Comment to:

Quality Warranties and Food Products in Argentina. What do Consumers Believe in?

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Authors of this paper have stated a specific global objective: to investigate domestic consumers' perceptions and beliefs about food quality information in Argentina to identify the mechanisms that fully guarantee this quality.

They have concluded that the consumer's perception about high quality products are more associated to brand names than the certifications in labels. So this has consequences upon competitiveness of domestic food market. While large processors and retailers, as multinational firms, follow refined brand names and international standard systems several small local firms are very far from this quality level. This is a very important conclusion in this paper.

Following, in this comment, I'm trying to remark some of key features of the specifications of the model. The conceptual framework used to study quality attributes of food products has made a distinction among three types of them: search, experience and credence or trust goods. Search attributes can be observed prior to purchase, experience attributes can be learned along the time throughout sequential purchases of goods and the trust are not true evaluable attributes at all.

It is used a random utility model with unordered choice similar that suggested in Greene, 2000, page 858. This model is trying to capture quality effects over efficient consumption decisions. The random utility function $U_{ij}= \beta'_j x_{ij}+ \epsilon_{ij}$ has an explained quality component $\beta'_j x_{ij}$ and a random real $\epsilon_{ij}$ element. It is assumed that this last element conveys, lineally, all "random" effects from qualitative diversity to final utility.

$\beta'_j$ is a transposed $\beta_j$ parameters vector and $x_{ij}$ is a vector where is gathered relevant factors that affects the chance of all j=0, 1,…,J qualitative categories of goods. So, the good's quality is a variable which is explained with the relevant factors gathered in vectors $x_{ij}$ as explicative variables. Distribution of the U function is as the distribution. Greene suggests a Weibull distribution (WD)[1] for $\epsilon_{ij}$, $F(\epsilon_{ij})=\exp(-e^{-\epsilon_{ij}})$. If $\epsilon_{ij}$ are both independent and identically distributed variables then it is easy to obtain the so called conditional logit model or multinomial logit model:

$$P(Y_i = j) = \frac{e^{\beta' x_{ij}}}{\sum_{k=1}^{J} e^{\beta' x_{ik}}}$$

The multinomial logit model used in this paper is the multinomial logit model proposed in Greene, 2000, page 860. Both, the WD and the complete independence of residuals $\epsilon_{ij}$ gives, as a result of full algebraic manipulations, a log lineal model $Ln\left(\frac{Pj}{P0}\right) = \beta'_j x_j$. This

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[1] In probability theory, a WD of an X variable is characterized with a density probability function f:

$$f(x, k, \lambda) = \frac{k}{\lambda}\left(\frac{x}{\lambda}\right)^{k-1} e^{-\left(\frac{x}{\lambda}\right)^k}$$

Where x ≥ 0 are values of X variable, k>0 is the shape parameter and λ>0 is the scale parameter. The WD is frequently used to study some population properties, time-engineering problems, weather forecasting, failures and reliability, radar systems, wireless communications and it is a very important instrument in extreme value theory. The WD is a very flexible distribution. When k=3 then WD is as a normal distribution and if k=1 then WD is an exponential distribution with λ parameter.

model is characterized by likelihood ratio as its regressed variable and consumer believe, social status and individual characteristics as its regressor variables. The sign of the components of estimated parameters vector $\beta'_j$ is showing a kind of preference, or not, for j quality of a good: if $\beta'_j > 0$ then the consumers prefer quality j (or warranty j) to reference quality 0. In this paper has been estimated the parameters vector $\beta_j$. The value and statistical significance of the components of this vector is used to evaluate the optimal behavior of consumers relative to quality election of food products.

## Reference

Greene, William H. 2000. Econometric Analysis. Fourth Edition, by Prentice-Hall, Inc. Chapters 3, 4 and 5. Chapter 19 pages 811 to 818 and pages 857 to 862.