WHY BUY BRIE? WHAT ARE WE MEASURING WITH WILLINGNESS TO PAY FOR GEOGRAPHIC INDICATORS?

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Country of origin labeling and geographic indicators continue to be a hot topic in the business world and in public policy. The European Union continues to argue for expanded protection of geographic indicators (GIs) and the United States is still contemplating the use of mandatory country of origin labeling (COOL) for meat products. But why all the attention to designations of geography?

Some argue that GIs add value by providing consumers with information about location of production (Kerr; Lusk et al.). As an example, anecdotal evidence presented by the E.U. Commission suggests that French cheese with GIs sell at a premium of 2 euro, and Italian "Toscano" oil has sold at a 20% premium since being registered. More scientific studies such as Lourerio and Umberger (2003, 2005) and Umberger et al. have also found consumers generally are willing to pay more for products with country of origin identified. In non-agricultural products, there is ample evidence that country of origin matters in consumer purchasing decisions (Verlegh and Steenkamp).

The real question is why? Why are individuals willing to pay a premium for knowledge about country of origin? There is certainly the information asymmetry argument where country of origin proxies for some other attributes. There is also the "consumer ethnocentrism" issue whereby consumers favor home production (Sharma, Shimp, and Shin). This paper will discuss those motivations and implications on understanding willingness to pay.

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There is also the question of how do we estimate willingness to pay (WTP) for country of origin labels. Anecdotal evidence are insufficient on which to base conclusions, and secondary data are notoriously confounded with other factors so that conclusions are tenuous and based on assumptions about the effects of other factors. Experimental methods do offer some ability to control stimuli and the environment (Hudson; Lusk and Hudson), but even in these cases, experimental methods are often employed without understanding the implications of the experimental design on conclusions drawn (Nalley, Hudson, and Parkhurst; Lusk and Hudson). In this paper, I will explore some of the potential benefits of GIs, some of the rationale that consumers may use in identifying labels, and some of the difficulties of using WTP measures to rationalize the use of GIs. This paper is not intended to be a comprehensive or exhaustive treatment of WTP measures. Rather, this paper is intended to provoke discussion about the use of WTP in the GI debate.

What Consumers Want

Determining what consumers want is important for both businesses and policy-makers, but is more difficult than it would first appear. When lecturing to a nutrition class on food policy recently, I asked a rather innocuous question: "If you buy organic vegetables, what is your primary reason?" I received answers ranging from "they are pesticide free and pesticides are unhealthy" to "organics are more environmentally friendly" to "organics are grown by small farmers, and I want to support small farmers." So, when these individuals go to the store and purchase an organic at a premium, where do we ascribe the value of that premium?

Business owners, of course, say "who cares?" After all, a premium is a premium. However, as we will see, that may be a relatively naïve attitude. But, as economists charged with social accounting, where to ascribe the value of the premium may be of utmost importance in cost/benefit analysis for policy design. So, understanding the motivations for making purchase decisions is a key piece of information.

Assume that Castillian tomatoes are a GI product and are favored by approximately 10% of the European population. Assume that 1/3 of that group prefers them for the flavor due to the soil type and mild growing conditions (using the GI as a proxy). This group strongly prefers the tomatoes to others and is willing to pay a 1.5 euro/kg premium. The second 1/3 prefers the Spanish tomatoes because they are grown on small farms with local labor (again, using GI as a proxy, but for a different set of variables). This group is willing to pay a premium of 1 euro/kg. The final 1/3 prefers the Spanish tomatoes because they have Spanish ancestry (using the GI for consumer ethnocentric reasons). This group is more price sensitive and is only willing to pay a premium of 0.5 euro/kg.

Economic theory suggests that if suppliers wish to capture the 10% of the population, the selling price will be around 0.5 euro/kg. Clearly, there is an adverse selection problem in pricing created by the simple label "Castillian Tomatoes." Pricing them as such gives price enhancement to the Spanish tomatoes, and the premium may be attractive to suppliers, but understanding why consumers are purchasing the product may lead to alternative marketing strategies that generate a separating equilibrium and increase extraction of the informational rents held by consumers.

This simple example highlights three interrelated problems with GIs. First, GIs only serve as a proxy variable in the consumer's mind for some other attribute of the product. Second, because of the heterogeneity of consumer uses of the proxy, determining the value that people place on the GI is greatly complicated, and potentially counterproductive. Although not directly discussed in the example, a third problem stems from the use of GIs by consumers as a proxy for quality. GIs are only designations of origin, and do not necessarily generate coordination among producers for quality control. In fact, GIs may ultimately create a quasi-common resource problem whereby individuals attempt to free-ride off the "brand" and exhibit moral hazard behavior in shirking their responsibility for upholding the collective "brand's" quality. One may be tempted to think that there is no incentive to do so, but if I produce only a small fraction of the regions produce and it is more costly to produce a quality product, do I not have an incentive to shirk? At the very least, this is a potential that needs to be considered.

