

12/31/2003 Entry: "Purdue Agricultural Economics Report"

December 2003

The Benefits and Costs of COOL

Dr. John M. Connor

In the last PAER the legal and regulatory aspects of the new Country-of-Origin-Labeling (COOL) law were discussed. The American Meat Institute, other meat-industry trade associations, and many USDA officials generally opposed the passage of the COOL legislation. Some economists are skeptical about the wisdom of this policy. These positions were publicly justified by assertions that the industry costs of implementing COOL were significantly higher than the benefits to consumers of red meats, peanuts, fruits, and vegetables. This article examines the issues surrounding the benefits and costs of implementing COOL by comparing the USDA's analysis with other economic information.

Benefits

The benefits side of the COOL equation has been sorely neglected in the national debate. USDA has failed to consider any information relevant to benefits; so have the industry opponents of COOL. There is evidence that substantial benefits arise from country of origin labeling from the consumer perspective and from the perspective of the industry.

At a fundamental level, our society values information and choice for consumers. Markets cannot operate properly unless information valued by the purchaser is available. Similarly, without meaningful choice, consumers are unable to express their preferences.

The methods of estimating costs and benefits with regard to labeling are very different. The last major change in food labeling occurred in 1994, when federal legislation was passed requiring nutritional labeling on foods covering over two-thirds of the U.S. food system. COOL is far simpler than nutritional labeling that requires a chemical analysis of the content of each food item by an independent laboratory.

The nature of the benefits depend in large part upon the "utility value" or "satisfaction" attributed to them by the consumer. Economic studies have shown that there are added benefits to be gained by using labels to segment the market, allowing each group of consumers to buy the products corresponding to their willingness to pay. When consumers are unable to distinguish the specific qualities of different products, they are not willing to pay as high a price as they would if they were sure that the product was of a quality more likely to precisely meet their needs.

Many surveys relevant to the labeling of food have revealed overwhelming consumer support for such labeling and significant concern for information as to where food is produced. For example:

Fresh Trends 2002 found that 86 percent of consumer respondents in a national survey favor country of origin labeling.

The National Public Policy Committee performed a study designed to evaluate producer preferences for agricultural, food and public policy found that 98 percent of U.S. agricultural producers favored labeling.

A multi-university study published in February 2003 on the North Carolina State University Web site found that a large majority of consumers was concerned about where their food originated.

The Florida Department of Agriculture and Consumer Services performed a survey in January 2003, finding that 62 percent of consumers interviewed would purchase U.S. produce if it had an identifying mark.

Colorado/Nebraska Study of Benefits

There is a substantial body of research on the specifics of food labeling within the discipline of agricultural economics. A recent study regarding consumer willingness-to-pay for beef labeled as to country of origin was conducted by researchers at Colorado State University and the University of Nebraska-Lincoln and released on March 20, 2003.) The study used panel survey data to determine consumers' willingness to pay for meat labeled as U.S. origin. The researchers pointed to the specific characteristics that generally motivate consumers as shown in past research:

Consumers are becoming increasingly concerned with the quality, safety, and production attributes of their food (Caswell, 1998). Consumers' concern with the safety and origin of beef is especially true in light of the recent European and Japanese BSE outbreaks and concerns with E-coli 0157:H7 in the U.S. beef. The origin and processes used to produce beef products are not apparent to the consumer through experience, consumption or visual inspection of the product. Therefore, without additional information, consumers are not able to differentiate the origin or processes used to produce the beef products they purchase in the retail store. Production attributes that may be valued by consumers such as organic, non-GMO or country of origin are considered to be credence characteristics. Truthful labeling of credence characteristics allows the consumer to judge the product before purchasing (Caswell, 1998).

The credence characteristics identified by Colorado State/University of Nebraska study apply to other food items as well as beef, the subject of their analysis. In the beef study, the researchers found that the vast majority of consumers (73

percent) in Denver and Chicago were willing to pay an 11 percent and 24 percent premium for steak and hamburger, respectively, that is an average of 19 percent more for steak labeled "Guaranteed USA: Born and raised in the U.S." The primary drivers of these results were consumers' food safety concerns, preferences for labeling source and origin information, desires to support U.S. producers, and beliefs that U.S. beef was of higher quality.

