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An In-Store Assessment of Consumers' Willingness-To-Pay for Organic Apples: Does Size Matter?

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Introduction/Background

- **Consumers have demonstrated a willingness-to-pay (WTP) premiums for organic food.**
- **Organic apples are one of the top three fresh foods purchased by consumers of organic.**
- **Organic produce has experienced double-digit growth in sales, despite the economic downturn (NBJ, 2010).**
- **High premiums may act as a deterrent to potential purchasers of organic products.**

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Study Objectives

- To estimate the premiums ($/lb) that the typical shopper places on:
  - Organic production of apples
  - Apple size
- To identify whether there was a relationship between premiums for size and organic.

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Methods

- **Studies were conducted at multiple grocery stores in Spokane, Washington during March 2010.**
- **WTP values ($) for apple products were elicited from shoppers using Experimental Auctions.**
  - **Sold real apples**
  - **Participants controlled the purchase decision**
- **Collected information on demographics, product preferences, and shopping habits.**

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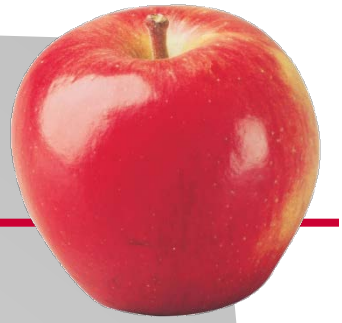
Methods

- **All apples used in the experiment were *WA EXTRA FANCY*-grade *Fujis*.**
- **Four versions of apples products valued:**
  - **Size 113 – Conventionally produced**
  - **Size 80 – Conventionally produced**
  - **Size 113 – Organically produced**
  - **Size 80 – Organically produced**
- **Individuals bid on one pound of apples**
- **Other apple characteristics were as similar as possible.**

Results



1. Study participants were ***less willing to purchase*** organic apples than conventionally produced apples.
2. Organic Apples received a ***$0.35 per pound*** premium ***(30%-35%).***
3. Large Apples received a ***$ 0.19 per pound*** premium **(*20%*)**
4. Apples received the ***same premium for size*** regardless of whether they were organic or conventional.
5. Consumer characteristics/demographics did not impact the premiums associated with organic or apple size.

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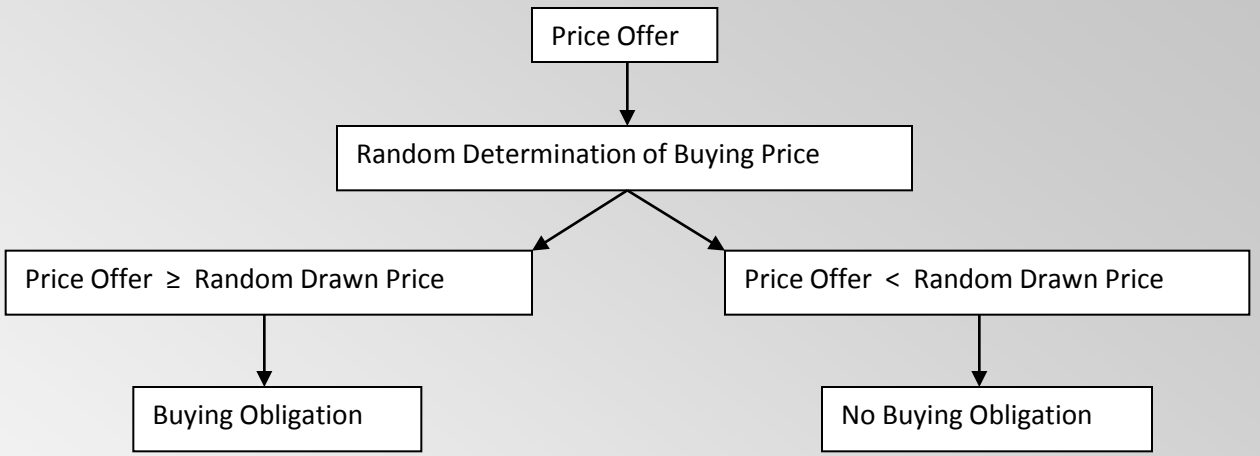
Discussion

- Consumers may (still) be skeptical of “organic”.
- Consumers are willing to pay significant premiums for organically produced apples.
- Growers can expect to receive the same premium for large apples whether organic or conventional.

Questions?

Methodology: BDM



•The BDM mechanism provides participants with incentives to truthfully reveal their WTP for the product.

• If participants bids more than their WTP, they risk paying more than the product is worth to them.

•They risk losing an opportunity to purchase a valued product, if they bid lower than their WTP.

