The Demography of Inequality from 1985 to 2010: Income *and* Consumption

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"The year 2011 will be remembered as the year when the idea of income inequality migrated from seminar rooms in colleges and think tanks to Zuccotti Park and main streets across America."

Senior Fellow Isabel Sawhill, The Brookings Institution, April 2012

The *2012 Economic Report of the President* stated: "The confluence of rising inequality and low economic mobility over the past three decades poses a real threat to the United States as a land of opportunity." This view was also repeated in a speech by Council of Economics Advisors Chairman, Alan Krueger (2012). President Obama suggested that inequality was "…the defining issue of our time..." As suggested by Isabel Sawhill (2012), 2011 was the year of inequality.

While there has been an increased interest in inequality, and especially the differences in trends for the top 1 percent vs. the other 99 percent, this increase in inequality is not a new issue. Paul Krugman introduced the "staircase vs. picket fence" analogy (see Krugman (1992)). He showed that the change in income gains between 1973 and 1993 followed a staircase pattern with income growth rates increasing with income quintiles, a pattern that has been highlighted by many recent studies, including the latest CBO (2011) report. He also showed that the income growth rates were similar for all quintiles from 1947-1973, creating a picket fence pattern across the quintiles.

Recent research shows that income inequality has increased over the past three decades (Burkhauser, et al. (2012), Smeeding and Thompson (2011), CBO (2011), Atkinson, Piketty and Saez (2011)). And most research suggests that this increase is mainly due to the larger increase in income at the very top of the distribution (see CBO (2011) and Saez (2012)). Researchers, however, dispute the extent of the increase. The extent of the increase depends on the resource measure used (income or consumption), the definition of the resource measure (e.g., market income or after-tax income), and the population of interest.

This paper examines the demography of the distribution of income and consumption in the US using data that obtains measures of both income and consumption from the same set of individuals. This paper develops a set of inequality measures that show the increase in inequality during the past 25 years using the 1985-2010 Consumer Expenditure (CE) Survey. We will see

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that the demographic characteristics of the population differ according to both the level and trend in inequality and the measure we use: income or consumption. But first we review the debate on which measure is better for understanding living standards.

The dispute over whether income or consumption should be preferred as a measure of economic well-being is discussed in the National Academy of Sciences (NAS) report on poverty measurement (Citro and Michael (1995), p. 36). The NAS report argues:

> "Conceptually, an income definition is more appropriate to the view that what matters is a family's ability to attain a living standard above the poverty level by means of its own resources…. In contrast to an income definition, an expenditure (or consumption) definition is more appropriate to the view that what matters is someone's actual standard of living, regardless of how it is attained. In practice the availability of high-quality data is often a prime determinant of whether an income- or expenditure-based family resource definition is used."

We agree with this statement and we would extend it to inequality measurement.[2] In cases where both measures are available, both income and consumption are important indicators for the level of and trend in economic well-being. As argued by Attanasio, Battistin, and Padula (2010) "...the joint consideration of income and consumption can be particularly informative." Both resource measures provide useful information by themselves and in combination with one another. When measures of inequality and economic well-being show the same levels and trends using both income and consumption, then the conclusions on inequality are clear. When the levels and/or trends are different, the conclusions are less clear, but useful information and an avenue for future research can be provided.

We examine the trend in the distribution of these measures from 1985 to 2010. We show that while the level of and changes in inequality differ for each measure, inequality increases for all measures over this period and, as expected, consumption inequality is lower than income inequality. Differing from other recent research, we find that the trends in income and consumption inequality are similar between 1985 and 2005, and diverge during the years around the Great Recession (between 2005 and 2010). For the entire 25 year period we find that consumption inequality increases about one-half as much as income inequality. We show that the quality of the CE survey data is sufficient to examine both income and consumption inequality. Nevertheless, given the differences in the trends in inequality, using measures of both income and consumption provides useful information.

Our analysis differs from the most recent studies of consumption inequality (Heathcote, et al. (2010), Perri and Steinberg (2012), Attanasio et al. (2012), and Meyer and Sullivan (2009)) by not restricting the sample to specific demographic groups, by using a more complete measure of consumption, and by using measures of income and consumption that are consistent with each other, where both income and consumption are taken from the same households in a single survey. Previous studies (e.g., Attanasio, et al. (2012) and Heathcote, et al. (2010)) restrict their samples to the working age population and use only a subset of consumption, and Meyer and Sullivan (2009) remove health care and education from consumption (claiming that these are more like investments than consumption items). Our study contributes to the literature by

[2] Borooah and McGregor (1992) suggest that consumption should be used as a measure of the standard of living and that income should be used as a measure of the level of resources. Others may argue that net worth is an equally important measure of well-being. For an attempt to capture the flow value of net worth and income but not consumption, see Smeeding and Thompson (2011).

providing a more complete measure of consumption without sample restrictions that is better linked to disposable income, in order to more fully capture the levels and trends in the distribution.

We then move beyond summary measures of inequality and focus on the demographics of inequality. Our analysis addresses the demographic groups (e.g., by age and race) that are relatively worse off and whether the increase in inequality seen in the last 25 years differentially affected different demographic groups. We also study how the results differ using income and consumption and investigate further when the results differ depending on the resource measure.

Methodology and Data

Given the different definitions of income and consumption in the literature, it is important to use a consistent theoretical framework to define these measures. It is also important to account for potential measurement error in income and consumption, not just one or the other.

The *Report by the Commission on the Measurement of Economic Performance and Social Progress* (or Stiglitz (2009) report) stated: "Income and its distribution are meaningful ways to assess living standards. Another candidate is consumption and its distribution among individuals. While correlated with income, consumption and its distribution are not necessarily identical to income and several reasons account for this." The report continues, "Empirical research has repeatedly shown that the distribution of consumption can be quite different from the distribution of income. Indeed, the most pertinent measures of the distribution of material living standards are probably based on jointly considering the income, consumption, and wealth position of households or individuals."

