



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.

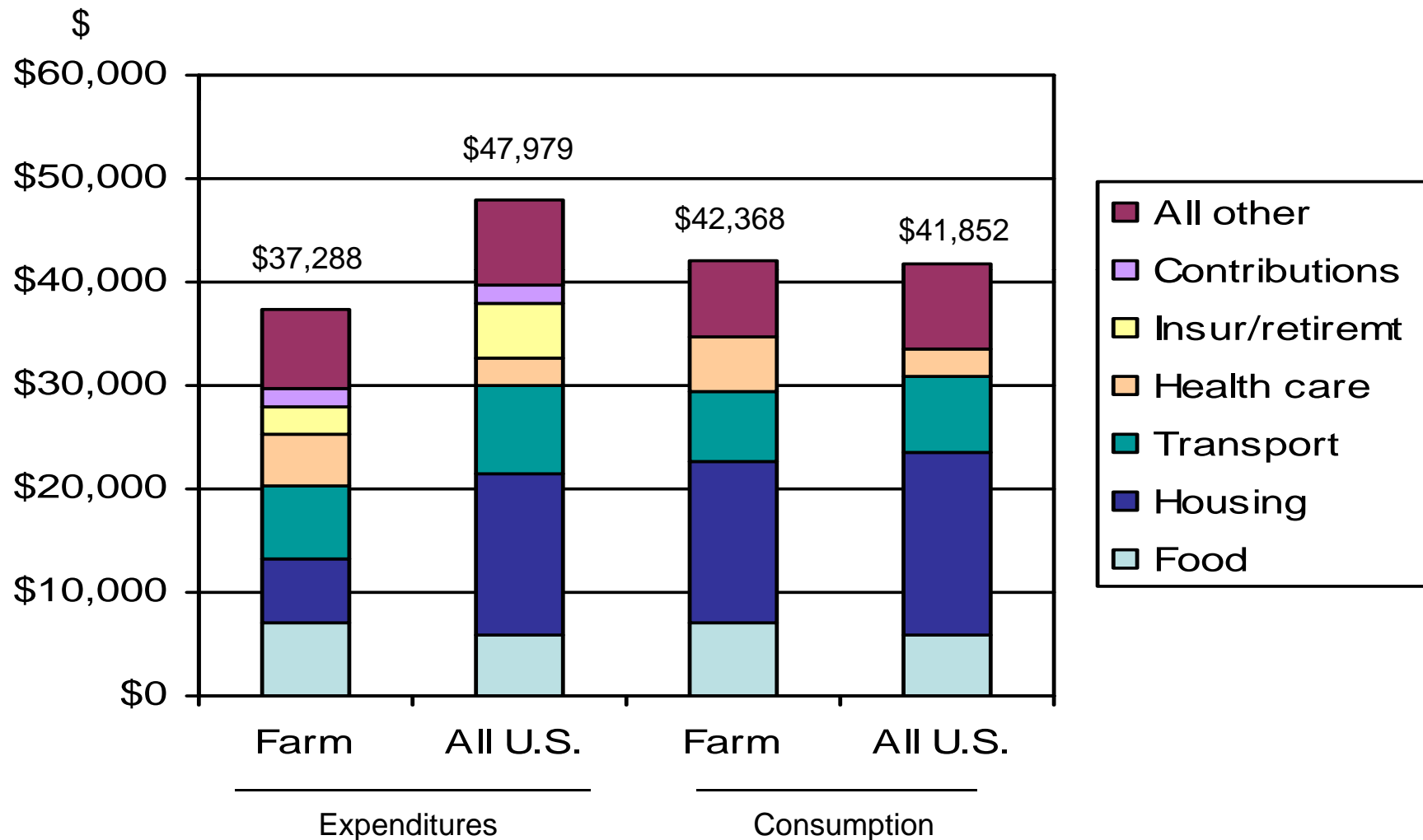
Issue: Measuring relative well-being of farm and all U.S. households