Value of Benefits

This willingness-to-pay calculates into a substantial monetary amount. There are approximately 29 million steers and heifers slaughtered each year. Each animal produces an average of 90 pounds of steak, according to industry experts. Origin labeling was found to be worth a 10.5 percent increase in steak prices for 72.9 percent of those surveyed. USDA scanner data for February, 2003 show that the average U.S. steak price is \$4.75 per pound. This results in an aggregate willingness-to-pay of \$964.51 million per year based upon the number of steaks produced by U.S. slaughter steers and heifers, the 10.5 percent increase, and the 72.9 percent of consumers that have such a willingness.

As to ground beef, the nation's 275 million consumers ate an average of 29.63 pounds of ground beef per year. Assuming a 24.3 percent increase in the price found in the Colorado State study, the aggregate willingness-to-pay is \$3,070.78 million.

The per capita consumption for beef "cuts", (steaks and roasts) is 38.97 pounds on average from 1999 to 2001. USDA scanner data show \$4.75 per pound for steaks and \$2.56 for roasts in February 2003. An average steer or heifer produces about 90 pounds of retail steaks and 150 pounds of roasts. Using these weights, the average price for "cuts" is \$3.38 per pound. Assuming that 72.9 percent of consumers are willing to pay 10.5 percent, or 34 cents per pound more for the cuts, the aggregate willingness-to-pay is \$2,772.66 million.

Other Benefits for Consumers

In addition to the willingness-to-pay, there are other possible benefits that are important but difficult to quantify. For example, the U.S. has spent considerable resources to maintain confidence in the integrity of the food supply. As a result, the U.S. food system has been largely insulated from the global food scares such as foot and mouth disease and mad cow disease. Product labels increase consumer confidence by allowing them to feel informed and knowledgeable, even if they do not actually read the label information. The consumer confidence issue incorporates a risk reduction benefit. If the consumer perceives that they are at reduced risk of harm, they feel protected. As an analogy, consumers buy insurance to be protected, but they hope that they will not have to actually utilize the insurance protection they purchased.

Second, there is an opportunity to reduce risk and cost due to food safety problems or outbreaks that may originate in a particular country. If processing plants have product segregated and identified, they can avoid some of the tremendous losses emanating from shutdowns and recalls. Further, consumers can avoid products from the affected countries that are already on the retail shelf or in the consumer's pantry. Past recall efforts have been hampered by an inability to procure a large portion of the product because it had already been sold. This is especially the case with regard to perishable foods.

Producer Benefits

Producers may also benefit from food origin labeling, because an increased willingness to pay on the part of the consumers will be passed on at least partially as higher farm prices and increased returns to producers. Depending on the way in which consumer preferences shift, either domestic or foreign producers will benefit, possibly both. Apart from the direct mark-up in prices to reflect the added assurance, another way that prices might increase is as a result of an expansion of demand for the product. When products are displayed side by side with one of lesser quality and the consumer has no way of telling the difference, potential customers might shy away from the market, especially in cases where consumer health might be affected. Rectifying such a situation by providing consumers with the knowledge and information needed and leaving the choice up to them could not only maintain current customers but attract new consumers who are prepared to act on the information given. This would result in an overall increase in the demand for the product and an increase in net returns for producers. Thus, the benefits of country of origin labeling are significant. The science of quantifying such benefits is well recognized in the field of economics, though few detailed studies have been commissioned on this specific issue.

Record-Keeping Costs

The USDA issued an estimate as to the record-keeping costs of the voluntary guidelines on November 21, 2002. It was required to do so under the Paperwork Reduction Act of 1995. The total cost calculated was \$1,967.76 million in the first year for all covered entities. For the following reasons, it appears that the USDA cost estimate was high.

Costs to Producers

The USDA cost estimate stated that the producer record-keeping burden would be \$1 billion. It assumed that there were 2 million farms, ranches, and fisherman (production entities) that the time required to develop a record-keeping system to comply with the voluntary guidelines is one day; that the time required to generate and maintain records is one hour per month; and that labor cost \$25 per hour. This resulted in a cost estimate of \$400 million to establish a record-

keeping system and \$600 million per year to maintain records, for a total fiscal year cost of \$1 billion.

The first issue is the number of production entities that will be affected. It is possible that the guidelines may not cover production entities at all because they are not within the textual scope of the labeling legislation. However, for argument's sake, let us assume that such entities may be covered.