Which measure is "best" depends mostly on how economic well-being is viewed and the purpose for using the measure. Economic theory suggests that a household's well-being (as measured by the household's utility) depends on the household's characteristics and its consumption levels. The life-cycle/permanent-income hypothesis (LCPIH) suggests that the household's well-being depends on the current-income stream that occurs over the household's lifetime. According to the LCPIH, a household smoothes consumption over the household's lifetime so that even if income varies significantly over the life-cycle, consumption is less variable than income from year to year. This suggests that consumption data should be used as the preferred measure of permanent income and household well-being.

In a world of perfect information, with liquid assets and no borrowing constraints and with accurate cross-sectional surveys that measure both income and consumption, the best measure of permanent income would be consumption. Because markets are incomplete, borrowing constraints exist, and perfect surveys do not exist, both annual income and consumption are needed to obtain an approximation of economic well-being. Neither measure alone captures the economic well-being of all households.

As stated by the NAS report, "In practice the availability of high-quality data is often a prime determinant of whether an income- or expenditure-based family resource definition is used." Our view is that both income and consumption are needed to determine accurately the trend in inequality and economic well-being. If income and consumption inequality trends agree, then we can have more confidence in the conclusion. If the trends diverge, then we have directions for further research.

Two additional reasons to use income and consumption are the hump-shaped age-income profile and potential measurement error in income and consumption. First, the hump-shaped

income and consumption profile reflects the LCPIH, with income rising until middle age and then falling, and consumption following a similar, although less pronounced, hump-shaped pattern. With these patterns, younger ages have consumption greater than annual income (and greater than the average lifetime income), which suggests that consumption is a better proxy for unobserved permanent income. Similarly, older ages consume more than their annual income, again suggesting that consumption is a preferred measure. Second, if there is measurement error in income, for example, for the self-employed, consumption may be a better proxy for permanent income at all ages (assuming no measurement error in consumption). However, if consumption is underreported, for example, among the high income households (that motivates the methodology of Aguiar and Bils (2010) and Attanasio, et al. (2012)), then income may be a better proxy for permanent income assuming there is no measurement error in income. We show that both income and consumption provide information about the distribution of household resources and the trend in inequality over time.

We use the only data set in the United States that contains both income and complete consumption-expenditure information, the CE Interview Survey data, to compute measures of consumption and income inequality.[3] The CE survey has been a continuing quarterly survey since 1980. Data are collected from consumer units[4] five times over a 13-month period. The second through fifth interviews are used to collect expenditures for the previous three months; for example, a consumer unit that is visited in April reports expenditures for January, February and March.[5]

We begin our analysis in 1985 as this is the first year with the most consistently comparable data over time. Although the continuous CE Survey began in 1980, not all variables were consistently collected between 1980 and 1984 (e.g., rental equivalence), and the sample excluded rural households in 1982 and 1983. In addition, much of the increase in consumption inequality occurs in this early 1980-1984 period, which could be the result of the changes in the CE Survey (see Fisher, et al. (2012)).

We examine two different resource measures: disposable income and consumption. Disposable income is money income (income from employment, investment, government transfers, and inter-household transfers of money) plus the value of food stamps and federal tax credits less the cost of federal and state income taxes and FICA taxes. Consumption is total spending on all goods and services for current consumption (excluding life insurance, pensions, and cash contributions) less the purchase price of vehicles and the expenditures for home-ownership plus the service flow from vehicles, the reported rental equivalence of home-ownership and the value of federal government rental assistance. As with other research on consumption, we do not include goods obtained through barter, home production, or in-kind gifts from other households or organizations. In contrast to other research, however, our measure of consumption includes all other components of consumption-expenditures that are used for

[3] The Panel Study of Income Dynamics also includes a comprehensive consumption measure, but only since 2005.

[4] A consumer unit comprises members of a household who are related or share at least two out of three major expenditures--housing, food, and other living expenses. A person living alone is a single consumer unit. While the terms consumer unit and households are used interchangeably in this paper, there are households consisting of more than one consumer unit; there are approximately 3 percent more consumer units than households.

[5] The first interview is used to "bound" the interview and prevent reporting of expenditures in the wrong time period. Data reported in the first interview are not released nor used in any estimation. For more information about the CE survey, along with response rates, coverage, non-sampling error, and statistical uncertainty of the estimates see Chapter 16 in the BLS Handbook of Methods, http://www.bls.gov/opub/hom/homch16.htm.

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current consumption, and does not exclude education, health care expenses or other durable goods.[6]

To match the income and consumption for each household and obtain annual measures of consumption, we only use those consumer units who participated in the survey for all four expenditure-interview quarters. In this manner, we obtain both income and consumption for the same 12-month period. We do not restrict our sample by age, tenure or income reporting status. Previous papers restricted their samples to "complete income reporters" as defined by the CE Survey. Fisher (2006) finds that incomplete income reporters have lower consumption than complete income reporters, which may affect any conclusions about the level of and trend in inequality.

The CE Survey began imputing income in 2004 but did not impute previous years. We replicate the BLS methodology as closely as possible and impute all income for 1985-2010, and therefore, we do not restrict our sample by income reporter status.[7] By imputing income, we treat the income data the same way the consumption data are treated, as the consumption data are also imputed in the CE Survey; while previous research has removed incomplete income reporters, no previous research has removed incomplete consumption reporters.

As the households who remain in the sample for four quarters are more likely to be homeowners and older households, we follow the procedures in Sabelhaus (1993) and Fisher and Johnson (2006) to re-weight the sample to represent the quarterly sample. For after-tax income we use the National Bureau of Economic Research's (NBER) TAXSIM program (see Feenberg and Coutts (1993))[8] to estimate federal, state and FICA taxes and tax credits such as the Earned Income Tax Credit. All values are equivalized using the square root of household size (see Buhmann, et al. (1988)) and the weights are adjusted to reflect person weights. Finally, all values are adjusted to 2010 dollars using the CPI-U-RS.[9]

The Levels and Trends in Inequality

Figure 1 shows the staircase pattern of changes in the income and consumption distributions between 1985 and 2005. All measures demonstrate an increase in inequality, with the top quintile obtaining the largest increase in all resources during the 1985-2005 period. As the figure shows, however, the CPS income shows a larger step for the top quintile than the other quintiles (and hence, indicates a larger increase in inequality). Turning to the most recent five years, we find a slightly different pattern. While all of the income measures show a negative staircase pattern (all quintiles experienced decreases in resources, with the top quintile experiencing the smallest decrease), consumption is more stable across quintiles and reflects a picket fence pattern.

