

# Olive Oil Blind Tasting Experiment

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# Olive Oil Extra Virgin Certification

- American olive oil consumption has been growing
- No regulation of olive oil labels in the US
- Key law effective January 2009 in California requires that olive oil sold in the state must be labeled according to international olive oil standards.
- Several other states are on this same path, and federal regulation may not be far off.
- How might giving the coveted term “Extra Virgin” regulatory bite affect olive oil markets? (Gustafson and Lybbert, 2009).
- In the context of asymmetric information (we will go back to this case and above paper when we cover this in class later in the semester.
- Right now focus on product differentiation

# Olive Oil Definitions



- **Virgin Olive Oil:** obtained by mechanical and physical methods (particularly thermal) that do not alter the oil in any way (2 grams oleic acid per 100 grams of oil)
- **Extra Virgin Olive Oil :** created with a similar method as virgin olive oil, but less acidic (0.8 grams of oleic acid per 100 grams of oil)
- **Olive Pomace:** oil obtained by treating the pomace with solvents or other physical treatments; often mixed with other oils

# Where did this policy come from?

- State Senator Pat Wiggins (D-Santa Rosa) in late July 2008 pushed for SB 634 that would bring CA olive oils in line with the International Olive Oil Council Regulations
- CA's definition of olive had not been updated since 1947
- She wanted to ensure that the olive oil comes from where it claims to, and the quality is what the bottle says it is.



# Why is this policy in place?

- A history of olive oil fraud has caused lawmakers to inform both customers and themselves that the oil they are importing is legitimate.
  - The E.U. set up an anti-fraud olive oil task force to investigate fraudulent oil dealers
  - One example was Domenico Ribatti, who passed other oils off as olive oil
- In California, the certification is for 3 main purposes
  - Providing a standardized method for producers and marketers a method of distinguishing their product
  - Reassuring consumers that they are indeed purchasing extra virgin oil
  - Provide a standard method of grading olive oil
- In order to gain certification, you must send in two bottles of oil, \$250 for first product, \$50 for subsequent products
- The chemical analysis will determine if the oil contains 0.5 % or less free fatty acids as well as a peroxide value of 20 meq O<sub>2</sub>/kg or less.

# Olive Oil Extra Virgin Certification



- Do consumers taste extra virgin certified olive oil attribute in a blind tasting setting?
- What is the willingness to pay for the certified extra virgin olive oil?

# Experiment

- In a classroom offer two olive oil bottles where the brand and labels are hidden , Bottle A and Bottle B, to be tasted by dipping bread in two separate bowls
- Both brands claimed to be extra virgin and both are US brands, and only one was certified
- Fill out a simple questionnaire
  - Do you usually consume olive oil? Y/N
  - Which brand do you prefer A / B
  - Which brand is Extra Virgin A / B
  - How much extra would you pay for preferred brand? \_\_\_\_
  - <http://survey.constantcontact.com/survey/a07e2q57csvg5kb0rch/start>
  - Link for 2010



