Characterizing Participation in Conservation Programs

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Workshop on Data Needs for Agri-Environmental Policy Modeling and Analysis
October 15, 2007
Motivation

• “To increase adoption of conservation practices, the Administration proposes reserving 10 percent of farm bill conservation assistance for beginning farmers [and] socially disadvantaged producers…”
  – USDA 2007 Farm Bill Proposals, p. 57
Motivation

• Examining beginning and socially-disadvantaged producer participation
  – How many enrolled
  – Geographic distribution
  – Types of practices
  – Resource concerns addressed
  – Cost of contracts
EQIP and “Socially-Disadvantaged” producers

• Focus on EQIP cost-share funding for structural practices
• Who are “socially-disadvantaged” producers?
  – Initially use Limited-Resource Producers
• Primary data resources:
  – Protracts
  – ARMS
The Data Environment

• Protracts:
  – Detailed EQIP contract data
  – Description of practices and resource concerns
  – Contract cost information
  – Includes BF and LRP designation
  – No other household/individual information

• ARMS
  – Producer survey, regardless of participation
  – Detailed production and household information
  – Limited information about conservation programs
Highlights of Results

• LRP appear to be underrepresented in EQIP:*
  
  4.0% of EQIP contracts are LRP
  9.9% of surveyed farms (ARMS) are LRP

Average cost share payment and total cost of practices in 2006, by Limited Resource Producer status

## Frequency of Resource Concerns, by Producer Type

<table>
<thead>
<tr>
<th>Resource Concern</th>
<th>Plant Condition</th>
<th>Soil Erosion</th>
<th>Domestic Animals</th>
<th>Water Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRP</td>
<td>27.6</td>
<td>17.4</td>
<td>21.7</td>
<td>13.0</td>
</tr>
<tr>
<td>Non-LRP</td>
<td>24.1</td>
<td>18.7</td>
<td>17.6</td>
<td>17.4</td>
</tr>
</tbody>
</table>

Highlights of Results

• LRP appear to be underrepresented in EQIP
• Average cost share amounts similar, but average practice costs lower for LRP
• LRP address slightly different resource concerns
Taking Stock

• What we have:
  – Relative participation of LRP
  – Geographic distribution of participants
  – Comparison of costs between LRP and other producers
  – Conservation practices

• What we do not have
  – Within-group comparisons: are participants and non-participants different?
  – Household and individual characteristics
  – Farm, production, and field characteristics
Filling in the Gaps

• Individual and household characteristics to assess differences between participants and non-participants
  – Education
  – Race and Hispanic origin
  – Employment status
Filling in the Gaps

• Why do we need individual characteristics?
  – Filling in the “cells”: A hypothetical scenario

<table>
<thead>
<tr>
<th></th>
<th>Non-Participants</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRP</td>
<td>High-school education</td>
<td>College education</td>
</tr>
<tr>
<td>Non-LRP</td>
<td>College education</td>
<td>College education</td>
</tr>
</tbody>
</table>
Filling in the Gaps

• Farm and field characteristics in Protracts
  – Size of operation
  – Acres benefiting from conservation practice
  – Link to underlying resource conditions
Filling in the Gaps

• Why do we need farm/field characteristics?
  – Scaling of costs: Another hypothetical

<table>
<thead>
<tr>
<th>Producer Type</th>
<th>Avg. Item Cost</th>
<th>Avg. Acres Benefit</th>
<th>Cost per Acre Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>LRP</td>
<td>$5,006</td>
<td>50</td>
<td>$100.12</td>
</tr>
<tr>
<td>Non-LRP</td>
<td>$7,189</td>
<td>60</td>
<td>$119.82</td>
</tr>
</tbody>
</table>
Conclusions

• Summary:
  Need for basic individual, household, and farm level characteristics linked to contract info

• What else can we do with this information?
  – Modeling participation