To obtain a summary measure of these changes in inequality, we use the Gini index. The Gini index is the most commonly used measure of inequality and satisfies all of the key

[6] The specific techniques used to create our consumption and income measures are discussed in Fisher, et al. (2012).

[7] See Fisher, et al. (2012) for a complete description of the imputation method and comparisons to the BLS imputations. We impute five implicates. We use the mean of the five implicates as our estimate of income. Using mean income lowers the level of inequality but the trend in inequality is the same if we used the five implicates and adjusted the measure for multiple imputation following Rubin (1987).

[8] http://www.nber.org/taxsim/. See Appendix C of Fisher, Johnson, and Smeeding (2012) for a description of how taxes were estimated using TAXSIM.

[9] Others suggest that this is an over-estimate of inflation (see Meyer and Sullivan (2011) and Broda and Romalis (2009), Gordon and Dew-Becker (2009) and Johnson (2004)).

properties of an inequality index, including the important principle of transfers (see Sen (1997)). Similar to previous work and consistent with the LCPIH, the levels of consumption inequality (using the Gini) are slightly lower than those for income. The trends, however, are similar during the 1985-2010 period.

Figure 2 shows the Gini index for money income,[10] disposable income, and consumption and compares these to the Gini obtained using income from the CPS. As shown, the Gini using money income from the CE shows similar trends as the Gini index for money income in the CPS data, with fairly close end points in 1985 and 2010. While the Gini for income using CPS data increases 7.5 percent between 1985 and 2010,[11] the CE income Gini increases 13.0 percent; however, the CE income Gini is more volatile because of the smaller sample size in the CE survey (as compared to CPS).

Figure 2 shows that disposable income inequality and consumption inequality track each other between 1985 and 2005, but diverge during the last five years. Between 1985 and 2005, consumption inequality increases 7.2 percent, while disposable income inequality increases 8.0 percent. Over the entire 25-year period, however, disposable income inequality increases 11.9 percent, while consumption inequality increased 6.5 percent. Due to the smaller sample sizes in the CE, however, these estimates are highly volatile and the standard errors are large.[12] But note also that one can obtain different summary results depending on the years chosen as starting or end points.

The Demographics

To get a better understanding of the dispersion of income and consumption, we focus on the three major age groups—children, adults, and the elderly. These groups are all of policy importance. Indeed public support for children vs the elderly may depend on which group is deemed better off, both today and over the past 25 years. Following Johnson, et al. (2005), we compare the distribution of the three major age groups relative to the distribution of the total population. We examine how adults (ages 18-64), the elderly (ages 65+) and children (ages 0-17) have fared relative to the total population by looking at the quintile distribution of each group relative to quintiles for the total population. We also examine different gender and race differences along with differences by family type. A comparison of one group with the total population is basically a zero-sum game, that is, if one group does relatively better than the general population, then another must do relatively worse. We create quintiles for the entire population and then examine the distribution of various groups within these same quintiles. As a result, for each period the quintile break points are the same for all individuals. If age and

[10] We show money income in Figure 2 because it matches the definition of income available in the Current Population Survey (CPS). The income data in the CPS is believed to be better reported than the income data in the CE Survey, though CPS income has its own issues.

[11] The CPS data changed the collection methodology in 1994 to computer-assisted data collection and adjusted the income reporting limits. To account for these changes, following Atkinson, et al. (2011) and Burkhauser, et al. (2012), the Gini coefficient for 1993 is set equal to that in 1992 and all previous years are adjusted by the same factor. See DeNavas-Walt, et al (2012) for published Gini indexes and standard errors.

[12] Because of the small sample size in each year, the standard errors are large. We construct a moving average of data (using years of data for each year, e.g., all households in 1990 and 1991 for the 1991 calculations). This method yields similar levels and trends in inequality, and standard errors that provide significant changes between 1985 and 2005 (calculations are available from the authors). The differences between the changes in income and consumption inequality (between 1985 and 2005 and between 1985 and 2010) are not statistically different.

household type does not influence the household's relative economic position, then we would expect that 20 percent of each age group or family type would reside in each quintile. If, however, certain age groups have fewer resources than other groups, they will be overrepresented in the bottom quintile and underrepresented at the top.

Tables 1A-1F show the percentage of people for each demographic that are in each quintile for 3 periods (1985, 2005, and 2010) using both disposable income and consumption.[13] We chose these three periods because they correspond to our first year of data, inflection point in our inequality data, and our last year of data. The first year, 1985, serves as a baseline to compare to future years. Then 2005 was the inflection point for our inequality comparisons. Income and consumption inequality tracked each other between 1985 and 2005, but consumption inequality decreased after 2005 while income inequality continued to increase. We can also examine the whether the change in inequality affected each group differently. If the change in inequality affected each group equally, then we should expect to see little or no change in the representativeness of our demographic groups in different quintiles between 1985 and 2005 or 2010.

The first result is that the relative position of the elderly (Table 1A) when using income compared with the general population is the reverse of the childless adults (Table 1B). The elderly are overrepresented in the lowest disposable income quintiles (especially in the first quintile), and underrepresented in the top three quintiles, as would be expected because many are retired and have little or no wage and salary income. But when we switch to consumption, the elderly are underrepresented in the lowest two quintiles, especially in 2005 and 2010, and modestly overrepresented in the upper quintiles. Since 1985, the relative distribution of consumption for the elderly has shifted to higher quintiles (suggesting an improvement in relative well-being), while there was no change in the relative distribution of income. Elderly may be able to finance their consumption in ways not available to families with children or younger adults, such as spending from accumulated assets.[14] This suggests that accumulated wealth (financial, as well as housing wealth) may be an important determinant of elderly consumption. The elderly's relative position in the consumption distribution improved between 2005 and 2010 despite the fact that they likely rely on wealth more than adults and children. The loss of wealth caused by the Great Recession would be expected to hurt the elderly more because the elderly rely on wealth for consumption more than younger ages, but Table 1A shows that the elderly's relative position in the consumption distribution actually improved over this time.