# Experimental Design

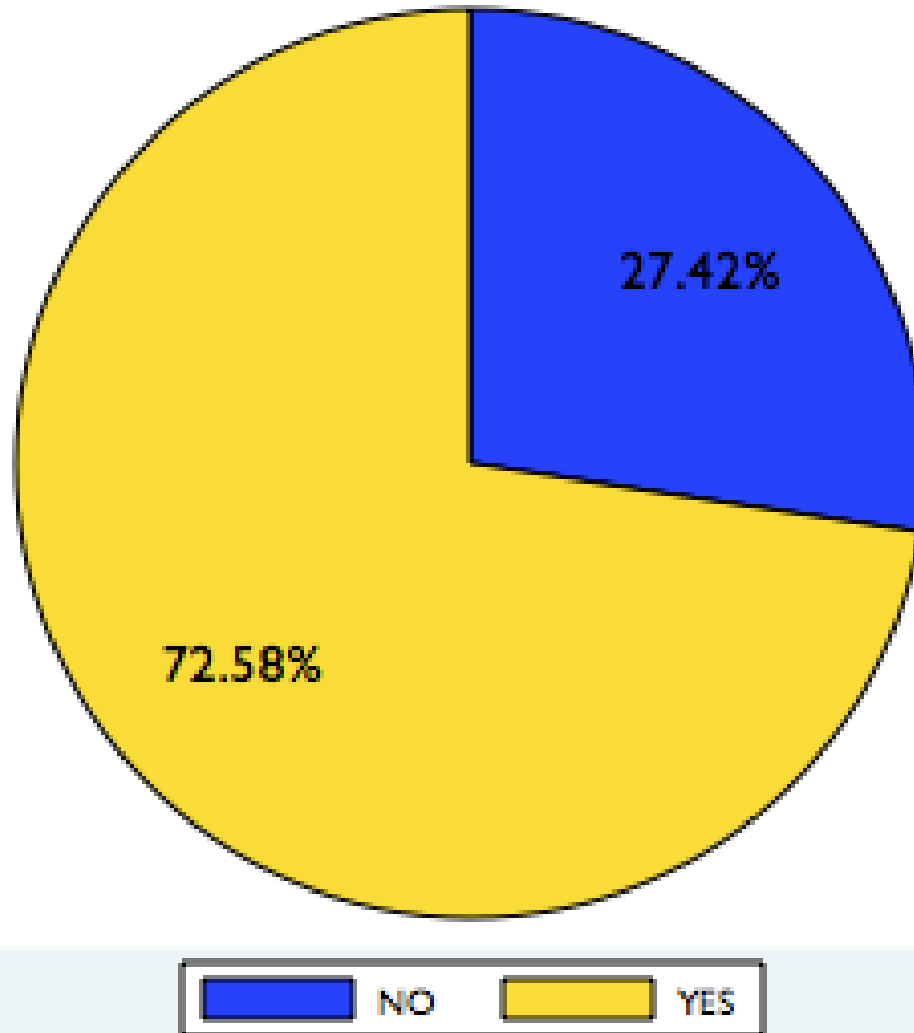
- Number of students enrolled were 95
- Sample of students who participated equals 59
- Three more subjects tasted after class
- Total sample size equals 62
- Brand B was the Extra Virgin one





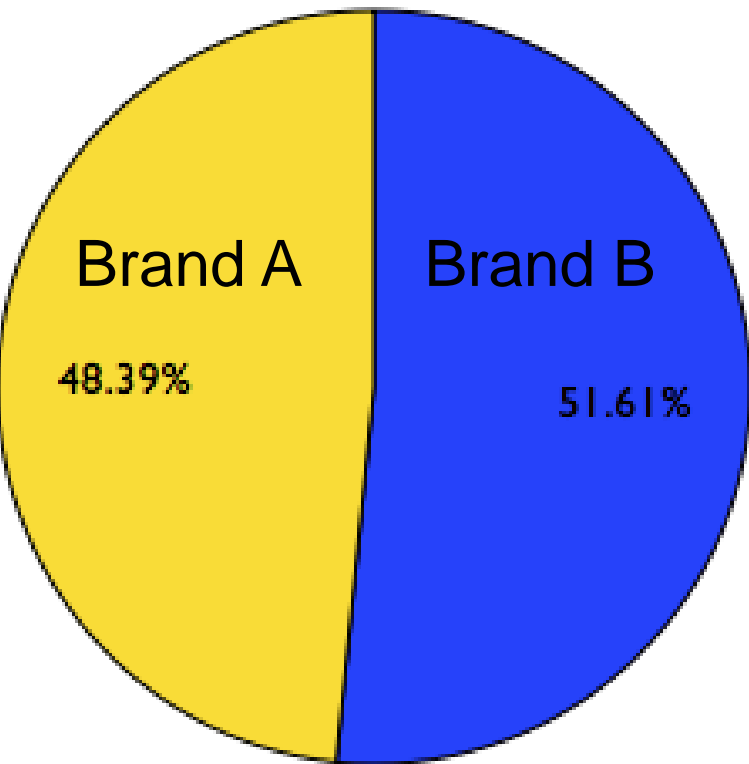
# How many people are “usual” consumers?

Do you usually consume olive oil?

