1,868,648	3,807,929	7,385,265		3,892,830			0.527	
1998	1,744,294	1,893,036	3,741,169	7,378,499	6,911,033	3,794,967		0.937	0.514	
1999	1,737,284	1,891,698	3,629,042	7,258,024		3,727,767			0.514	
2000	1,760,347	1,899,835	3,551,309	7,211,492	6,384,731	3,649,744	4,595,053	0.885	0.506	0.637
2001	1,788,958	1,925,665	3,648,665	7,363,287		4,132,639	4,806,973		0.561	0.653
2002	1,818,691	1,931,632	3,763,862	7,514,184	6,453,758	4,274,605	4,861,428	0.859	0.569	0.647
2003	1,874,606	1,959,486	3,850,275	7,684,367		4,132,526	5,075,717		0.538	0.661
2004	1,944,911	2,028,188	3,991,965	7,965,064	8,150,696	4,470,050	5,105,831	1.023	0.561	0.641
2005	1,975,405	2,053,280	4,001,781	8,030,466		4,671,507	4,825,039		0.582	0.601
2006	2,043,836	2,093,967	3,987,749	8,125,552			4,951,229			0.609
2007	2,110,410	2,185,447	4,080,116	8,375,973			4,843,223			0.578
Average								0.926	0.626	0.628
Average Dollars Reporting Rate for Comparable Years									0.717	

Table 18 - Reporting Rates Regression Estimates

Indicator Variables for:	Dollars			Months		
	(1)	(2)	(3)	(4)	(5)	(6)
Program						
AFDC/TANF	-0.272	-0.272	-0.230	-0.265	-0.265	-0.222
	(0.042)	(0.042)	(0.070)	(0.040)	(0.041)	(0.046)
FSP	-0.223	-0.223	-0.146	-0.195	-0.196	-0.142
	(0.047)	(0.047)	(0.068)	(0.028)	(0.028)	(0.039)
OASI	-0.060	-0.060	0.091	-0.046	-0.046	0.058
	(0.037)	(0.037)	(0.047)	(0.033)	(0.032)	(0.040)
SSI	-0.187	-0.187	-0.010	-0.189	-0.189	-0.137
	(0.049)	(0.049)	(0.061)	(0.036)	(0.036)	(0.063)
UI	-0.227	-0.227	-0.148			
	(0.052)	(0.052)	(0.065)			
WC	-0.469	-0.470	-0.396			
	(0.071)	(0.071)	(0.060)			
WIC				-0.324	-0.321	-0.187
				(0.098)	(0.101)	(0.120)
NSLP				-0.147	-0.148	-0.067
				(0.133)	(0.135)	(0.128)
Survey						
PSID	-0.072	-0.068	-0.125	-0.168	0.004	-0.162
	(0.043)	(0.055)	(0.065)	(0.049)	(0.068)	(0.086)
CPS	-0.041	-0.022	-0.057	-0.187	-0.058	-0.229
	(0.034)	(0.051)	(0.046)	(0.053)	(0.047)	(0.067)
ACS	-0.003	0.014	-0.036	-0.238	-0.011	-0.237
	(0.073)	(0.056)	(0.070)	(0.057)	(0.038)	(0.060)
CES	-0.101	-0.104	-0.179			
	(0.042)	(0.059)	(0.053)			
Specification						
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Coefficients above for Survey*Post 2000		Yes			Yes	
Only 2000-2007 Data			Yes			Yes

Notes: This table reports the estimated coefficients in a regression of reporting rates on indicator variables for programs, surveys and years. In column 2, we further add a set of surveys and post year 2000 interactions, and the coefficients for these interactions are reported instead. In column 3, the regression is based on 2000-2007 data only. Standard errors, clustered by survey and program combinations, are in parentheses. The omitted program indicator is SSDI and the omitted survey indicator is for the SIPP.