The Value of GIs

Motivations for Purchase

A number of arguments have been put forth about the value of GIs, most of which center around a "consumer's right to know." That is, there is some intrinsic value held by a consumer that can be captured by providing them information about the location of origin of a good. But from where does this value come? Lusk et al. do a good job of summarizing different potential sources for this value. First, the GI can simply be a proxy for underlying attributes like quality, method of production, etc. Second, the GI

may allow consumers to express "consumer ethnocentric" behavior (that is, favoring their own production for political or patriotic reasons).

The problem of valuing GIs is complicated by the fact that many consumer demands for attributes are potentially confounded within the GI. Returning to the tomato example, assume for simplicity that the consumer's utility function for tomatoes can be expressed as:

$$U = \alpha + \beta_1 C + \beta_2 F + \beta_3 T + \beta_4 P$$

where C is the color, F is the flavor, T is the type of farm it is grown on, and P is the price. Clearly, color is the only attribute that the consumer can directly observe before consuming. The other attributes are a mixture of experience and credence attributes. Now, assume that a GI is introduced that is intended to proxy for flavor and production practices. Now, the utility is expressed as:

$$U = \alpha + \beta_1 C + \beta_5 GI + \beta_4 P$$

where $\beta_5 = \beta_2 + \beta_3$, and GI is the geographic indicator. From this, the WTP for the GI is expressed as β_5/β_4, which is the ratio of the marginal utility for the GI to the marginal utility for money. Assuming that the sign on β_5 is positive as suggested by the literature and anecdotal evidence, then the presence of the GI increases the utility of the consumer and this is expressed as a positive WTP for GIs.

In many cases, this is where the investigation ceases. But, as should be clear from this example, the GI confounds two effects in one variable. Specifically, the actual WTP is expressed as $(\beta_2 + \beta_3)/\beta_4$. If the GI and the attributes are positively correlated and the consumer's utility is increasing in both attributes, then there would appear to be no problem other than the total effect is a combination of the utility for the two attributes.

But that is two big "ifs." What if the GI is positively correlated with one attribute, but negatively correlated with the other? What if the consumer's utility was increasing in one attribute, but decreasing in the other? In either case, the net effect would be that the value of the attributes would offset one another, leading to a misrepresentation of the value for the underlying attributes.

This example provides two primary discussion points relating to the measurement and use of GIs. First, from recent events in popular culture, knowledge of country of origin can be a double-edged sword. Bill O'Reilly's "Don't Buy French" campaign during the lead up to and after the beginning of the Iraqi campaign is a prime example. If my use of the GI on French wine as a proxy variable for quality is outweighed my use of the GI as an ethnocentric variable, then my knowledge of the French origin will lead to a reduction in consumption of French wine, *ceteris paribus*. But work by Holt, Quelch, and Taylor on "anti-American" sentiment suggests those effects may be muted. They found that many foreign consumers expressed an "anti-American" attitude, but still strongly preferred American branded products.

Second, and perhaps more relevant from both a business and public policy perspective is that if consumers actually use the GI as a proxy for underlying attributes, then a more efficient labeling system can be devised that allow for greater market segmentation and higher revenues for firms and welfare for consumers. As with the tomato example, consumers were really placing value on both flavor and farming method. Simply relying on the GI generates an adverse selection pricing problem. A public policy that mandates GIs institutionalizes the use of an imperfect proxy, thereby reducing (or at least not fully maximizing) consumer welfare. Thus, understanding the

reasons why consumers place a positive value on GIs could potential enhance business opportunities for market segmentation as well as improve the efficiency of government policy in addressing market failures arising from asymmetric information about products.

Consumer and Product Heterogeneity

Certainly, WTP for GIs is not uniform. Mayda and Rodrick found significant heterogeneity in ethnocentric attitudes across age, education, and gender. Other authors like Umberger et al. and Lourerio and Umberger have found socio-demographic variables affect bidding behavior in experimental auctions or responses on surveys. This heterogeneity certainly complicates valuation, but greater understanding of these variables enhances the ability to make predictions about likely market effects.

Verlegh and Steenkamp do report one finding of interest in GI valuation—the value of the GI is affected by whether the GI is valued in the presence of other variables or not. As Lusk and Lusk and Hudson point out, there may be a diminishing marginal value for additional information on a label. That is, what value does the GI add in the presence of other information?

