Inequality in 3-D: Income, Consumption, and Wealth

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Paper Abstract: This paper is the first to study inequality in three dimensions, focusing on the conjoint distributions of income, consumption, and wealth for the same individuals. Here we examine all three measures of inequality using the 1999-2011 Panel Study of Income Dynamics (PSID) and the 1989-2013 SCF matched to the CEX. We use PSID because it contains income and wealth since the mid-1980s, and consumption was added in 1999. The PSID allows for longitudinal analysis and intra- and inter-generational mobility issues not feasible with any other dataset. Then we move to the SCF with matched data from the CEX on household expenditures We first measure the level and trend in inequality in income, consumption, and net worth, comparing our results to existing research. Then we examine the pairwise distributions of our measures and how these have changed over time, and relate them to the life-cycle budget constraint of income less consumption equaling the change in net worth.

We are especially focused here in the role of wealth as its stock nature needs to be more fully integrated into and with the flows from consumption and income. The nature of wealth transfer across households and generations is studied both in terms of in-vivos transfers as well as by inheritance.

For the joint distribution of income and consumption, we see the twin peaks phenomenon seen in the relative mobility literature, which means that it means that those in the bottom (top) of the income distribution are more likely to also be in the bottom (top) of the consumption distribution. There is less of a correlation between income and wealth in the bottom of the distribution, but there is a strong correlation between wealth and income at the top of the distributions. Similar results are seen when we look at the correlation of income and consumption by wealth quintile. We find that in the 2011 PSID, of the 30 percent of people in the bottom two quintiles of income and consumption, two-thirds are also in the bottom two quintiles of wealth, and similarly for the top two quintiles.

We also show results in line with the research that focuses on the shares. We show the share of income held by top 5% of income, and we show the share of consumption and wealth by those in top 5% of income distribution. We conduct similar exercises showing using the top 5% of the wealth distribution using the SCF-CEX match. Here we see that 51% of U.S. net worth is held by the top 5% of the income distribution, and 52% of net worth is held by the top 5% of the consumption and 63 percent of net worth is held by the top 5 percent of the wealth distribution. This relationship allows us to quantify the way that wealth and income inequality affect consumption in the aggregate.

With all three measures for the same households, we can construct a Haig-Simons income measure, where income is the capacity to consume without drawing down wealth. For the Haig-Simons measure the following identity holds, where income (I) equates to consumption (C) in a given period, and the difference between them is the change in net wealth (ÄNW). This allows for both savings and borrowing to balance consumption and income: $I = C + ÄNW$.

Finally, with these three measures and the panel nature of the PSID, we examine the relationship between the changes in consumption and income and consumption and net worth, and find a positive   correlation

Examining inequality in three dimensions demonstrates that only using one dimension misses important interactions. Those in the top of the income distribution are also disproportionately at the top of the consumption distribution and wealth distribution.