Table 19
CPS-ADF/ASEC Share of Dollars Imputed

Survey Year	A. Recipiency Imputed						B. All Imputations					
	AFDC/ TANF	FSP	OASDI	SSI	UI	WC	AFDC/ TANF	FSP	OASDI	SSI	UI	WC
1991	0.113	0.106	0.106	0.103	0.108	0.078	0.155	0.142	0.210	0.163	0.179	0.228
1992	0.094	0.086	0.099	0.103	0.084	0.099	0.135	0.135	0.206	0.173	0.168	0.193
1993	0.131	0.111	0.110	0.111	0.096	0.062	0.177	0.150	0.223	0.175	0.181	0.167
1994	0.110	0.094	0.110	0.120	0.110	0.084	0.179	0.162	0.241	0.229	0.211	0.219
1995	0.165	0.129	0.144	0.162	0.136	0.159	0.237	0.194	0.273	0.222	0.209	0.255
1996	0.165	0.127	0.139	0.127	0.151	0.133	0.234	0.204	0.294	0.199	0.237	0.276
1997	0.140	0.118	0.120	0.128	0.115	0.143	0.206	0.180	0.275	0.206	0.199	0.255
1998	0.106	0.109	0.108	0.118	0.093	0.112	0.173	0.192	0.278	0.198	0.196	0.252
1999	0.171	0.127	0.120	0.154	0.158	0.137	0.270	0.211	0.306	0.240	0.259	0.283
2000	0.118	0.099	0.111	0.114	0.099	0.129	0.243	0.187	0.298	0.216	0.215	0.278
2001	0.184	0.125	0.117	0.134	0.118	0.148	0.286	0.224	0.333	0.257	0.270	0.301
2002	0.284	0.133	0.123	0.152	0.106	0.115	0.381	0.235	0.332	0.278	0.229	0.287
2003	0.262	0.138	0.129	0.140	0.127	0.131	0.353	0.233	0.356	0.279	0.253	0.302
2004	0.265	0.141	0.128	0.143	0.133	0.171	0.348	0.232	0.351	0.298	0.265	0.307
2005	0.258	0.142	0.121	0.146	0.117	0.128	0.346	0.238	0.344	0.287	0.251	0.279
2006	0.220	0.121	0.115	0.139	0.120	0.135	0.291	0.215	0.327	0.269	0.238	0.271
2007	0.143	0.120	0.120	0.125	0.120	0.100	0.240	0.222	0.341	0.259	0.254	0.215
2008	0.171		0.109	0.123	0.118	0.116	0.262		0.335	0.268	0.254	0.286

Notes: Panel A shows the share of total dollars reported attributable to those whose recipiency is imputed. Panel B shows the share of total dollars reported that are imputed. Food Stamps data for 2008 are currently unavailable.

Table 20
CPS-ADF/ASEC Share of Months Imputed

Survey Year	A. Recipiency Imputed		B. All Imputations			
	AFDC	FSP	AFDC	FSP	OASDI	SSI
1991	0.115	0.115	0.134	0.126	0.107	0.104
1992	0.104	0.092	0.117	0.113	0.099	0.102
1993	0.123	0.118	0.144	0.146	0.109	0.115
1994	0.108	0.101	0.115	0.108	0.108	0.115
1995	0.151	0.140	0.218	0.194	0.146	0.156
1996	0.154	0.139	0.214	0.203	0.141	0.127
1997	0.139	0.124	0.209	0.178	0.124	0.135
1998	0.117	0.112	0.173	0.184	0.108	0.120
1999	0.174	0.139	0.285	0.210	0.118	0.150
2000	0.120	0.107	0.238	0.185	0.111	0.119
2001	0.206	0.128	0.301	0.207	0.116	0.128
2002	0.282	0.142	0.379	0.227	0.121	0.147
2003	0.263	0.136	0.356	0.228	0.130	0.143
2004	0.266	0.140	0.362	0.229	0.127	0.143
2005	0.281	0.142	0.398	0.229	0.125	0.144
2006	0.238	0.123	0.329	0.211	0.116	0.133
2007	0.166	0.123	0.257	0.210	0.120	0.120
2008	0.174	0.118	0.270	0.201	0.109	0.122

Notes: Panel A shows the share of months for those who recipiency is imputed. Panel B shows the overall average monthly participation imputation rates.