Take beef as an example. If the GI is the only piece of information provided to the consumer, one would expect the consumer to use that GI as a proxy for many key variables. But, if the label already contains information on quality grade (e.g., "USDA Choice"), whether the animal was grain fed, and information on breed (e.g., "Certified Angus"), one would not necessarily expect as high a value on the GI.[2] "Label fatigue" may be an unintended consequence of GIs. At the same time, because GIs may proxy for

[2] This, of course, does not say there will be no positive value. The point here is that since the GI alone would proxy for many of these variables, the resulting value of the GI in the presence of this information is likely to be lower.

many unknown variables, the GIs may actually serve to override other product information being provided by processors or retailers (Lusk et al.).

Related to label fatigue is another finding by Verlegh and Steenkamp that suggests that there are differences in GI WTP across product types. Higher risk, more expensive, and more durable goods tend to have the highest WTP, suggesting that food products (less expensive and less durable) would have lower WTP. Some literature suggests relatively high WTP for GIs in food products, as measured as a percentage of the product price. But, many of these studies suffer from some of the problems noted above—GIs evaluated hypothetically, evaluated in isolation from other attributes, etc. Thus, while one can probably believe there is a positive WTP for GI information on foods, the magnitude of the WTP in previous studies should be viewed with some caution.

As a matter of curiosity, it would be interesting to see what products in a portfolio of products consumers would be most willing to pay for GI information. For example, one could envision a simple experiment where a consumer had a fixed budget to allocate to GI information across a range of products. Where would the most likely spend that fixed budget? A study of this sort would likely have more public policy ramifications than all the individual products studies combined. That is, if we view WTP for GI information as a signal of the degree of market failure (i.e., asymmetric information), the identifying the products (or product categories) with the highest WTP would help guide public policy towards those areas that have the largest impact on consumer welfare.

Hypothetical Bias

The issue of hypothetical bias is not new, but deserves at least some attention here. Hypothetical bias in surveys and experiments has been a matter of debate for some time (references). Verlegh and Steenbeck found specifically in regards to the issue of WTP for GIs that hypothetical surveys tended to produce significantly higher WTP values than non-hypothetical surveys, suggesting some concern for hypothetical bias in GI studies. After all, it is quite easy for me to report a willingness to pay a premium for "American Made" products, but make different purchase decisions in practice. It seems plausible for respondents to answer strategically or even to give the "politically correct" answer when they do not have to face the consequences of their action. Even issues of "indifference" complicate hypothetical choices (Kanecko and Chern).

Getting around the issue of hypothetical bias is also not as simple as conducting an incentive compatible experiment. For example, Nalley, Hudson, and Parkhurst found significant "hometown bias" in a test of preferences for sweet potatoes. Their examination included a "blind" taste test and experimental auction when the origin of a potato was not known. But, when the state of origin was known to respondents in a different sample, they expressed higher WTP for the locally grown potato, even though the previous sample (blind) had chosen a different potato based solely on taste. Thus, sample selection (in this case, from a local population) may drive results even when the experiment is non-hypothetical.[3]

Thus, while hypothetical bias is a potential problem in GI studies, the remedy is not a clear-cut movement to non-hypothetical experiments. The results of these

[3] Specifically, because both samples drawn from the local population tasted the potatoes, but only one sample had information about location of origin, the difference in WTP values can be said to be a purely ethnocentric response. That is, the taste was held constant and only location information was introduced. Thus, we can conclude that this was simply "hometown bias" that was driving the result.

experiments have the benefit of at least being incentive compatible, which is a substantial improvement over hypothetical methods. But, careful attention must be paid to experimental designs to insure that the results truly represent what the investigator thinks they represent.

Why All This Matters

Of course, just the pure desire to provide the most accurate measures of an economic phenomenon should be sufficient reason why we should care about WTP for GIs. But beyond our own desires for validity and accuracy, there are at least two reasons why fully understanding our measures is important—best information to businesses and best designs for public policy.

From the business management perspective, simply falling back on a derived value for GI information without fully exploring the underlying core attributes the GI is being used to represent shortchanges the potential to fully exploit consumer demand. As discussed above, at best, the GI is simply confounding two or more correlated attributes whereby the value of the GI represents some nebulous "average" value for a complex, heterogeneous consuming population. At worst, however, the GI is masking negatively correlated attributes where this "average" value wholly misrepresents demands for the underlying attributes and leads businesses to incorrect conclusions about marketing opportunities. It seems incumbent upon researchers, then, to fully explore what factors drive the WTP for GI information.

