Comments on “How do Households Respond to Income Shocks?”
by D. Krueger and F. Perri

Xavier Gine
World Bank

CFSP Conference, Bretton Woods
What is the goal of paper?

• Question:
  – What do households do when faced with income shocks?
    • Model 1 (Arrow-Debreu): Individual consumption depend on aggregate income process.
    • Model 2 (Friedman PIH): Consumption depends on individual income process.

– Most models use income and consumption data
– This paper uses detailed data on wealth to assess the response on both consumption and wealth.
So what?

• Use of wealth is important because models make opposing predictions about the size of short and long term response of wealth to income shocks.
What does the paper do?

• Document correlations between income and consumption and wealth
  – Positive correlation between income and consumption, but consumption does not react much
  – Positive and strong correlation between income and wealth, particularly real estate and business wealth

• Write down a standard PIH model with quadratic utility
  – Estimate consumption and wealth responses to income shocks using sample of households that do not own businesses nor real estate.
  – For this sample PIH does a good job
    • 23 cent change in consumption to 1 euro change in income
      -> Idiosyncratic shocks are important
What does the paper do?

• Write down a buffer stock model with precautionary motives and no borrowing
  – Response of wealth over different horizons suggest this model does not fit the data.
Where I’m less convinced

• Are income shocks exogenous?
  – Individuals with different taste for risk may select into occupations with different income profiles
  – Even within the same occupation, choice of income profile may be relevant.
    • In a sample of boatowners in Tamilnadu, CV of monthly catches from 2005-2010 related to wealth and education measured in 2004.

• Decision to own a house (or a business) is endogenous as well.
  – In some models owning a house or renting may not matter, but if there are frictions, it will.
Where I’m less convinced

• Empirics
  – Bivariate regression may be misspecified for models other than the PIH.
    • In the presence of borrowing constraints, consumption is driven by the income shock as well as current wealth.

• Aggregate vs idiosyncratic shocks
  – The N=2 PIH estimates suggested that shocks were mostly idiosyncratic.
  – However, co-movements between real estate wealth and income suggest aggregate shocks could be important. So what is it?
Where I’m less convinced

• Real estate wealth
  – I would have expected changes in (more) liquid assets to co-move more with income, as they can be used as buffer
    • Result on business wealth may confirm this
  – Conjecture that value of real estate may be correlated with income.
    - But only 11% are homeowners and do not adjust the stock
    - Do self-employed work where they live, and are they more likely to adjust?
    - Price of housing units in the US exhibits fluctuations over time but they tend to be small
Other thoughts...

• What would a cohort analysis using the Italian data deliver?
  – Evidence of consumption inequality could be used as a test of the models

• Exploit higher N differences to estimate the parameters of interest.

• Use of confidence intervals to bound model predictions

• Are shocks unanticipated?
  – In the presence of borrowing constraints, savings and asset accumulation are sensitive to consumer expectations about the stochastic process governing income (Deaton 1991)
   • If labor income is iid, then assets play the role of buffer, so consumption is smooth. If labor income is autocorrelated, the less scope for smoothing.
Other thoughts

– More in general, estimates may confound “superior” information with insurance
  • Consumption may react little to income changes either because shock was anticipated and thus already incorporated in optimal plan or because the agent has the ability to smooth consumption

– Solution: Combine data on realizations with expectations (Kaufmann and Pistaferri)
  • Caveat: This assumes that expectations are unbiased
Mean and SD of Realized and Subjective Distributions

![Graph showing the relationship between Mean of Subjective Distribution and Mean of Realized Distribution, with another graph showing the relationship between S.D. of Subjective Distribution and S.D. of Realized Distribution. The graphs distinguish between Pre-determined support and Self-anchored support with different markers.](image)
How could a development economist use this paper?

• Nice approach:
  – Use data to discriminate against two theories
  – Simple PIH model and a model with precautionary savings and borrowing constraints.
    • I would have liked a bit more discussion about the choice of the consumption model. PIH vs Buffer stock vs Insurance model

• There are data sets available in developing countries!
How could a development economist use this paper?

• But, policy implications are far less clear if people choose the income risk profile

• Build a model that takes occupational choice and housing into account to deliver precise welfare impacts