Table 21
SIPP Share of Dollars Imputed

	A. Recipiency Imputed							B. All Imputation					
Survey Year	AFDC/ TANF	FSP	OASDI	SSI	UI	WC		AFDC/ TANF	FSP	OASDI	SSI	UI	WC
1990	0.092	0.080	0.044	0.081	0.136	0.083		0.153	0.127	0.255	0.161	0.208	0.207
1991	0.097	0.095	0.056	0.088	0.177	0.097		0.140	0.145	0.291	0.158	0.255	0.212
1992	0.098	0.088	0.054	0.089	0.166	0.087		0.154	0.145	0.301	0.163	0.258	0.203
1993	0.101	0.091	0.058	0.092	0.187	0.095		0.175	0.156	0.327	0.170	0.276	0.229
1994	0.108	0.099	0.070	0.102	0.220	0.128		0.191	0.175	0.364	0.193	0.326	0.280
1995	0.109	0.095	0.067	0.106	0.203	0.136		0.187	0.168	0.354	0.194	0.310	0.292
1996	0.146	0.128	0.080	0.103	0.183	0.368		0.269	0.192	0.291	0.194	0.268	0.407
1997	0.253	0.195	0.127	0.142	0.261	0.466		0.341	0.262	0.357	0.237	0.348	0.544
1998	0.234	0.197	0.138	0.156	0.244	0.583		0.325	0.267	0.363	0.248	0.325	0.632
1999	0.216	0.206	0.130	0.158	0.242	0.494		0.312	0.277	0.360	0.251	0.374	0.571
2000	0.181	0.132	0.075	0.103	0.206	0.361		0.273	0.188	0.319	0.197	0.301	0.428
2001	0.148	0.146	0.097	0.126	0.227	0.385		0.264	0.214	0.376	0.254	0.341	0.494
2002	0.179	0.176	0.131	0.161	0.213	0.412		0.260	0.257	0.428	0.284	0.338	0.518
2003	0.186	0.181	0.146	0.172	0.209	0.364		0.284	0.264	0.436	0.287	0.358	0.480
2004	0.126	0.104	0.116	0.209	0.274	0.133		0.403	0.358	0.807	0.492	0.441	0.462

Notes: Panel A shows the share of total dollars reported attributable to those whose recipiency is imputed. Panel B shows the share of total dollars reported that are imputed.

Table 22
SIPP Share of Months Imputed

Calendar Year	AFDC	FSP	OASDI	SSI
1990	0.096	0.088	0.029	0.074
1991	0.101	0.095	0.036	0.083
1992	0.105	0.091	0.036	0.080
1993	0.107	0.095	0.039	0.082
1994	0.114	0.098	0.049	0.095
1995	0.115	0.098	0.046	0.099
1996	0.152	0.136	0.058	0.095
1997	0.262	0.188	0.098	0.137
1998	0.240	0.180	0.109	0.142
1999	0.210	0.192	0.106	0.151
2000	0.158	0.124	0.060	0.101
2001	0.170	0.141	0.075	0.124
2002	0.195	0.178	0.101	0.155
2003	0.210	0.176	0.109	0.169
2004	0.145	0.102	0.079	0.210

Table 23
ACS Dollars Imputation Rates, by Year and Program

Calendar Year	AFDC	FSP	OASDI	SSI
1999	0.166		0.215	0.217
2000	0.171		0.208	0.169
2001	0.179		0.185	0.167
2002	0.173		0.185	0.166
2003	0.145		0.156	0.145
2004	0.139	0.172	0.145	0.141
2005	0.217	0.164	0.173	0.175

Note: The table above shows the dollars imputation rates in the SIPP, obtained by dividing the weighted total imputed benefit amounts in each year by the unconditional weighted total in that year.

Table 24
Reporting Rates from Microdata and Aggregates,
and Reporting Conditional on True Receipt