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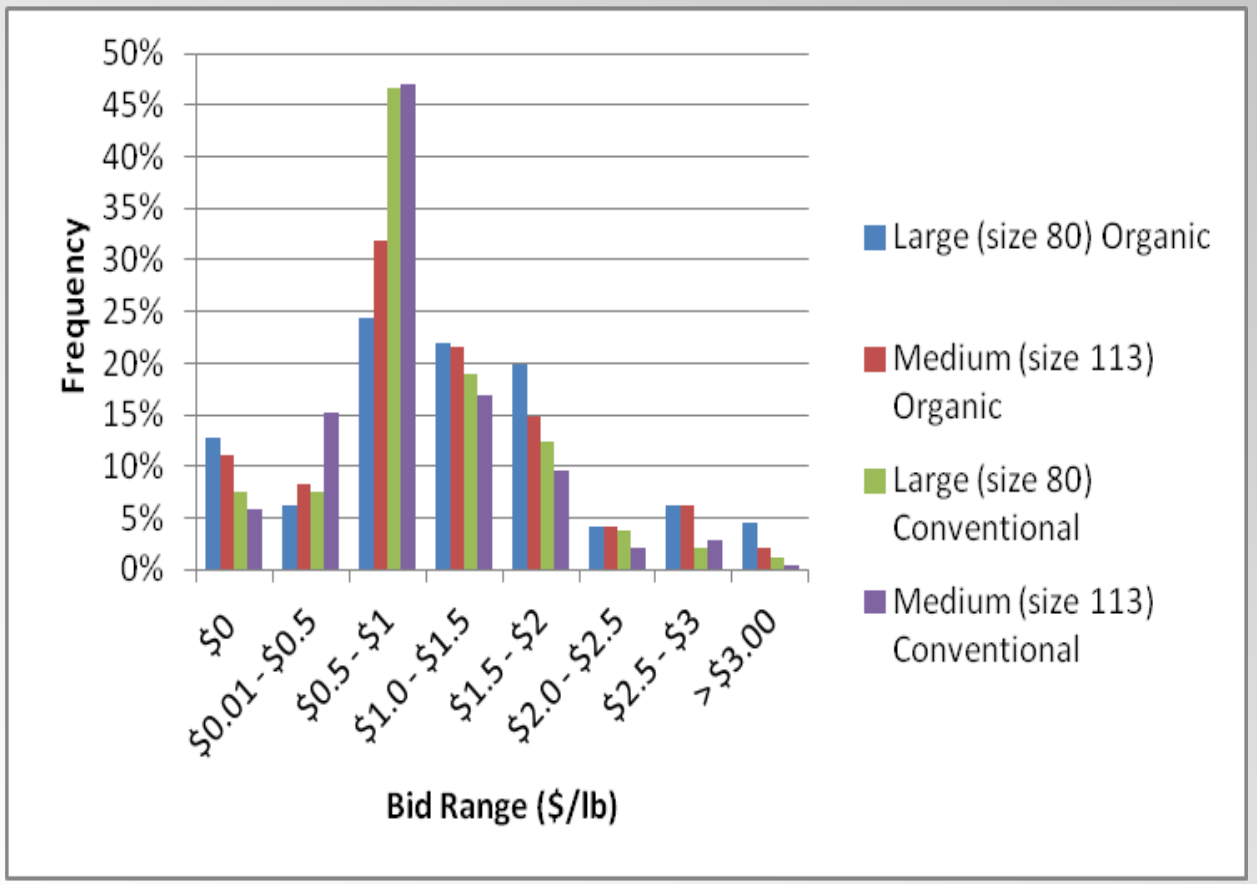
Distribution of Apple Bids by Product Version



Probit Results for Apples

Table 4.5: Results of Participation Equation for Apples (Probit)

Variable	Coefficient	Std. Err.	Average Marginal Effects*
Constant	*0.915	(1.053)	-
SIZE	-0.102	(0.289)	-0.009
QUANTITYAPPLES	**0.289	(0.115)	0.025
INTENTAPPLES	0.404	(0.327)	0.036
SIZE_QUALITY	0.258	(0.218)	0.023
PRICE_IMPORTANCE	-0.036	(0.139)	-0.003
GENDER	0.34	(0.215)	0.030
RACE	-0.349	(0.348)	-0.031
AGE	**-0.024	(0.008)	-0.002
EDUCATION	-0.071	(0.109)	-0.006
CHILDREN	0.2	(0.153)	0.018
INCOME	**0.018	(0.005)	0.002
ORGANIC	**-0.581	(0.267)	-0.051
SIZE x ORGANIC	0.069	(0.365)	0.006
ROUND	0.004	(1.093)	0.000
SIZE_QUALITY x Round	-0.386	(0.244)	-0.034
PRICE_IMPORTANCE x Round	**0.498	(0.186)	0.044
EDUCATION x Round	**-0.305	(0.142)	-0.027

- SIZE did not impact decision to bid
- ORGANIC decreased the probability of a positive bid
- The impact of ROUND varied with participant characteristics

Truncated Regression Results for Apples

Table 4.6: Bid Equation Results for Apples

Variable	Coefficient	Std. Err.
Constant	**2.19	(0.242)
SIZE	**0.187	(0.078)
QUANTITYAPPLES	-0.03	(0.039)
INTENTAPPLES	**0.191	(0.069)
SIZE_QUALITY	0.034	(0.03)
PRICE_IMPORTANCE	**-0.141	(0.028)
GENDER	*0.127	(0.065)
RACE	-0.128	(0.112)
PRIMARYSHOPPER	**-0.307	(0.137)
AGE	**-0.015	(0.003)
EDUCATION	**0.061	(0.028)
CHILDREN	**-0.102	(0.034)
INCOME	-0.001	(0.001)
ORGANIC	**0.349	(0.084)
SIZE x ORGANIC	0.011	(0.113)
ROUND	**0.664	(0.24)
QUANTITYAPPLES X ROUND	-0.084	(0.056)
PRIMARYSHOPPER X ROUND	*-0.469	(0.207)

- Large apples received a 19¢/lb premium over medium apples
- ORGANIC apples received a 35¢/lb premium over conventional
- ORGANIC and SIZE did not interact
- The participants tended to bid more for apples in the 2nd round.