- *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

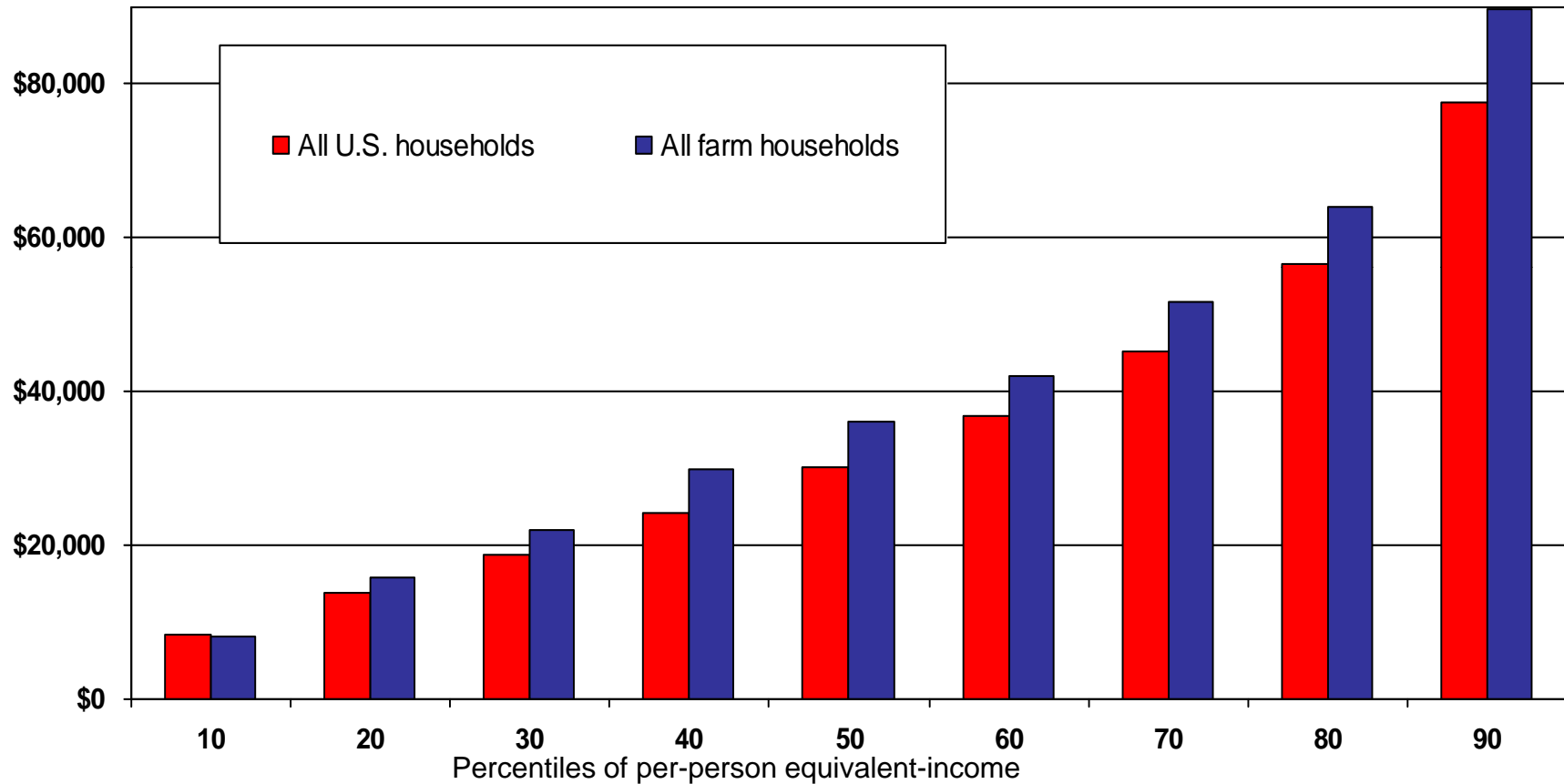
Average consumption levels, unlike average expenditures, were comparable among farm and all U.S. households in 2006



Source: USDA, Economic Research Service using Agricultural Resource Management Survey 2006, and Bureau of Labor Statistics' Consumer Expenditure Survey, 2006.