One sub-group of elderly that receives particular attention is the single elderly women. They have traditionally had higher poverty rates than other groups of elderly (Johnson, et al. (2005)). With respect to relative income, single elderly women are still overrepresented at the bottom, but single elderly women appear relatively better-off using consumption (Table 1C). Their consumption distribution relative to the general population is almost equal in 2010 and much better than is their income distribution. Using consumption, the relative distribution of single elderly woman has shifted to higher quintiles between 1985 and 2010, while their position in the income distribution has deteriorated, as demonstrated by the increase in the bottom quintile and the fall in the top quintile. Again these changes over time are all relative to the overall distribution. We have not discussed whether their absolute position in the consumption distribution has improved or whether their absolute position in the income distribution has deteriorated.

[13] Due to the small sample size, 2 years of data are used for each period – 1984-1985, 2004-2005 and 2009-2010.
[14] Meyer and Sullivan (2011) also show the relative improved well-being of the elderly when using consumption.

Adults are overrepresented in the highest disposable income and consumption quintiles and underrepresented in the bottom two disposable income and consumption quintiles. The relative distribution of consumption for adults has shown a movement to higher quintiles, while the relative distribution of income has not changed.

As these distributions are all relative to the overall population, they yield zero-sum games. Hence, the relative advantages the adults have in their distribution of consumption, and the relative advantage the elderly have in consumption, has been at the expense of the third group, the children. Children are overrepresented in the bottom two quintiles of both disposable income and consumption. In fact, children's relative position using consumption shows larger percentages in the lower quintiles than that using income. Over time, the relative position of all children, ignoring the type of family they live with, has remained relatively unchanged for both income and consumption.

When we disaggregate the relative distribution of consumption by type of family with children, we find that children living in married couple families are more likely to be in higher quintiles than children in other families (Table 1D). Using income, their situation has improved in that the share in the lowest quintile has fallen, and the higher quintile has increased. However, for children in single-mother households their relative position in the income distribution is worst compared to children in married couple families and has shifted to lower quintiles since 1985. Children in single-mother households have seen some improvement in their relative position in the consumption distribution, at least as seen by some movement out of the bottom quintile (see also Meyer and Sullivan (2008)).

We present two additional ways to disaggregate our groups: gender and race. Adult men are overrepresented in the top two quintiles of income and consumption, and they are underrepresented in the bottom two quintiles of both distributions (Table 1E). Adult women follow the same patterns as adult males, but women are less overrepresented in the top quintiles and less underrepresented in the bottom two quintiles. Using a Kolmogorov-Smirnov test of the equality of the distributions, we always reject the hypothesis that men and women have equal distributions, across all years and for both income and consumption.

Whites of all ages are slightly overrepresented in the top income and consumption quintiles (Table 1F). There has been little change in the relative position of whites since 1985. Blacks on the other hand are overrepresented in the bottom two income quintiles and consumption quintiles, with a larger difference for consumption. Interestingly though, blacks became more overrepresented in the bottom income quintile but less overrepresented in the bottom consumption quintile between 1985 and 2010.

Conclusions

Inequality differentially affects groups. Children and the elderly are worse off than non-elderly adults. Single elderly women are worse off than the rest of the elderly. Children in single mother households are worse off than other children. Women are slightly worse off than men, and blacks are worse off than whites.

But the relative positions can and do differ when using consumption instead of income. For example, the elderly are in a worse relative position than children using income, but the elderly are in a much better relative position than children using consumption. Even starker, children are worse off using consumption than they are using income, while the elderly are considerably better off using consumption than income.

We also showed that income inequality and consumption inequality increased between 1985 and 2010, and these changes in inequality have differentially affected some groups. The consumption of blacks has improved relative to whites over this period, along with the consumption of all elderly, single elderly women, and children in single mother households. The position of children in married households using income has improved as well. These improvements must be zero-sum because we are looking at relative changes, not absolute changes. The relative position of adults and adult men using consumption has worsened over the last 25 years. The relative position of blacks, of children in single mother households, and of single elderly women using income has also worsened.

As we have stated, in cases where both measures are available, both income and consumption are important indicators for the level of and trend in economic well-being. While some individuals have similar levels of well-being using income or consumption, other demographic characteristics experience differential well-being.

REFERENCES

Aguiar, M. and Bils, M. 2010 "Has Consumption Inequality Mirrored Income Inequality," NBER Working Paper.

Atkinson, A., Piketty, T., and Saez, E., 2011, "Top Incomes in the Long Run of History, Journal of Economic Literature, 49:1, pp 3-71.

Attanasio, O., Hurst, E., and Pistaferri, L. 2012, "The Evolution of Income, Consumption, and Leisure inequality in the US, 1980-2010," NBER working paper #17982.

Attanasio, Orazio. P., Battistin, E. and Padula, Mario, 2010, *Inequality in Living Standards since 1980*, AEI Press.

Barooah, Vani, K., and McGregor, P. (1992) "Is Low Spending or Low Income a Better Indicator of Whether or Not a Household is Poor: Some Results From the 1985 Family Expenditure Survey," *Journal of Social Policy*, 21:1, 53-69, 1992.

Broda, C. and Romalis, J., 2009, "The Welfare Implications of Rising Price Dispersion, University of Chicago manuscript.

Buhmann, B., Rainwater, L., Schmauss, G., and Smeeding, T., "Equivalence Scales, Well-being, Inequality, and Poverty: Sensitivity estimates across Ten Countries Using the Luxembourg Income Study Database," *Review of Income and Wealth*, 34, 115-142, 1988.

Burkhauser, R., Feng, S., Jenkins, S., Larrimore, J. (2012) "Recent Trends in Top Income Shares in the USA: Reconciling Estimates from March CPS and IRS Tax Return Data.

Burkhauser, R., Larrimore, J. and Simon, K., 2010, "A "Second Opinion" On The Economic Health Of The American Middle Class" NBER Working Paper 17164

Citro, Connie F. and Robert T. Michael (eds.), 1995, *Measuring Poverty: A New Approach*, Washington, D. C.: National Academy Press.

