# Consumer Use, Perceptions, and Demand Impacts of Alternative Animal Information Sources

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# Background

- Animal welfare is a growing issue with U.S. residents
  - State-specific changes: FL, AZ, OR, CO, CA
- Chino, CA – Westland/Hallmark processing plant case (1/08')
  - Triggered calls for increased gov't surveillance of animal handling at public transaction points
- Animal welfare & handling information reaches consumers from a range of sources
  - Perceptions of accuracy across entities is unknown
    - Industry – lack of separation; serving self-interest in claims???
    - Consumer Groups – seeking to stop all meat production???
    - Government and University – ???

# Research Design/Data Used

- Two online, national surveys of U.S. residents
  - August 2008 (n=1,007)
    - Focused on dairy demand issues
    - Also compares food safety & animal welfare information use and accuracy perception
  - Oct./Nov. 2008 (n=2,001)
    - Immediately before Proposition 2 vote in CA.
    - Evaluate consumption changes b/c of animal welfare
    - Examine animal welfare information accuracy and ability of entities to influence animal welfare

# Relative Accuracy of Animal Welfare & Food Safety Information Sources
## (1=Very Inaccurate, …, 7=Very Accurate)

|                        | Mean AW | Mean FS |
|------------------------|---------|---------|
| Univ. Scientists       | 3.39    | 3.43    |
| HSUS                   | 3.38    | 3.27    |
| Farm groups            | 3.25    | 3.23    |
| Other consumer groups  | 3.18    | 3.24    |
| PETA                   | 2.95    | 2.88    |
| Agribusiness           | 2.92    | 2.92    |
| State govt             | 2.79    | 2.85    |
| Federal govt           | 2.71    | 2.82    |

# Factor Analysis of Information Accuracy by Source

- Four groups of similar source confidence for animal welfare and food safety:
  - State and Fed Gov't
  - HSUS and PETA
  - Farmers and Agribusiness
  - University

- Suggests that perceptions on info accuracy are driven by source rather than whether animal welfare or food safety information is being assessed

Source: Aug. 2008 Survey of 1,007 US residents

# Perceived Animal Welfare Information Accuracy
## (1=Very Inaccurate, …, 7=Very Accurate)

| | |
|---|---|
| The Humane Society of the U.S. (HSUS) | 4.93 |
| University Scientists/Researchers | 4.47 |
| People for the Ethical Treatment of Animals (PETA) | 4.22 |
| National Milk Producers Federation (NMPF) | 4.20 |
| U.S. Poultry & Egg Association | 4.18 |
| National Cattlemen's Beef Association (NCBA) | 4.11 |
| United Egg Producers (UEP) | 4.10 |
| National Pork Producers Council (NPPC) | 4.07 |
| State Governmental Agencies | 4.00 |
| Federal Governmental Agencies | 4.00 |

Source: Oct/Nov 2008 Survey of 2,001 US residents

# Perceived Ability to Influence and Assure Animal Welfare (1=Very Low Ability, …, 7=Very High Ability)

| | |
|---|---|
| Farmer/Grower | 5.33 |
| Government Inspectors/Regulators | 5.16 |
| The Humane Society of the U.S. (HSUS) | 5.00 |
| Meat or Milk Processor | 4.68 |
| Animal Industry Representative Groups | 4.58 |
| People for the Ethical Treatment of Animals (PETA) | 4.44 |
| Consumer – Food Purchaser | 4.38 |
| Retail Grocer | 3.71 |
| Food Service Restaurant | 3.59 |

Source: Oct/Nov 2008 Survey of 2,001 US residents

# Factor Analysis of Accuracy & Ability to Influence Animal Welfare:

- Factor analysis generates smaller set of variables (6) summarizing perceptions (19):
  - F1_Info – "Industry" (producer groups)
  - F2_Info – "Government & University"
  - F3_Info – "Consumer Groups"

