

## Local Marketing of Organic Food by Certified Organic Processors, Manufacturers, and Distributors

Carolyn Dimitri, Edward C. Jaenicke, and Lydia Oberholtzer

Local organic food is garnering new interest. Using new data from a national survey of certified organic intermediaries, we examine local markets for organic food and assess which firms are likely to market locally. Approximately 25% of survey respondents primarily market their products locally, and 15% of the value of organic food (at the intermediate level) is sold locally. Larger firms are less likely to market locally, firms that handle a greater share of organic products are more likely to market locally, and the likelihood of marketing locally is lower the longer a firm has been certified organic.

**Key Words:** local food, local organic food, organic handlers, organic intermediaries, organic marketing

Few topics stir as much debate within organic circles as the issue of the geographic origin of organic food. The discussion has been couched in a variety of ways, from whether organic foods should be sold locally to whether importing organic food is consistent with organic ideology. While this debate has been long-standing for those interested in sustainable agriculture, local food, and community food systems, the discussion has recently broadened into the mainstream media. *Time* magazine, for example, featured an article in early 2007 asking whether the Manhattan-based author should purchase an organic apple grown in California or a conventional apple grown in New York (Cloud, 2007), while *The Economist* (2006) asked whether one can change the world by buying certain foods. Some consumers are trying to raise awareness by eating only locally grown food: consider Kingsolver, Hopp, and Kingsolver's (2007) book *Animal, Vegetable, Miracle: A Year of Food Life*, as well as the (very) small groups of U.S. consumers participating in the "100 mile diet" ([www.100milediet.org](http://www.100milediet.org)), who eat only food produced within a 100-mile radius of the consumer.

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This research was funded by the Risk Management Agency of the U.S. Department of Agriculture. The views expressed here are those of the authors and do not necessarily represent the perspective of the U.S. Department of Agriculture.

In the United States, the interest in local foods is evident in a wide range of arenas (although most is directed toward local food in general, and not specifically on food that is both organic and local.) In 2004, federal legislation (the Child Nutrition Act, Section 122) created an unfunded farm-to-cafeteria program, and 13 states have introduced or passed legislation related to local foods in public schools. Other state policies promote local food, with 43 states having programs such as “buy local” in 2006 (Patterson, 2006). In 2005, 16 states had Food Policy Councils, which examine local food systems and make policy recommendations (Drake University Law Center, 2008).

Local food is served at over 100 colleges and universities, as well as in the cafeteria at the U.S. Department of Agriculture (USDA) headquarters (Community Food Security Coalition, 2008; USDA, 2009). During the Senate 2008 Farm Bill debate, an amendment requiring a USDA study evaluating potential benefits of advancing local food systems was debated (Menendez, 2008). The heightened attention from policy makers has translated into a June 2009 workshop on local food systems hosted by the USDA’s Economic Research Service (ERS) (USDA/ERS, 2009).

Despite the increasing frequency of discussions centering on local food, much of the debate is based on beliefs about the relative benefits of local food, on case studies of specific regions [see, e.g., the Wisconsin Local Foods Project (University of Wisconsin, 2009)], or on consumer willingness to pay for local food. To date, it has been difficult to quantify the degree to which organic food is sold locally, and to assess which factors influence the decision to market organic food locally.

This paper attempts to be one of the first to provide solid evidence about local, organic foods. Rather than focusing on food sold by farmers, we examine the distance between certified organic handlers (i.e., intermediaries such as processors, distributors, wholesalers, and brokers) and their customers (such as consumers, retail food stores, manufacturers, and wholesalers). Using new data from a national survey of the marketing practices of certified organic intermediaries in 2004, we quantify how much organic food is sold locally, and assess which factors influence the likelihood of local marketing.

We start by considering the literature on local foods, and next describe the unique data set used in this paper. Using the new data, we provide some background about organic intermediaries, including an estimate of the share and value of organic food sold locally. A multinomial logit model is then applied to assess which factors are important in determining the likelihood of an intermediary choosing to market its products locally, regionally, nationally, and internationally. This type of analysis may be useful to policy makers interested in promoting local organic food, since knowledge about the characteristics influencing the likelihood of marketing locally may make it possible to effectively target policy in the future.

### **Literature on Local Food**

The dialogue about trucking organic food over long distances from farm to consumer ventures into philosophical thoughts about food origins: one segment of consumers is strongly interested in supporting local or regional (organic or conventional) farmers (Richter et al., 2000; Schneider and Francis, 2005; Zepeda and Leviten-Reid, 2004). To another, perhaps overlapping, group of consumers and producers, the idea of shipping organic products thousands of miles incurs costs that are unsustainable (Sigrid, 2002). The cost of “food miles,” or the environmental impact of the distance food travels before being purchased by consumers, was estimated at 11.8% of the retail price of food in the United Kingdom; the costs for organic foods were significantly lower than those for conventional goods (Pretty et al., 2005). A Leopold Center study found that locally grown produce delivered to institutions (such as schools or hospitals) traveled an average of 56 miles, in contrast to 1,494 miles for produce raised in the usual production regions in the United States (Pirog and Benjamin, 2003).