The USDA assumption that 2 million producers will be affected is far too high. First, all 2 million producers in the country do not produce covered commodities. Statistics from the National Agricultural Statistics Service (NASS) show that there are 1.03 million cattle producers (2003), 75,350 hog farms (2002), 64,170 sheep and goat farms (2002), 12,221 peanut farms (1997), 106,069 fruit and nut farms (1997), and 53,7171 vegetable farms (1997). The total number of producers [excluding fisherman] that could potentially be affected is 1,342,527. This number is 33 percent less than the USDA estimate.

The second issue is whether the USDA estimate as to number of additional labor hours to maintain records is correct. The USDA assumed, without articulation, that each producer would require one day to implement a record-keeping system and one hour per month to maintain records. However, there should be no need for new records, beyond those records kept for other purposes, that are required for producers and growers to show the country of origin their product.

Livestock producers currently maintain records for taxes, health rules, and other programs that are sufficient to show the origin of their livestock. These records include records on births, animal purchases, feed purchases, sales, inventory and health. Any auditor can glean sufficient information from these records to determine whether producer representations are accurate as easily as a tax or accounting auditor can verify the propriety of tax or financial documents. Thus, no new record keeping will be necessary for livestock producers (See the last issue of PAER on this issue).

Growers of fresh produce maintain the same records as livestock producers as well as any extra documentation required under the Perishable Agricultural Commodities Act and its regulations. The seed and input records maintained by growers should be sufficient to demonstrate U.S. product. We anticipate that no new records should be necessary with regard to such growers.

Though the majority of producers of covered commodities produce exclusively U.S. product, we acknowledge that producers of fish, shellfish, cattle, hogs, and sheep can procure their product from other countries. Documents showing such purchases are currently maintained for tax and other purposes. Therefore, such producers should have no additional record-keeping burden.

The third issue is whether the USDA applied the proper labor cost to the labor requirements. USDA estimated the value of time for producers at \$25 per hour. No basis for that labor cost number was provided. USDA further estimated that each producer would require eight hours (a one time cost) to establish a record-keeping system and 12 hours per year to maintain the records. Keeping in mind that the additional labor could be zero, let us examine the USDA assumptions on their own merit.

The best data source to estimate the value of each hour of labor comes from the Bureau of Labor Statistics (BLS). BLS data show that the median value of farm labor is \$7.76 per hour. If one applies the BLS data for labor cost and the aforementioned NASS data on producer numbers to the USDA labor hour estimate for establishing a record-keeping system, the labor cost is reduced by almost 80 percent. In sum, producers' labor costs for COOL are at most \$124 million and quite possibly nothing.

Costs to Handlers

The labeling legislation allows, but does not require, the Secretary of Agriculture to require "that any person that prepares, stores, handles, or distributes a covered commodity for retail sale maintain a verifiable record-keeping audit trail." The USDA has not only chosen to require such an audit trail, but also has required retailers to ensure that this is done through private contracts.

USDA estimates that there are 100,000 food handlers (including packers, processors, importers, wholesalers, and distributors) in the country. Though it concedes that many do not handle covered commodities, USDA goes on to assume all will choose to comply. Further, USDA presumes that food handlers require two days of labor to create a record-keeping system at an additional one hour per week to maintain the system. Last, USDA establishes a value of \$50 per hour for labor to generate a \$340 million record-keeping burden. This cost estimate is inflated.

First, the number of affected entities is too high. For the covered commodities, the proper number of relevant packers, processors and manufacturers is about 9000. Similarly, for the covered commodities, the total number of wholesalers, distributors and importers is at most 15,000. This is 76 percent less than the USDA estimate.

Second, as with producer cost estimate, USDA's per hour labor value is too high and without support as to handlers. The Bureau of Labor Statistics value of the closest category of laborer shows a mean wage rate of approximately \$13.60 per hour, almost 75 percent less than the USDA estimate.

Third, because the vast majority of covered commodities are produced within the U.S., most handlers will not have any purchases from foreign origin. There are

only a few dominant firms in each category likely to procure product from many sources, including foreign sources. Importers, however, procure all products from foreign sources by definition.

As a result, the record-keeping burden for handlers resulting from the labeling legislation will be minimal. All importers already must keep records on the country of origin of their product pursuant to customs regulations. Thus, they will not be affected with an increase burden. More than 90 percent of other food handlers are unlikely to purchase foreign origin products at the current time.