Congressional Budget Office, 2011, "Trends in the Distribution of Household Income Between 1979 and 2007, *CBO report*, 2011.

Council of Economic Advisors, 2012, *Economic Report of the President, 2012*, GPO.

DeNavas-Walt, C. Bernadette D. Proctor, and Jessica C. Smith, U.S. Census Bureau, Current Population reports, P60-243, *Income, Poverty, and Health Insurance Coverage in the United States: 2011*, U.S. Government Printing Office, Washington DC, 2012.

Feenberg, D. and Coutts, E. *An Introduction to the TAXSIM Model*, Journal of Policy Analysis and Management vol 12 no 1, Winter 1993, pages 189-194.

Fisher, J. and Johnson, D. "Consumption Mobility in the U.S.: Evidence from two panel data sets," *Topics in Economic Analysis and Policy*, Vol 6:1, 2006.
Fisher, J., Johnson, D. and Smeeding, T., 2012, "Inequality of Income *and* Consumption: Measuring the Trends in Inequality from 1984-2010 for the Same Individuals," paper presented at IARIW conference, Aug 2012.
Heathcote, J., Perri, F., and Violante, G., 2010b, "Inequality in times of crisis: Lessons from the past and a first look at the current recession, VOX February 2, 2010.
Heathcote J. , F. Perri and G. Violante, (2010a), "Unequal We Stand: An Empirical Analysis of Economic Inequality in the US, 1967-2006", *Review of Economic Dynamics* 13, pp 15-51.
Johnson, D., Smeeding, T., and Torrey, B.B., 2005, "Economic inequality through the prisms of income and consumption," *Monthly Labor Review*, April 2005.
Johnson, D. 2004a "Using Expenditures to Measure the Standard of Living in the United States: Does it Make a Difference?" *What Has Happened to the Quality of Life in America and Other Advanced Industrialized Nations,* Edgar Elgar Press, 2004.
Krueger, A. 2012. "The Rise and Consequences of Inequality in the United States," Speech delivered at Center for American Progress, January 12, 2012.
Krueger, D. and Perri, F. 2006, "Does Income Inequality Lead to Consumption Inequality? Evidence and Theory, " *Review of Economic Studies*, 73, pp. 163-193.
Krugman, P. 1992. "The Right, the Rich and the Facts" *The American Prospect*, 11, pp. 19-31.
Meyer, B. and Sullivan, J. 2008, "Changes in the Consumption, Income, and Well-Being of Single Mother Headed Families," *American Economic Review* 98(5) December 2008, 2221-41.
Meyer, B. and Sullivan, J., 2010, "Consumption and Income Inequality in the U.S. Since the 1960s," University of Chicago manuscript.
Meyer, B. and Sullivan, J., 2011, "The Material Well-Being of the Poor and Middle Class Since 1980," AEI Working Paper #2011-04.
Perri, F., and J. Steinberg (2012). "Inequality and the Great Recession," Economic Policy paper. June 2012. Federal Reserve Bank of Minneapolis, June 2012.
Sabelhaus, J. 1993. "What is the Distributional Burden of Taxing Consumption?" *The National Tax Journal*, Vol. 46:3.
Saez, E. 2012, "Striking it Richer: The Evolution of Top Incomes in the United States (Updated with 2009 and 2010 estimates), manuscript, March 2, 2012.
Sawhill, Isabel V., 2012, "2011: The Year that Income Inequality Captured the Public's Attention," Brookings Institution Up Front Blog post, April 19, 2012.
Sen, A. 1997, *On Economic Inequality*, Oxford: Clarendon Press.
Smeeding, T. M., and Thompson, J.P. 2011. "Recent Trends in the Distribution of Income: Labor, Wealth and More Complete Measures of Well Being." *Research in Labor Economics* May: 1–49.
Stiglitz, J.E., Sen, A., Fitoussi, J. 2009. *Report by the Commission on the Measurement of Economic Performance and Social Progress*. United Nations Press

