Assessing Household Wellbeing: Comparing Consumption- and Income-based Measures for Farm and All U.S. Households using USDA ARMS and BLS CE Surveys

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Road map

• Project experience using CE data
  – Research context and questions
  – Findings, products to date
  – Future plans

• Challenges and recommendations
  – Project dimension context: time, geography and demography
  – Challenges in using CE data
  – Desirable sample and data features
Research context

• ERS indicators and research program on farm household well-being
  – Major data resource: Agricultural Resource Management Survey
  – Historical focus: income, wealth indicators

• Recent projects have expanded focus, to include consumption and health.
**Issue: Measuring relative well-being of farm and all U.S. households**

- **Question**: Does relative well-being differ using consumption and income measures?
  - *Money income*: measure of resources
    - Most commonly used in developed countries
  - *Consumption*: measure of standard of living
    - Due to income smoothing to maintain standard of living over time, provides a better indicator of lifetime standard of living

- **Hypothesis**: they do differ, because past research indicates divergence greatest where:
  - Substantial share of resources is from other than money income, and/or
  - Income is highly variable
Findings

• Use of consumption measure, rather than expenditure proxy, makes a difference for farm hh: housing measures differ substantially.

• Income and consumption well-being measures tell different stories about relative well-being of farm and all U.S. households:
  – Comparing univariate distributions for two populations:
    • Income: farm households are better off (except at first decile) based on income, though income is more variable
    • Consumption: farm household well-being looks comparable
  – Comparing bivariate distributions for individual hh:
    • Income, a measure of household resources, is a less effective proxy for standard of living for individual farm households,
      – Particularly those that rely more heavily on farm income
Average consumption levels, unlike average expenditures, were comparable among farm and all U.S. households in 2006.

In 2006, household incomes were higher for farm households relative to all U.S. households, at all deciles except the first.

In 2006, consumption levels were comparable for farm and all U.S. households. Per-person equivalent-consumption:

- All U.S. households: $40,000, $60,000, $80,000
- All farm households: $20,000, $40,000, $60,000

Two-way distributions of household well-being: Income is a less effective proxy for consumption for farm households, 2006

<table>
<thead>
<tr>
<th>Farm operator households</th>
<th>All U.S. households</th>
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Note: Values in the cells are row percents, and sum to 100% across the row.
Outputs to date

• Presentations: *Agricultural and Applied Economics Association* 2009 annual meeting

• Publications:
Future goals

• Report consumption measure estimates for subsequent years – comparing farm to all U.S. households
  – International interest in developing statistical standards for farm hh consumption reporting

• Conduct further statistical analysis

• Incorporate TAXSIM to calculate disposable income
International interest in farm household consumption measure

• Wye City Group On Statistics on Rural Development and Agriculture Household Income
  – Under aegis of U.N. Statistics Division, a group of international experts, mainly from national statistical agencies, focused on improving and expediting international standards development for statistical methodologies. [http://unstats.un.org/unsd/methods/citygroup/index.htm]

• The Global Strategy to Improve Agricultural and Rural Statistics, developed under the auspices of the U.N. Statistical Commission.
Experience with CE data

• CE Interview Survey micro data files
• Geography/demography dimensions:
  – Reported results in the national level,
  – *plus* created a farm household sub-sample to compare against ARMS farm households (though CE sample diverged from ARMS sample on key characteristics).

• Time period: CY 2006
Challenges in using CE data - 1

• **Sample attrition and weighting**: Weights are provided on a quarterly basis.
  – Given sample attrition, the weights do not generate a nationally representative sample for CUs with complete panel data (across all quarterly interviews).
Challenges in using CE data - 2

- **Calculation of standard errors:** For analysis pooling all available quarterly observations, standard errors of annual expenditure estimates are calculated treating all observations as independent.
Desireable data features

• Enable calculations of annual (12-month) consumption expenditures for each CU
• Provide current value of each vehicle (as Q1 interview, as for housing)
• Report disposable income components, for example, calculated using TAXSIM
• Provide expenditures, incomes, assets and liabilities for the same time period