From the public policy perspective, understanding the root cause for WTP for GI information helps guide public policy to its highest and best use—situations of market

failure. Clearly, GI labels help correct an asymmetric information problem when GI information has value. But, if the value for GI information is high enough, we must ask ourselves the question whether governments should need to mandate labels.

Let's assume for a moment that GIs do have a positive value, but their value is not sufficient to induce profit-seeking firms to provide that information. Let's further assume that the reason that GIs have value is that they are correlated with quality attributes where no other means of conveying that information exist. Clearly, under these assumptions, the government mandated label is welfare-enhancing. Derivation of WTP values for this information is simply an afterthought in a cost/benefit analysis conducted by the government, and the derived values have no real impact on the need for, nor the implementation of the policy.

But now, let's assume that firms are providing information about characteristics where there is sufficient value, say method of production, but we well-meaning economists conduct an experiment on GIs in isolation of other attributes and find a large WTP for GI information. The government, being good stewards of the public good, deduces a market failure exists and mandates the labels. Now, method of production and the GI happen to be correlated. At best, the GI serves to confuse consumers. At worst, the government has mandated a label that serves to supplant the private label and confound that information with other proxies for which the consumer may be using the GI. Here, the estimation of WTP of the GI is not inconsequential and may have introduce biases and inefficiencies in the market.

Finally, and least often discussed, let's return to our original assumptions, but now assume that the source of value for the GI is consumer ethnocentrism. The

government mandated GI does serve to capture that value, but at the expense of protectionists outcomes, thereby reducing global welfare. One could argue that it is the responsibility of national governments to protect and enhance the welfare of its citizens. But when do legitimate concerns about domestic consumer welfare cross over into protectionist policies contrary to the spirit of the WTO? At least understanding the root cause of GI value on the part of consumers makes motivations by governments for GIs more transparent.

There are, of course, more motivations for GIs than just consumer choice. Issues such as food safety and traceability, and reduced search and transactions costs within supply chains are two primary examples. But, these are not the subject of WTP studies. Our focus in conducting WTP studies should remain providing the most complete and accurate information about consumer motivations for what they are willing to buy and why. Only in this manner can we affect the most efficient and equitable distribution of resources across competing needs.

References

Holt, D., J. Quelch, and E. Taylor. "How Global Brands Compete." *Harvard Business Review*, Sep. 2004, 68-75

Kaneko, N. and W. Chern. "Some Problems in Estimating Willingness to Pay with Contingent Valuation Surveys: Case for Consumer Acceptance of Genetically Modified Food." Selected Paper Presentation, Southern Agricultural Economics Association Annual Meeting, Mobile, AL, February 2007.

Loureiro, M. and W. Umberger. "Estimating Consumer Willingness to Pay for Country-of-Origin Labeling." *Journal of Agricultural and Resource Economics*, 28(2003): 287-301.

Loureiro, M. and W. Umberger. "Assessing Consumer Preferences for Country-of-Origin Labeling." *Journal of Agricultural and Applied Economics*, 37(2005): 49-63.

Lusk, J., J. Brown, T. Mark, I. Proseku, R. Thompson, and J. Welsh. "Consumer Behavior, Public Policy, and Country-of-Origin Labeling." *Review of Agricultural Economics*, 28: 284-292.

Mayda, A. and D. Rodrik. "Why Are Some People (and Countries) More Protectionist Than Others?" *European Economic Review*, 49(2005): 1393-1430.

Sharma, S., T. Shimp, and J. Shin. “Consumer Ethnocentrism: Construction and Validation of the CETSCALE.” *Journal of Marketing Research*, 24(1987): 280-289.

Srinivasan, N. and C. Subhas. “Country of Origin Effect: Synthesis and Future Directions.” in *Handbook of Research in International Marketing*, S. Jain, Ed., Edward Elger Publishing, Northampton, MA, 2003.

Umberger, W., D. Feuz, C. Calkins, K. Killenger-Mann. “U.S. Consumer Preference and Willingness to Pay for Domestic Corn-Fed Beef Versus International Grass-Fed Beef Measured Through an Experimental Auction.” *Agribusiness*, 18(2002): 491-504.

Verlegh, P., and J. Steenkamp. “A Review and Meta-Analysis of Country of Origin Research.” *Journal of Economic Psychology*, 20(1999): 521-546.

Vida, I. and T. Dmitrovic. “An Empirical Analysis of Consumer Purchasing Behavior in Former Yugoslav Markets.” *Economic and Business Review*, 3(2001): 191-207.