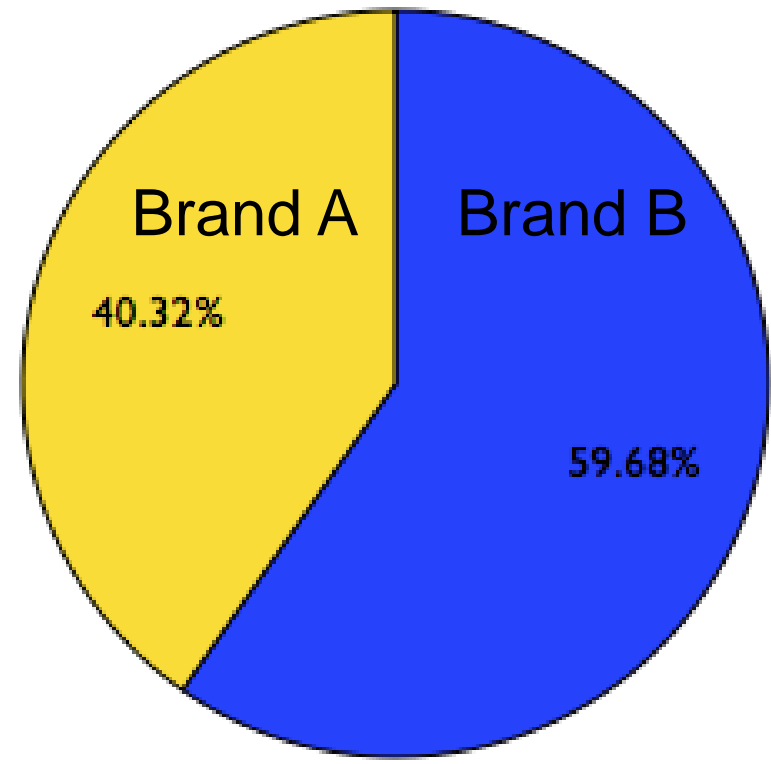


# How many preferred B? How many thought B was extra virgin?

Which brand do you prefer?

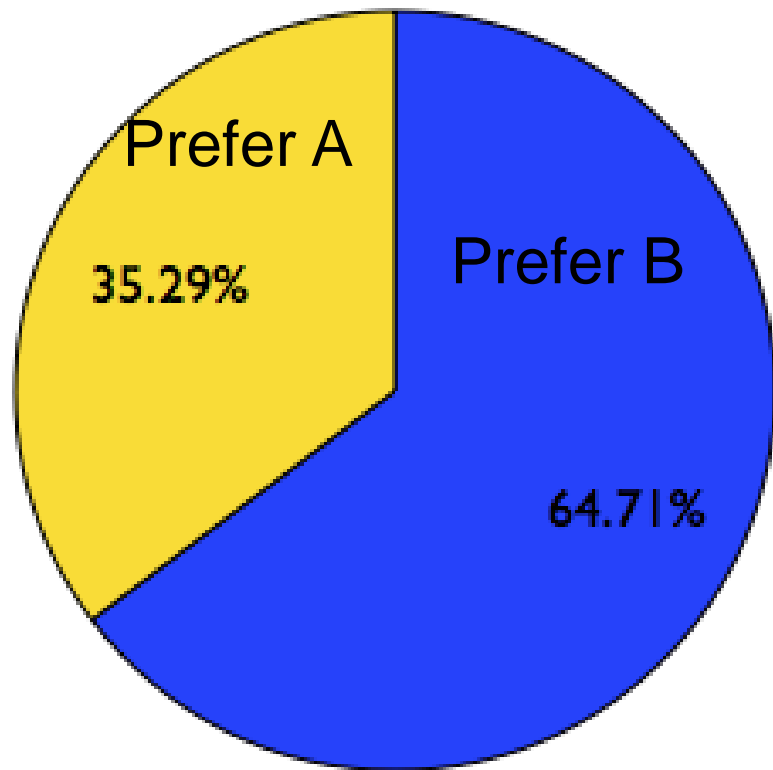


Which brand do you think is extra virgin?