| | Microdata | | Aggregate Data Reporting Rate |
| | Reporting Rate Conditional on True Receipt | Unconditional Reporting Rate | |
Study/Program	(1)	(2)	(3)
Marquis and Moore (1990) - 1984 SIPP			
AFDC	0.51	0.61	0.82
FSP	0.77	0.87	0.89
OASDI	0.95	1.01	0.94
SSI	0.77	0.88	0.91
UI	0.61	0.80	0.78
WC	0.45	0.82	0.41
Huynh, Rupp and Sears (2002) – SIPP			
OASDI			
Jan 1993	0.96	1.02	0.95
Aug 1995	0.95	1.02	0.93
Mar 1996	0.94	0.99	0.94
Oct 1998	0.95	1.00	0.94
SSI			
Jan 1993	0.83	1.04	0.87
Aug 1995	0.86	1.12	0.85
Mar 1996	0.83	0.96	0.94
Oct 1998	0.83	0.98	1.02
Sears and Rupp (2003) - SIPP			
OASDI			
Mar 1996	0.96	1.00	0.94
Jan 2001	0.95	0.99	0.97
SSI			
Mar 1996	0.86	1.00	0.94
Jan 2001	0.81	0.99	0.99
Taeuber et al. (2004) - ACS			
FSP			
2001	0.53	0.58	0.57
2nd Estimate	0.62		

Note: The time periods and geography do not match exactly. For UI and WC, the rates in column 3 come from the dollars reporting rates reported in this paper. We also assume OASDI participation is the sum of OASI and SSDI participation.

Appendix Table 1
Summary of PSID Benefit Variable Information

Benefit Year	Survey Year	SSI	OASI	SSDI	UI	WC	FSP	AFDC
1967	1968		H only (a)		H only (a)		All	All
1968	1969		H only (a)		H only (a)		All	H
1969	1970		H only		H only		All	H
1970	1971		(H+W) only		H only		All	(H+W)
1971	1972		(H+W) only		H only		All	(H+W)
1972	1973		(H+W) only		H only			(H+W)
1973	1974		(H+W) only		H only		All	(H+W)
1974	1975	(H+W)+O	(H+W)+O		H+(W+O)		All	(H+W)+O
1975	1976	(H+W)+O	(H+W)+O		H+(W+O)		All	(H+W)+O
1976	1977	(H+W)+O	(H+W)+O		H+(W+O)	H+(W+O)	All	(H+W)+O
1977	1978	(H+W)+O	(H+W)+O		H+(W+O)	H+(W+O)	All	(H+W)+O
1978	1979	(H+W)+O	(H+W)+O		H+(W+O)	H+(W+O)	All	(H+W)+O
1979	1980	(H+W)+O	(H+W)+O		H+(W+O)	H+(W+O)	All	(H+W)+O
1980	1981	(H+W)+O	(H+W)+O		H+(W+O)	H+(W+O)	All	(H+W)+O
1981	1982	(H+W)+O	(H+W)+O		H+(W+O)	H+(W+O)	All	(H+W)+O
1982	1983	(H+W)+O	(H+W)+O		H+(W+O)	H+(W+O)	All	(H+W)+O
1983	1984	(H+W)+O	H+W+O (b)	H+W+O (b)	H+(W+O)	H+(W+O)	All	(H+W)+O
1984	1985	(H+W)+O	H+W+O (b)	H+W+O (b)	H+(W+O)	H+(W+O)	All	(H+W)+O
1985	1986	H+W+O	H+W+O (b)	H+W+O (b)	H+W+O	H+W+O	All	H+W+O
1986	1987	H+W+O	H+W+O (b)	H+W+O (b)	H+W+O	H+W+O	All	H+W+O
1987	1988	H+W+O	H+W+O (b)	H+W+O (b)	H+W+O	H+W+O	All	H+W+O
1988	1989	H+W+O	H+W+O (b)	H+W+O (b)	H+W+O	H+W+O	All	H+W+O
1989	1990	H+W+O	H+W+O (b)	H+W+O (b)	H+W+O	H+W+O	All	H+W+O
1990	1991	H+W+O	H+W+O (b)	H+W+O (b)	H+W+O	H+W+O	All	H+W+O
1991	1992	H+W+O	H+W+O (b)	H+W+O (b)	H+W+O	H+W+O	All	H+W+O
1992	1993	H+W+O	H+W+O (d)	H+W+O (d)	H+W+O	H+W+O	All	H+W+O
1993	1994	H+W	All		H+W	H+W	All	H+W
1994	1995	H+W	All		H+W	H+W	All	H+W
1995	1996	H+W	All		H+W	H+W	All	H+W
1996	1997	H+W	All		H+W	H+W	All	H+W
1997	1999	All					All	
1998	1999	H+W (e)	All		H+W	H+W	All	H+W
1999	2001	All					All	
2000	2001	H+W (e)	All		H+W	H+W	All	H+W
2001	2003						All	
2002	2003	H+W	All		H+W	H+W	All	H+W
2003	2005	All	H+W+O (g)		All	All	All	All
2004	2005(g)	H+W			H+W	H+W	All	H+W