Tables and Figures

Figure 1: Percentage change in resource measure, 1985-2005 and 2005-2010

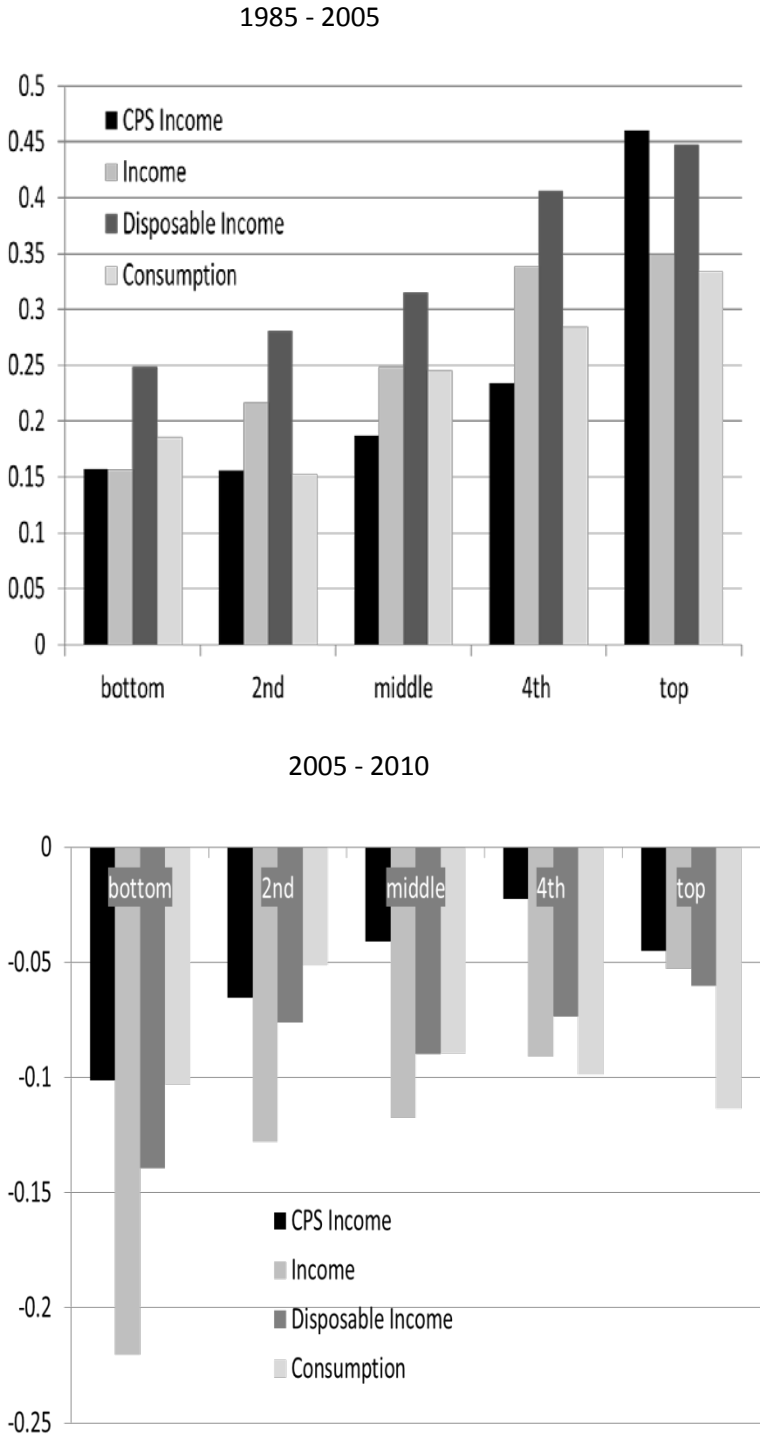
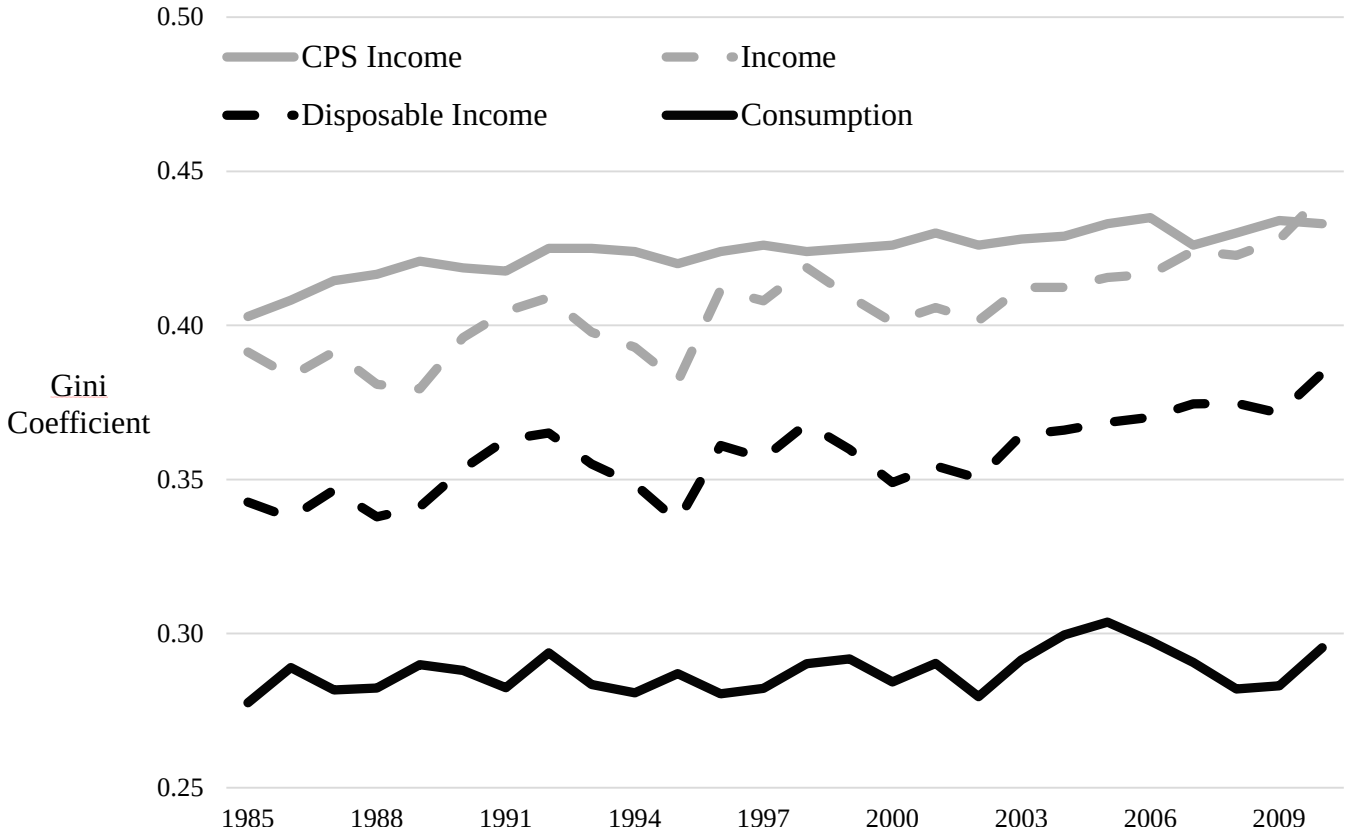


Figure 2: The trends in income and consumption inequality using the Gini coefficient



Sources: Authors' calculations from the 1985-2010 Consumer Expenditure Interview (CE) Survey and from the 1986-2011 Current Population Survey Annual Social and Economic Supplement (CPS-ASEC).

