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Willingness to Pay for Sustainably Labeled Foods: A Measurement Comparison

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Background

Sustainable food labels have rapidly grown in popularity over the past decade. However, there is currently no government agency overseeing certification of these production methods. Many foods labeled as sustainably produced carry a label endorsed by third-party certification programs, such as Food Alliance. For the past 18 years, Food Alliance has been deemed the most comprehensive and credible voluntary sustainable food certification program in North America funded completely through grant support.

Alternative agricultural production systems generate value-added food attributes that provide consumers with varying degrees of utility stemming from their environmental, economic, and social impacts. If these farms are to remain viable and contribute to food and farm system sustainability, they may need to exploit these kind of high-valued niche markets. However, a firm's ability to differentiate their product depends critically on understanding how such a credence labeling scheme is perceived by the consumer.



<http://www.foodalliance.org>

Objectives

- ❖ Identify which attributes of food system sustainability are most important to consumers
- ❖ Estimate willingness to pay (WTP) for sustainably labeled foods
- ❖ Compare WTP across hypothetical and non-hypothetical situations
- ❖ Determine if consumers differentiate between sustainable, organic, and local food labels
- ❖ Develop a set of recommendations for stakeholders in the implementation of a "sustainably produced" marketing plan

Methods

This study uses complementary stated and revealed choice methods to measure consumer preferences for sustainably labeled foods offered alongside their "organic" and "local" counterparts. The juxtaposition of the hypothetical and non-hypothetical results enhances the reliability of economic analysis and marketing recommendations. Collectively, these two approaches are believed to yield a more detailed understanding of consumer behavior.

❖ SURVEY INSTRUMENT

- Two product versions:
 - Apples
 - Beef (Steak)
- Survey design
 - Demographics and purchasing history
 - Best-Worst: Perceptions
 - **Choice Experiment: Preferences**
 - With "opt-out"

Attribute	Attribute Levels
Label	Sustainable, Organic, Local, Typical
Certification	USDA, Private Third Party, Self
Price	Low (\$0.99/lb, \$5.99/lb) Medium (\$1.49/lb, \$8.99/lb) High (\$1.99/lb, \$11.99/lb)

Estimation Method: Mixed Logit

$$\text{Choice} = \beta \text{ Price} + \gamma_1 \text{ Cert_P} + \gamma_2 \text{ Cert_S} + \delta_1 \text{ Label_S} + \delta_2 \text{ Label_O} + \delta_3 \text{ Label_L} + \delta_4 \text{ Label_T} + \epsilon$$

❖ EXPERIMENTAL AUCTIONS

- 76 participants
 - Recruited from Lansing, MI area grocery stores
 - Show up = \$25 Gift Certificate to place of recruitment
 - \$30 bidding endowment
- Complete survey
- Four food displays (MSU Livestock Pavilion)
 - Varied by label (Sustainable, Organic, Local, Typical)
- Series of eight Vickrey auctions (order randomized)
 - Apples (Sustainable, Organic, Local, Typical)
 - Steak (Sustainable, Organic, Local, Typical)

Results

1002 households across the U.S. participated in the online survey alone. A subset of 76 Lansing, MI area, primary food shoppers took the survey and participated in a series of experimental auctions in a laboratory setting. Their hypothetical and non-hypothetical responses are detailed here:

WTP for Apples

Sample	Survey Only		Survey and Experiment	
	Hypothetical		Hypothetical	Auction
WTP Measure				
Sustainable (Premium)	\$1.67/lb (\$0.55/lb)		\$1.85/lb (\$3.12/lb)	\$1.49/lb (\$0.61/lb)
Organic (Premium)	\$1.71/lb (\$0.59/lb)		\$1.89/lb (\$3.17/lb)	\$1.55/lb (\$0.67/lb)
Local (Premium)	\$1.79/lb (\$0.67/lb)		\$1.81/lb (\$3.08/lb)	\$1.39/lb (\$0.51/lb)
Typical	\$1.12/lb		-\$1.26/lb	\$0.88/lb

WTP for Beef (Steak)

Sample	Survey Only		Survey and Experiment	
	Hypothetical		Hypothetical	Auction
WTP Measure				
Sustainable (Premium)	\$7.61/lb (\$2.66/lb)		\$7.27/lb (\$6.50/lb)	\$6.45/lb (\$2.28/lb)
Organic (Premium)	\$7.58/lb (\$2.63/lb)		\$7.29/lb (\$6.52/lb)	\$6.67/lb (\$2.50/lb)
Local (Premium)	\$7.66/lb (\$2.71/lb)		\$7.40/lb (\$6.63/lb)	\$5.87/lb (\$1.70/lb)
Typical	\$4.95/lb		\$0.77/lb	\$4.17/lb

❖ Krinsky-Robb bootstrapping techniques on both hypothetical and non-hypothetical samples accompanied by a full combinatorial test of WTP hyp > WTP non hyp yielded insignificant evidence of hypothetical bias in credence labels.

❖ Moreover, the bootstrapping method also concluded statistically insignificant differences in WTP across the three credence labels: sustainable, organic, and local.

Conclusions

A growing literature exists on the design, implementation and evaluation of experimental auctions with agricultural or food related applications. Due to the advantage of experimental auction methods in isolating the effect of information provision, it has become an increasingly popular avenue for investigating the impact of labeling schemes on consumer WTP for food products. To our knowledge this is the first study to employ experimental auctions to investigate consumer preferences and WTP for food products labeled with broadly interpreted sustainable production claims.

- ❖ Credence labels capture positive price premiums
- ❖ Insignificant evidence of hypothetical bias
- ❖ Sustainable, Organic, and Local labels not shown to be differentiated by consumers
- ❖ Typical apples require WTA in hypothetical responses of experiment sample
 - Consistent with demographic propensity to shop at farmers markets and food coops
- ❖ Higher WTP on Typical products in auctions

Implications

- ❖ Stakeholders should consider these results when determining the benefit of pursuing sustainable certification
 - Farmers selling at their local farmers market
 - USDA (government agencies)
 - Marketing managers for companies selling sustainably produced agricultural products
- ❖ An extension of this work could use similar methods to examine preferences over combined labels e.g. sustainable versus organic + local

Bibliography

1. Callens and Tyteca (1999) Towards indicators of sustainable development for firms: A productive efficiency perspective, *Ecological Economics* 28: 41-53.
2. Clonan, A. et al (2010) UK Consumers Priorities for Sustainable Food Purchases, prepared for the Annual Conference of the Agricultural Economics Society March 29-31, 2010
3. Saunders, C. et al (2010) Consumer attitudes towards sustainability attributes on food labels, prepared for the New Zealand Agricultural and Resource Economic Society Conference August 26-27, 2010