Note: H - head, W - spouse, O - other family members, All - family, H+W - head and spouse reported separately, (H+W) - head and spouse amounts combined, (W+O) – spouse amount and other family members amount combined, H + W + O - head, spouse and all other family members reported separately (other family members amount combined as one). (a) These variables are reported in bracketed form; we take the midpoint of the interval in each case. (b) Amount of Social security income is recorded for each individual in the family. The type of social security (Disability, Retirement, Survivors, More than one of the above) is also recorded. (d) Amount of Social security income is recorded separately for the Head and Spouse. But for other family members, only the combined amount is available. The type of social security (Disability, Retirement, Survivors, More than one of the above) is also recorded only for the Head and the spouse. (e) SSI is reported also for the second year before the survey year and is for the whole family. (f) Based on the preliminary data release, the table here reflects only what is currently made available to the public, extra variables may be available in future data releases. (g) Each family is asked to nominate two types of social security received and each family member is asked about whether he received social security.

Appendix Table 2
Summary of CPS Annual Demographic File/Annual Social and Economic Supplement Benefit Variable Information

Survey Year	SSI	OASI	SSDI	UI	WC	FSP	AFDC/TANF	EITC
1968		Y (b)		Y (a)		N	Y (d)	
1969		Y (b)		Y (a)		N	Y (d)	
1970								
1971		Y (b)		Y (a)		N	Y (d)	
1972		Y (b)		Y (a)		N	Y (d)	
1973		Y (b)		Y (a)		N	Y (d)	
1974		Y (b)		Y (a)		N	Y (d)	
1975		Y (b)		Y (a)		N	Y (d)	
1976	Y (e)	Y(h,i)		Y(g)		N	Y(f)	
1977	Y (e)	Y(h,i)		Y(g)		N	Y(f)	
1978	Y (e)	Y(h,i)		Y(g)		N	Y(f)	
1979	Y (e)	Y(h,i)		Y(g)		N	Y(f)	
1980	Y (e)	Y(h,i)		Y(g)		Y (k)	Y(f)	
1981	Y (e)	Y(h,i)		Y(g)		Y (k)	Y(f)	
1982	Y (e)	Y(h,i)		Y(g)		Y (k)	Y(f)	
1983	Y (e)	Y(h)		Y(g)		Y (k)	Y(f)	
1984	Y (e)	Y(h)		Y(g)		Y (k)	Y(f)	
1985	Y (e)	Y(h)		Y(g)		Y (k)	Y(f)	
1986	Y (e)	Y(h)		Y(g)		Y (k)	Y(f)	
1987	Y (e)	Y(h)		Y(g)		Y (k)	Y(f)	
1988	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	
1989	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	
1990	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	
1991	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	
1992	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
1993	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
1994	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
1995	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
1996	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
1997	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
1998	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
1999	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2000	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2001	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2002	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2003	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2004	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2005	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2006	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2007	Y (e)	Y		Y (n)	Y	Y (k)	Y(f)	Y
2008	Y (e)	Y		Y (n)	Y	N (m)	Y(f)	N (m)

Notes:

(a) Also includes Veterans benefits, government employee pensions.

(b) Also includes railroad retirement benefits.

(d) Old age assistance, AFDC and aid to the blind or disabled are combined; no variable for type of benefit.

(e) Federal and state payments are included

(f) AFDC and general assistance are combined; they can be partially separated (except when both benefit type variables =1).

(g) Includes Veterans benefits.

(h) Also includes railroad retirement benefits; they can be partially separated (except when both benefit type variables=1)

(i) The variable is called "income from US government", the position of this variable though is the same as other years' social security.

(k) Available at the household level only.

(m) Data withheld by the Census Bureau.

(n) May include union or strike benefit payments. The amount of unemployment compensation was asked after asking whether the individual received unemployment benefits, supplemental benefits or union and strike benefit payments.