Table 1A: Frequency by Age (1985, 2005, and 2010)

INCOME

	CHILDREN			ADULTS			ELDERLY		
	1985	2005	2010	1985	2005	2010	1985	2005	2010
Q1	0.223	0.242	0.231	0.175	0.166	0.174	0.278	0.288	0.265
	(0.010)	(0.008)	(0.007)	(0.006)	(0.005)	(0.004)	(0.012)	(0.010)	(0.008)
Q2	0.250	0.237	0.244	0.174	0.177	0.177	0.214	0.240	0.225
	(0.010)	(0.008)	(0.007)	(0.006)	(0.005)	(0.004)	(0.011)	(0.009)	(0.008)
Q3	0.230	0.202	0.201	0.187	0.201	0.200	0.194	0.194	0.196
	(0.010)	(0.008)	(0.007)	(0.006)	(0.005)	(0.004)	(0.011)	(0.009)	(0.007)
Q4	0.166	0.183	0.177	0.222	0.215	0.216	0.169	0.158	0.168
	(0.009)	(0.008)	(0.007)	(0.007)	(0.005)	(0.005)	(0.010)	(0.008)	(0.007)
Q5	0.132	0.137	0.147	0.242	0.241	0.233	0.145	0.120	0.147
	(0.008)	(0.007)	(0.006)	(0.007)	(0.005)	(0.005)	(0.010)	(0.007)	(0.007)

CONSUMPTION

	CHILDREN			ADULTS			ELDERLY		
	1985	2005	2010	1985	2005	2010	1985	2005	2010
Q1	0.279	0.289	0.296	0.165	0.177	0.177	0.189	0.121	0.120
	(0.010)	(0.009)	(0.008)	(0.006)	(0.005)	(0.004)	(0.011)	(0.007)	(0.006)
Q2	0.229	0.226	0.229	0.182	0.190	0.193	0.223	0.196	0.175
	(0.010)	(0.008)	(0.007)	(0.006)	(0.005)	(0.004)	(0.012)	(0.009)	(0.007)
Q3	0.200	0.185	0.185	0.196	0.197	0.205	0.221	0.247	0.209
	(0.009)	(0.008)	(0.007)	(0.006)	(0.005)	(0.004)	(0.012)	(0.009)	(0.007)
Q4	0.158	0.170	0.157	0.219	0.208	0.209	0.204	0.225	0.246
	(0.008)	(0.007)	(0.006)	(0.007)	(0.005)	(0.004)	(0.011)	(0.009)	(0.008)
Q5	0.134	0.129	0.134	0.238	0.227	0.217	0.162	0.212	0.251
	(0.008)	(0.007)	(0.006)	(0.007)	(0.005)	(0.005)	(0.010)	(0.009)	(0.008)

Source: Based on authors' calculations from the 1985-2010 Consumer Expenditure Interview (CE) Survey.

Table 1B: Frequency for Adults with and without Children (1985, 2005, and 2010)

INCOME

	Childless Adults			Adults with Children		
	1985	2005	2010	1985	2005	2010
Q1	0.147	0.144	0.163	0.202	0.190	0.188
	(0.008)	(0.006)	(0.005)	(0.009)	(0.008)	(0.007)
Q2	0.134	0.135	0.142	0.212	0.224	0.217
	(0.007)	(0.006)	(0.005)	(0.010)	(0.008)	(0.007)
Q3	0.156	0.196	0.188	0.216	0.206	0.215
	(0.008)	(0.007)	(0.006)	(0.010)	(0.008)	(0.007)
Q4	0.242	0.221	0.226	0.203	0.209	0.204
	(0.009)	(0.007)	(0.006)	(0.009)	(0.008)	(0.007)
Q5	0.321	(0.304)	0.281	0.168	(0.171)	0.177
	(0.010)	(0.008)	(0.006)	(0.009)	(0.007)	(0.007)

CONSUMPTION

	Childless Adults			Adults with Children		
	1985	2005	2010	1985	2005	2010
Q1	0.099	0.115	0.120	0.228	0.248	0.243
	(0.007)	(0.005)	(0.005)	(0.010)	(0.008)	(0.007)
Q2	0.141	0.164	0.164	0.221	0.219	0.225
	(0.008)	(0.006)	(0.005)	(0.010)	(0.008)	(0.007)
Q3	0.179	0.202	0.210	0.212	0.192	0.199
	(0.008)	(0.007)	(0.006)	(0.010)	(0.008)	(0.007)
Q4	0.259	0.228	0.235	0.180	0.185	0.178
	(0.010)	(0.007)	(0.006)	(0.009)	(0.008)	(0.007)
Q5	0.322	0.291	0.271	0.159	0.157	0.155
	(0.010)	(0.008)	(0.006)	(0.009)	(0.007)	(0.006)

Source: Authors' calculations from the 1985-2010 Consumer Expenditure Interview (CE) Survey.

Table 1C: Frequency for Elderly Single Women (1985, 2005, and 2010)

INCOME

	Elderly Single Women		
	1985	2005	2010
Q1	0.398	0.492	0.464
	(0.025)	(0.021)	(0.018)
Q2	0.269	0.252	0.252
	(0.023)	(0.018)	(0.015)
Q3	0.159	0.126	0.133
	(0.019)	(0.014)	(0.012)
Q4	0.106	0.091	0.094
	(0.016)	(0.012)	(0.010)
Q5	0.068	(0.040)	0.057
	(0.013)	(0.008)	(0.008)

CONSUMPTION

	Elderly Single Women		
	1985	2005	2010
Q1	0.258	0.192	0.171
	(0.022)	(0.016)	(0.013)
Q2	0.228	0.252	0.190
	(0.021)	(0.018)	(0.014)
Q3	0.181	0.214	0.232
	(0.020)	(0.017)	(0.015)
Q4	0.207	0.181	0.211
	(0.021)	(0.016)	(0.014)
Q5	0.125	0.161	0.196
	(0.017)	(0.015)	(0.014)

Source: Authors' calculations from the 1985-2010 Consumer Expenditure Interview (CE) Survey.