Thus, a maximum of 10 percent, or 2,400, of the food handling firms are likely to be affected by an additional record-keeping burden as a result of labeling legislation. In sum, the total first year labor cost for record-keeping will be \$2.21 million for those 10 percent of food handlers above and beyond the records currently maintained for other purposes.

Costs to Retailers

All retailers will be required to provide information to consumers as to the country of origin of covered commodities. The labeling legislation defines retailers as those licensed by the Perishable Agricultural Commodities Act. There are 31,000 such licensees.

USDA claims that each retailer will require five days for one person to establish a record-keeping system and one hour per day to maintain the records. USDA presumes that the wage rate for such duties is \$50 per hour. Thus, their total cost estimate is \$625.75 million for retail record-keeping. That estimate is again too high.

First, the record-keeping time assumed by the USDA is exaggerated. Retailers are merely a conduit of labeling claims made by their suppliers. Thus, they need merely to pass such information on to consumers. In the case of covered commodities sold in packages, retailers can merely require that suppliers place the required origin information on the package label. In the case of covered commodities that are sold in bulk form, the origin claims made by suppliers on the boxes and invoices should contain the necessary information for retailers to pass on to their customers. Some of the bulk products, such as apples and oranges, often contain individual stickers that could be modified or added to contain origin information.

Retailers currently maintain detailed records as to purchases and sales. Certainly, there has been a proliferation of product categories in recent years, with promotions of higher value products with special attributes, including organic, natural, or another branded program. The addition of a category containing origin information would not be a significant feat. Such information should be sufficient for auditors to verify labeling claims. In sum, there will be little

need to create a new record-keeping system for COOL. Rather, slight changes to existing record-keeping and display processes are all that is necessary. The labor time is probably less than half of USDA's assumption.

The USDA labor hour rate is also too high. The Bureau of Labor Statistics show that the median wage rate for retail wage earners is approximately \$9 per hour. There may be some involvement of supervisory personal at a higher median wage rate of \$24.75 per hour, but such involvement is likely no more than 10 percent of the total hours. The weighted average per hour wage rate is thus \$10.75 per hour. The total cost of establishing a record-keeping system for retailers in the first year at most \$70 million for retailers, would be almost 90 percent less than the USDA estimate.

Total Record Keeping Cost

Assuming that the USDA adopts at the least, a cost alternative program for complying with the labeling legislation, the total record-keeping cost for producers, handlers and retailers should be between \$69.86 million and \$193.43 million. These more realistic estimates constitute a 90-95 percent reduction in the USDA estimate. Considering that U.S. consumers purchase and eat approximately 236.4 billion pounds of covered commodities, per pound cost of record-keeping for labeling is between three-hundredths (3/100ths) and eight-hundredths (8/100ths) of a cent per pound. There is no reason to believe that this small cost impact would lead to consumers avoiding covered commodities (such as beef) and substituting non-covered commodities (such as poultry).

Conclusion

Country of origin labeling for food is a potentially important component of consumer choice. The reduction of food-system risk and the preservation of consumer confidence in the food system are additional benefits. Every credible study has shown that consumers value this information, and some studies show a significant willingness-to-pay to get this information. The combination of survey data and experimental auction data that is currently available leads us to the conclusion that the consumer willingness-to-pay for labeling amounts to billions of dollars across all covered commodities.

References

Umberger, Feuz, Calkins, and Sitz, "Country of Origin Labeling of Beef Products: U.S. Consumers' Perceptions," Presented at the 2003 FAMPS Conference: "Emerging Roles For Food Labels: Inform, Protect, Persuade." Washington, D.C., March 20-21, 2003, available online at <http://dare.agsci.colostate.edu/extension/cool.pdf>.

Note: This article summarizes part of "Country of Origin Labeling: A Legal and Economic Analysis" by professors John Van Sickle (University of Florida), Roger McEowen (Kansas State University), C. Robert Taylor (Auburn University), Neil E. Harl (Iowa State University), and John M. Connor (Purdue University). It can be read in its entirety on the Worldwide Web at: http://www.iatpc.fred.ifas.ufl.edu/docs/policy_brief/PBTC_03-5.pdf .

John M. Connor is a Professor in the Department of Agricultural Economics at Purdue University.