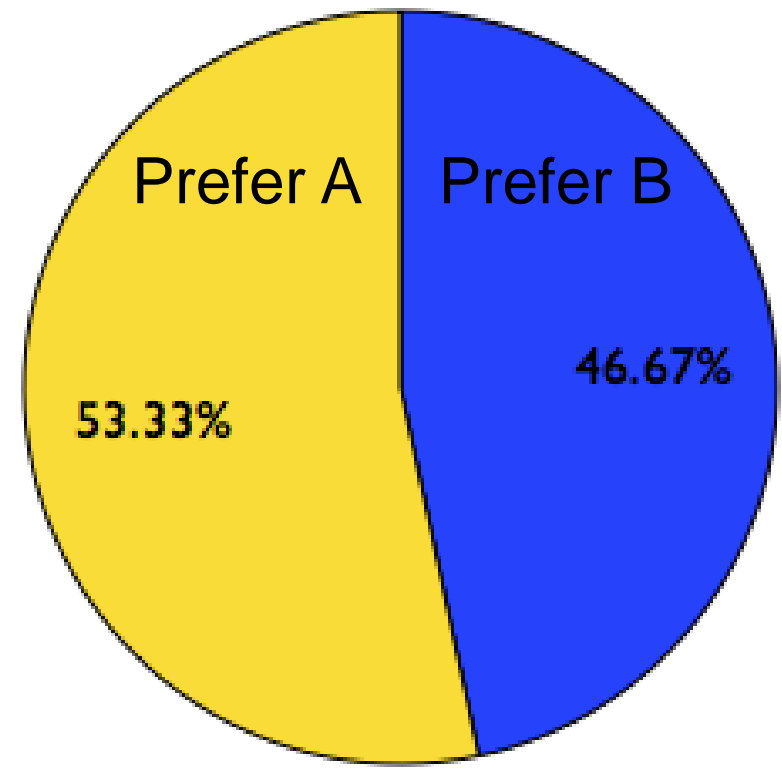


# What are the preferences of usual and non-usual consumers of olive oil?

For non-usual consumers...

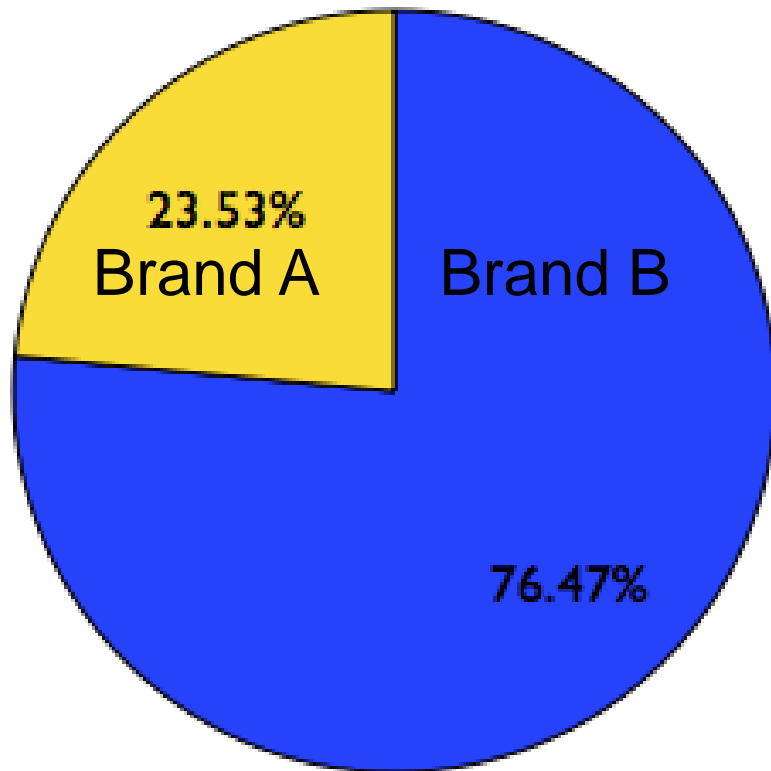


For usual consumers...