Table 1D: Frequency by Family Type for Children (1985, 2005, and 2010)

INCOME

	In Married Households			In Single Mother Households			In Other Households		
	1985	2005	2010	1985	2005	2010	1985	2005	2010
Q1	0.202	0.140	0.143	0.311	0.598	0.513	0.287	0.438	0.402
	(0.011)	(0.008)	(0.007)	(0.031)	(0.027)	(0.025)	(0.039)	(0.028)	(0.023)
Q2	0.219	0.230	0.240	0.386	0.224	0.290	0.375	0.262	0.230
	(0.011)	(0.010)	(0.009)	(0.033)	(0.023)	(0.023)	(0.041)	(0.025)	(0.020)
Q3	0.235	0.230	0.219	0.212	0.104	0.107	0.203	0.163	0.192
	(0.011)	(0.010)	(0.008)	(0.027)	(0.017)	(0.016)	(0.034)	(0.021)	(0.019)
Q4	0.190	0.227	0.209	0.064	0.044	0.067	0.095	0.093	0.112
	(0.010)	(0.010)	(0.008)	(0.016)	(0.011)	(0.013)	(0.025)	(0.017)	(0.015)
Q5	0.154	0.172	0.189	0.027	0.031	0.023	0.040	0.043	0.063
	(0.009)	(0.009)	(0.008)	(0.011)	(0.009)	(0.008)	(0.017)	(0.012)	(0.011)

CONSUMPTION

	In Married Households			In Single Mother Households			In Other Households		
	1985	2005	2010	1985	2005	2010	1985	2005	2010
Q1	0.225	0.206	0.218	0.526	0.519	0.467	0.468	0.511	0.534
	(0.011)	(0.009)	(0.008)	(0.033)	(0.027)	(0.025)	(0.043)	(0.029)	(0.024)
Q2	0.239	0.223	0.226	0.151	0.190	0.261	0.228	0.284	0.218
	(0.011)	(0.009)	(0.009)	(0.024)	(0.021)	(0.022)	(0.036)	(0.026)	(0.019)
Q3	0.209	0.195	0.199	0.144	0.184	0.154	0.208	0.126	0.130
	(0.011)	(0.009)	(0.008)	(0.024)	(0.021)	(0.018)	(0.035)	(0.019)	(0.016)
Q4	0.177	0.209	0.186	0.124	0.071	0.076	0.053	0.062	0.083
	(0.010)	(0.009)	(0.008)	(0.022)	(0.014)	(0.013)	(0.019)	(0.014)	(0.013)
Q5	0.150	0.168	0.171	0.056	0.037	0.041	0.043	0.017	0.036
	(0.009)	(0.008)	(0.008)	(0.015)	(0.010)	(0.010)	(0.017)	(0.007)	(0.009)

Source: Authors' calculations from the 1985-2010 Consumer Expenditure Interview (CE) Survey.

Table1E: Frequency by Gender (1985, 2005, and 2010)

INCOME

	ADULT MEN			ADULT WOMEN		
	1985	2005	2010	1985	2005	2010
Q1	0.170	0.135	0.159	0.180	0.194	0.189
	(0.007)	(0.005)	(0.005)	(0.007)	(0.005)	(0.005)
Q2	0.158	0.179	0.173	0.189	0.176	0.181
	(0.007)	(0.005)	(0.005)	(0.007)	(0.005)	(0.005)
Q3	0.176	0.206	0.207	0.197	0.195	0.194
	(0.007)	(0.006)	(0.005)	(0.007)	(0.005)	(0.005)
Q4	0.232	0.227	0.219	0.213	0.204	0.213
	(0.008)	(0.006)	(0.005)	(0.007)	(0.006)	(0.005)
Q5	0.264	(0.253)	0.242	0.222	(0.231)	0.223
	(0.008)	(0.006)	(0.005)	(0.007)	(0.006)	(0.005)

CONSUMPTION

	ADULT MEN			ADULT WOMEN		
	1985	2005	2010	1985	2005	2010
Q1	0.152	0.167	0.170	0.179	0.187	0.183
	(0.006)	(0.005)	(0.005)	(0.007)	(0.005)	(0.005)
Q2	0.183	0.191	0.190	0.182	0.189	0.195
	(0.007)	(0.006)	(0.005)	(0.007)	(0.005)	(0.005)
Q3	0.192	0.198	0.209	0.199	0.197	0.201
	(0.007)	(0.006)	(0.005)	(0.007)	(0.005)	(0.005)
Q4	0.217	0.214	0.211	0.220	0.202	0.206
	(0.007)	(0.006)	(0.005)	(0.007)	(0.006)	(0.005)
Q5	0.256	0.230	0.219	0.221	0.225	0.215
	(0.008)	(0.006)	(0.005)	(0.007)	(0.006)	(0.005)

Source: Authors' calculations from the 1985-2010 Consumer Expenditure Interview (CE) Survey.

Table 1F: Frequency by Race (1985, 2005, and 2010)

INCOME

	WHITE			BLACK		
	1985	2005	2010	1985	2005	2010
Q1	0.179	0.173	0.175	0.324	0.363	0.355
	(0.006)	(0.005)	(0.004)	(0.021)	(0.016)	(0.014)
Q2	0.185	0.196	0.192	0.303	0.235	0.254
	(0.006)	(0.005)	(0.004)	(0.020)	(0.014)	(0.013)
Q3	0.207	0.206	0.206	0.171	0.185	0.177
	(0.006)	(0.005)	(0.004)	(0.017)	(0.013)	(0.011)
Q4	0.211	0.214	0.208	0.125	0.118	0.144
	(0.006)	(0.005)	(0.004)	(0.015)	(0.011)	(0.010)
Q5	0.218	0.211	0.219	0.077	0.098	0.070
	(0.006)	(0.005)	(0.004)	(0.012)	(0.010)	(0.007)

CONSUMPTION

	WHITE			BLACK		
	1985	2005	2010	1985	2005	2010
Q1	0.153	0.173	0.171	0.498	0.386	0.395
	(0.006)	(0.005)	(0.004)	(0.022)	(0.017)	(0.014)
Q2	0.200	0.186	0.192	0.225	0.299	0.262
	(0.006)	(0.005)	(0.004)	(0.018)	(0.016)	(0.013)
Q3	0.209	0.210	0.203	0.137	0.150	0.162
	(0.006)	(0.005)	(0.004)	(0.015)	(0.012)	(0.011)
Q4	0.216	0.214	0.214	0.093	0.107	0.107
	(0.006)	(0.005)	(0.004)	(0.013)	(0.010)	(0.009)
Q5	0.223	0.218	0.220	0.048	0.058	0.074
	(0.006)	(0.005)	(0.004)	(0.009)	(0.008)	(0.008)

Source: Authors' calculations from the 1985-2010 Consumer Expenditure Interview (CE) Survey.