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

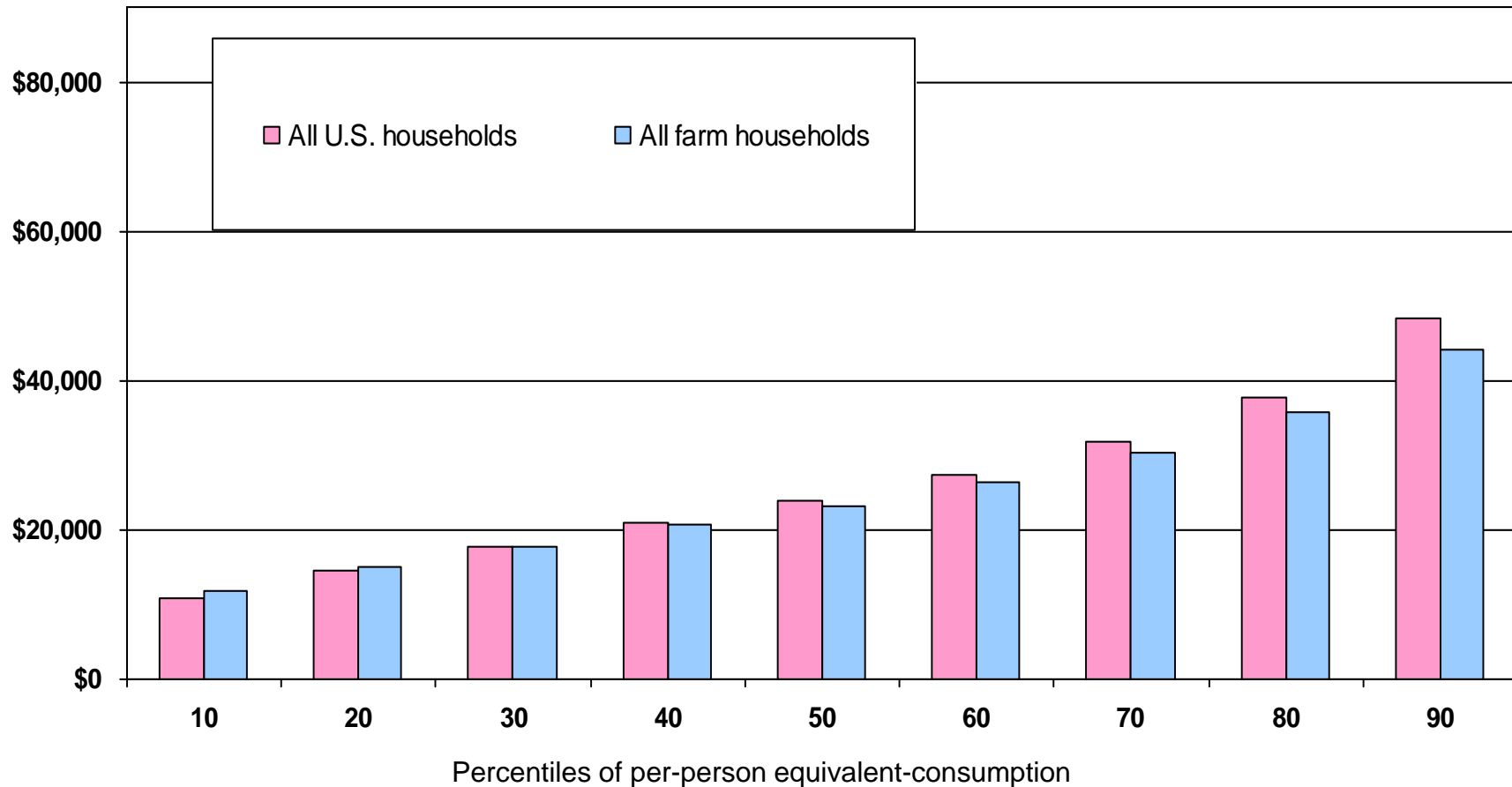
Per-person equivalent-income



Source: USDA, Economic Research Service and National Agricultural Statistics Service's Agricultural Resource Management Survey, 2006 and Bureau of Labor Statistics' Consumer Expenditure Survey, 2006.

In 2006, consumption levels were comparable for farm and all U.S. households

Per-person equivalent-consumption



Source: USDA, Economic Research Service and National Agricultural Statistics Service's Agricultural Resource Management Survey, 2006 and Bureau of Labor Statistics' Consumer Expenditure Survey, 2006.

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

Farm operator households

Y-eq	Consumption - eq				
Quin- tiles	20	40	60	80	100
20	38	23	12	14	13
40	28	22	27	13	10
60	18	26	22	23	10
80	7	17	25	23	28
100	8	11	15	27	38

All U.S. households

Y-eq	Consumption - eq				
Quin- tiles	20	40	60	80	100
20	57	21	10	6	5
40	27	31	22	12	7
60	12	28	29	20	12
80	3	16	27	33	21
100	1	4	12	29	55

Note: Values in the cells are row percents, and sum to 100% across the row.

Source: USDA, Economic Research Service and National Agricultural Statistics Service's Agricultural Resource Management Survey, 2006 and Bureau of Labor Statistics' Consumer Expenditure Survey, 2006.

Outputs to date

- Presentations: *Agricultural and Applied Economics Association* 2009 annual meeting
- Publications:
 - Jones, Carol Adaire, Daniel Milkove, and Laura Paszkiewicz, *Measuring Farm Household Wellbeing: Comparing Consumption and Income Measures. ERR-91*, U.S. Dept. of Agri., Econ. Res. Serv., 2010.
<http://www.ers.usda.gov/Publications/ERR91/>
 - Data Feature: “Measures of Farm Household Well-Being Tell Different Stories”, *Amber Waves*, 3/2010. (ERS’ magazine for non-specialist readers.)
<http://www.ers.usda.gov/AmberWaves/March10/DataFeature/>

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.
 - <http://wiki.asfoc.ibge.gov.br/Default.aspx?AspxAutoDetectCookieSupport=1>

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