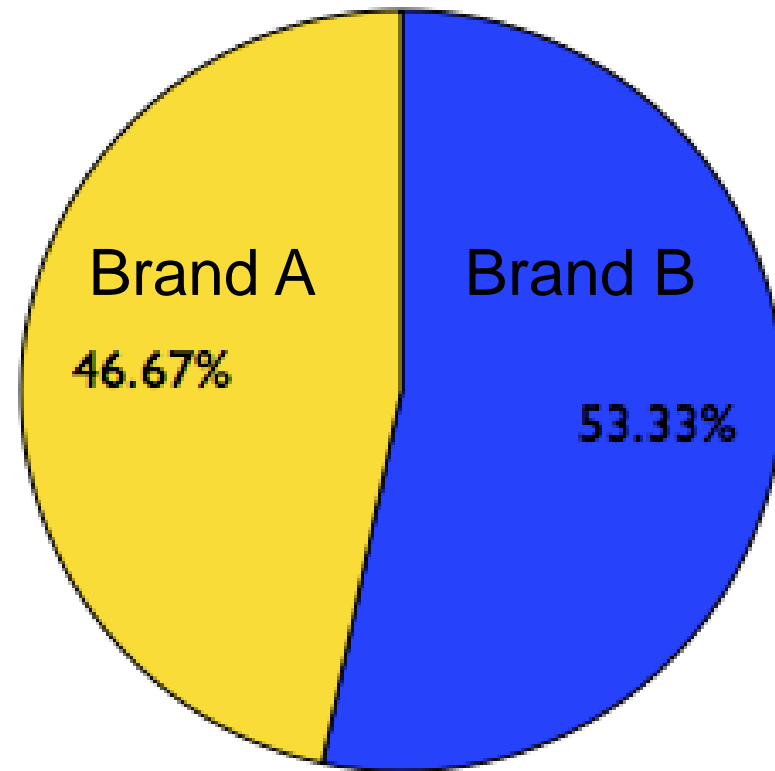


How many people guessed correctly  
(thought brand B was EV) between  
usual and non-usual consumers?

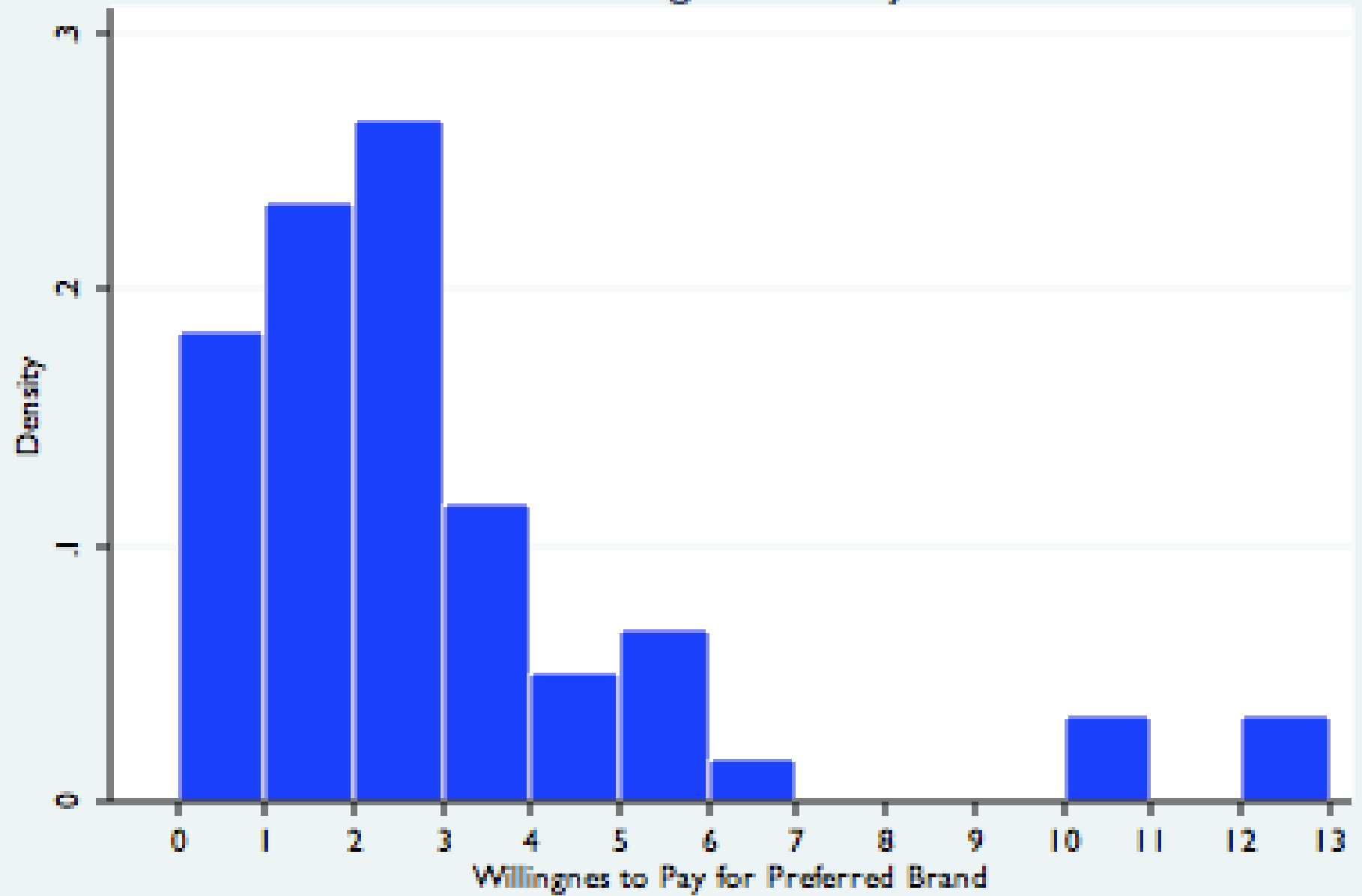
For non-usual consumers...



