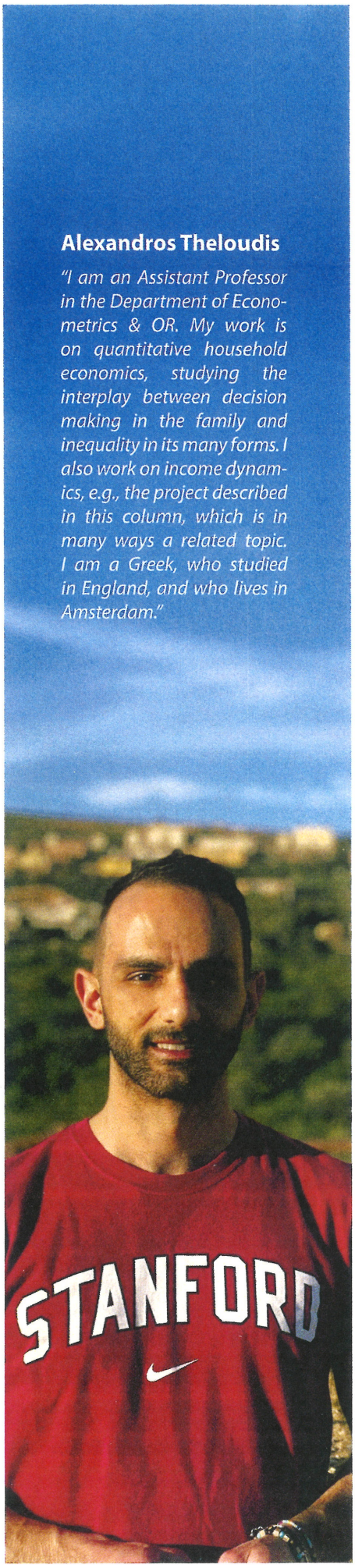
# The Response of Household Consumption to Large Income Shocks

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*"I am an Assistant Professor in the Department of Econometrics & OR. My work is on quantitative household economics, studying the interplay between decision making in the family and inequality in its many forms. I also work on income dynamics, e.g., the project described in this column, which is in many ways a related topic. I am a Greek, who studied in England, and who lives in Amsterdam."*




**How does consumption respond to income shocks? Household income is often uncertain, it fluctuates. Consider two different income shocks: an unexpected promotion that raises one's income; a job loss that reduces one's income to unemployment benefits. The first is a good income shock, while the second is undoubtedly bad.**

The extent to which these income fluctuations pass through to consumption is important because households typically enjoy utility from consumption rather than from income. Understanding how consumption responds to income shocks is thus important for understanding how families get by following adverse events, but also for designing government insurance, unemployment benefits, etc.

Over the course of their lifetime, most households experience income shocks (i.e., unexpected income changes) that are either negligible or quite bad. This is true for the U.S., the Netherlands, and other developed countries. Given this nature of income risk, I investigate, together with Anisha Ghosh from McGill University, the extent to which said shocks translate into consumption fluctuations.

**Income shocks in the data**

Recent studies find that the distribution of income shocks is negatively skewed and highly leptokurtic. Negative skewness means that far more households in the data face extremely bad than extremely good shocks; high kurtosis means that far more households in the data experience large rather than moderate income shocks. Together, negative skewness and high kurtosis imply that a typical income shock is either rather negligible or quite bad. These are benchmark results in the literature that have been replicated across many countries. If most income shocks are either negligible or rather extreme, their implications for consumption may be vastly different from a situation in which most shocks were moderately good or moderately bad.

**Transmission of shocks into consumption**

Richard Blundell, Luigi Pistaferri, and Ian Preston (BPP hereafter) introduced a methodology to measure the pass-through of income shocks into consumption. BPP relies on the covariance between unexpected income and consumption changes, namely a second moment of the joint distribution of consumption and income. Their idea is that if unexpected income changes (namely income shocks) vary together with unexpected consumption changes, the strength of this covariance is informative of the extent of transmission of income shocks into consumption. Yet, if income shocks exhibit negative skewness and excess kurtosis, both of which are statements about the third and fourth order moments of the income distribution, identifying the transmission of shocks into a consumption based on second moments alone (i.e., BPP's workhorse covariance) may be misleading. This is precisely what I address in my paper.

**Our findings from the modern PSID**

In Consumption Partial Insurance in the Presence of Tail Income Risk I measure the consumption response to income shocks when the distribution of shocks exhibits non-normality's, such as skewness and kurtosis. I derive a nonlinear consumption function that, consistent with a lifecycle model of consumption in the presence of income risk, links consumption fluctuations to income shocks. Our consumption function generalizes the model in BPP and a sequence of papers thereafter. Unlike BPP, whose consumption function features a single pass-through parameter for shocks, no matter how large/small or bad/good the shocks are, the generalized function allows different types of shocks to affect consumption differently.

I estimate the consumption function targeting the second, third, and fourth moments of the joint distribution of consumption and income in the PSID over the years 1999-2019. By introducing third & fourth moments, I thus go beyond BPP's income-consumption covariance and exploit information in the tails of income risk. My findings suggest that bad shocks are more unsettling, and more harmful for consumption than good ones. For example, a 45% income cut (a 3σ bad shock) reduces consumption by 17%, while a 45% income gain (a 3σ good shock) increases it by only 9%. Moreover, the larger the bad shock, the larger its pass-through into consumption. Tail income risk (extreme income shocks) thus matters quite substantially for consumption. ●