  - F1_Ability – "Food Preparation" (grocer, restaurant, consumer)
  - F2_Ability – "Supply Chain" (farmer, processor, and gov't inspector)
  - F3_Ability – "Consumer Groups"

Source: Oct/Nov 2008 Survey of 2,001 US residents

# Which of these sources do you most frequently use in obtaining information:

|  | AW | FS |
|---|---|---|
| HSUS | 24% | 3% |
| Other | 18% | 14% |
| Federal governmental agencies | 14% | 40% |
| Other consumer groups | 12% | 18% |
| University Scientists | 11% | 12% |
| PETA | 9% | 2% |
| Farmers or farm groups | 8% | 4% |
| State governmental agencies | 5% | 6% |
| Agribusinesses | 2% | 1% |

Source:  Aug. 2008 Survey of 1,007 US residents

# Which form of media do you most frequently use in obtaining information:

| | AW | FS |
|---|---|---|
| Television news | 37% | 40% |
| Newspapers/magazines | 14% | 12% |
| Internet news sites | 21% | 19% |
| Radio | 3% | 2% |
| Consumer group web-sites | 8% | 8% |
| Government web-sites | 3% | 7% |
| Agricultural Industry web-sites | 4% | 5% |
| Other | 11% | 6% |

"Please indicate if you have reduced consumption over the past three years of the following products because of concerns with the well-being and handling of farm animals."
(If yes, what % have you reduced consumption?)

|  | Proportion Reducing | Conditional Reduction Percentage |
|---|---|---|
| Pork | 25% | 48% |
| Poultry | 16% | 34% |
| Beef | 31% | 43% |
| Egg | 18% | 39% |
| Milk | 15% | 45% |

# Double-Hurdle Model Results

## PORK CONSUMPTION

| Elasticities w/r/t: | Participation | Conditional Level | Unconditional Level |
|---|---|---|---|
| Age | -0.26* | -0.10* | -0.36* |
| Income | | 0.01 | 0.01 |
| F1_Info: Industry | -0.74* | -0.33* | -1.06* |
| F2_Info: Gov't & Univ. | -0.11 | -0.05 | -0.16 |
| F3_Info: Consumer Groups | 0.56* | 0.26* | 0.81* |
| F1_Ability: Food Preparation | 0.32* | 0.14* | 0.45* |
| F2_Ability: Supply Chain | -0.60* | -0.19* | -0.79* |
| F3_Ability: Consumer Groups | 0.45* | 0.08 | 0.53* |
| | | | |
| Marginal Effects of: | | | |
| Female | 0.04* | 2.62* | 2.66* |
| College Degree | -0.03 | -1.63 | -1.66 |

# Double-Hurdle Model Results

| Elasticities w/r/t: | # of Goods w/ Sig. Effects |
|---|---|
| Age | 3 |
| Income | 1 |
| F1_Info: Industry | 5 |
| F2_Info: Gov't & Univ. | 2 |
| F3_Info: Consumer Groups | 5 |
| F1_Ability: Food Preparation | 5 |
| F2_Ability: Supply Chain | 2 |
| F3_Ability: Consumer Groups | 5 |
| | |
| Marginal Effects of: | |
| Female | 3 |
| College Degree | 0 |

# QUESTIONS

# Probability of Reducing Consumption
## (5 Univariate Probits & Multivariate)

- Higher for:
  - Female (4/5), Younger (3/5)
  - Lower Income (4/5), Less Kids (3/5)
  - Lower Consuming (5/5)

  - Not seeing industry (5/5) or government (5/5) as accurate
  - Seeing consumer groups as accurate (5/5)

# Amount of Consumption Reduction
## (5 Univariate Tobits & Multivariate)

- Higher for:
  - Female (5/5), Younger (3/5)
  - Lower Income (5/5),
  - Lower Consuming (5/5)

  - Not seeing industry (5/5) or government (5/5) as accurate
  - Seeing consumer groups as accurate (5/5)