For usual consumers...



## Willingness to Pay





Distribution  
of WTP  
between  
those with  
different  
preferences

# Analysis

Command: `reg wtp_pref evB prefB interactB if usual==0`

	All	Usual	Non-Usual
Constant	3.75 (5.85)	2.9 (4.65)	8 (4.81)
evB	-2.15 (-2.01)	-0.9 (-0.81)	-7.33 (-3.12)
prefB	-2.15 (-1.56)	-1.15 (-0.85)	-7 (-2.10)
interactB	2.865 (1.68)	1.915 (1.10)	7.88 (2.06)

Note:  $\text{interactB} = (\text{prefB})(\text{evB})$ . So  $\text{interactB} = 1$  for person  $j$  if person  $j$  BOTH preferred B and thought B was EV.

Command: `probit evB usual`

	Coefficient	z Statistic
Constant	0.7215	2.16
Usual	-0.6379	-1.66



# What does it mean for consumers?

- Purpose of Cert: if consumers who prefer cert. oil are more willing to pay a premium, then cert. producers can compete with more efficient producers.
- Yet, there does not exist significant evidence for class data. Also this since the regulation has only been in place from 2007 to 2009.
- Consumers have not had the time necessary to define their preferences with respect to labeling (extra virgin cert. vs. non-cert.)
- Or, consumers have defined their preferences but aren't willing to pay for certification labels.

# What about the producers?

- California certification only applies to 100% California olive oils (imported olive oils cannot get this certification.)
- Certification give CA producers a competitive advantage over international producers in the USA market.
- It entitles CA producers to earn a premium and build a “only the best” reputation.

# Works Cited

- California Olive Oil Council.  
<[http://www.cooc.com/about\\_certification.html](http://www.cooc.com/about_certification.html)>.
- International Olive Council.  
<<http://www.internationaloliveoil.org/web/aa-ingles/oliveWorld/aceite1.html>>.
- Muller, Tom. “Slippery Business.” *The New Yorker*. 13 Aug 2007.  
<[http://www.newyorker.com/reporting/2007/08/13/070813fa\\_fact\\_muller](http://www.newyorker.com/reporting/2007/08/13/070813fa_fact_muller)>.
- Treleven, Mike. “Bill Seeks Olive Oil Purity.” *Napa Valley Register*. 28 Jul 2008.  
<[http://dist02.casen.govoffice.com/index.asp?Type=B\\_PR&SEC=%7B8A09EE4B-28DC-40D8-90C7-EF919D686CBA%7D&DE=%7BE5EE149E-8095-4770-83FD-4CA40AA57B2E%7D](http://dist02.casen.govoffice.com/index.asp?Type=B_PR&SEC=%7B8A09EE4B-28DC-40D8-90C7-EF919D686CBA%7D&DE=%7BE5EE149E-8095-4770-83FD-4CA40AA57B2E%7D)>.