A large body of literature related to local foods looks at consumer willingness to purchase locally produced foods. Several willingness-to-pay studies found that consumers were willing to pay a premium for locally grown food (Darby et al., 2008; Giraud, Bond, and Bond, 2005; Loureiro and Hine, 2002; Schneider and Francis, 2005). Of consumers surveyed in Maryland, 66% said they would be more likely to buy food grown by a Maryland farmer, and about half said they would be willing to pay a premium for Maryland-grown food (Cotton et al., 2007). Nevertheless, not all research confirms consumer interest in local food. While some found evidence of consumer interest in locally produced food (Adelaja et al., 1990; Brown, 2003; Jekanowski, Williams, and Schiek, 2000; Patterson et al., 1999; Stephenson and Lev, 2004), others contend consumers did not have a strong preference for local food (Govindasamy, Italia, and Liptak, 1997; Thomson and Kelvin, 1996). Focus group findings indicate consumers prefer purchasing locally grown food, although they do not necessarily look for a “locally grown” label in the supermarket (Zepeda and Leviten-Reid, 2004). Socio-economic factors were not associated with the levels of support for local agricultural products, while interest in local food cut across educational and income levels (Stephenson and Lev, 2004). Consumers were found to prefer U.S. grown and processed food, which they perceive as safer than imported food (Vander Mey, 2004); this sentiment was a driving factor behind the country-of-origin labeling legislated in 2002 (Krissoff et al., 2004).

On the production side, spatial analysis indicates California organic farms are more likely to be large-scale industrial farms, while New England farms produce for local markets (Eades and Brown, 2006). In an analysis of survey data on U.S. organic farmers, Park and Lohr (2006) report that organic producers who have been certified for fewer years are more likely to use just one marketing outlet (direct to consumer, retail outlets, or wholesale outlets), while more experienced

producers are more likely to use all three, and those with more workers diversify their marketing outlets. An analysis of three dairy-dependent communities in Wisconsin concludes farm-level characteristics are less important in determining whether a farm buys inputs locally than is the availability of local marketing outlets (Foltz and Zeuli, 2005).

### **Survey Methodology and Some Basic Findings**

This research focuses on an intermediary's decision to market organic foods locally, regionally, nationally, or internationally, where "local" is defined as within an hour's drive and "regionally" is within the state and surrounding states. The data underlying the analysis are from a survey of the 2004 population of firms certified to "handle" organic products as specified under the USDA organic regulation. Handlers may be manufacturers, processors, distributors, brokers, or packers and shippers, and are often referred to as intermediaries. The national organic standards specify that handling organic products includes all activities undertaken to prepare the agricultural product for market, which includes mechanical or biological methods that manufacture or process products, and the packaging, canning, jarring, or otherwise enclosing of the food in a container. The regulation specifies facility pest management practices, and stipulates that organic products cannot be produced using excluded products (such as volatile synthetic substances), ionizing radiation, and ingredients produced using excluded methods. The commingling of organic and nonorganic products is not allowed, and organic products must be protected from contact with prohibited substances.

Prior to developing the survey, the research team gathered input from stakeholders, which included interested researchers, certifiers, representatives from organic nonprofits, processors, farmers, retailers, and other members of the organic industry. Washington State University's Social and Economic Science's Research Center assisted with survey development as well as implementation of the survey. The 16-page instrument contained questions covering several broad categories, such as labeling practices, marketing to customers, procurement from suppliers, relationships with suppliers, use of contracts for procurement, and basic firm characteristics, and was administered using Dillman's Tailored Design Method (TDM) (Dillman, 1999). In accordance with the TDM procedure, all firms were pre-notified by postcard of the survey. The postcards were followed by pre-notification letters and support letters from the Organic Trade Association and the Organic Farming Research Foundation. The survey was sent by first class mail, with a \$5 incentive included, and was followed by multiple carefully timed contacts.

All handlers holding an organic certificate for the year 2004 were surveyed. The list of certified facilities was compiled by contacting all U.S.-based accredited certification agents. Of the total population, 1,393 organic handlers completed and returned the mail survey, representing a 63% rate of return from eligible facilities.

Some of the survey findings were surprising: 83% of businesses handled both organic and conventional products, with just 17% exclusively organic. The firms reported that an average of 66% of their business resulted from conventional products, with the remaining 34% due to organic products. Seventy-three percent of the firms began as conventional operations that subsequently expanded or converted their operations to organic. Less surprising was that certified organic firms were mostly small, with 48% reporting annual sales below \$1 million.

Although the survey did not ask directly about the dollar value of sales made locally, regionally, nationally, or internationally, an approximation of the values was imputed from data collected: total sales by category (i.e., under \$500,000 a year, \$500,000 to \$1 million, and so on), the percentage of sales attributed to organic products, and the percentage of organic products marketed locally, regionally, nationally, and internationally. Using responses to these questions in conjunction with the standard technique of approximating the value of sales by the midpoint of the category, the imputed total value of organic products handled by survey respondents was about \$2.4 billion in 2004. Of this amount, 15% was marketed locally, 24% regionally, 51% nationally, and 9% was exported (the percentages do not sum to 100 because of rounding error).

### Model of Handler Choice of Geographic Sales Market

The choice of marketing locally, regionally, nationally, or internationally is the result of a company's profit-maximization exercise, where each firm solves for the share sold in the different markets. Because data on costs, inputs, prices, or outputs were not available, we adopted a different approach—a discrete choice model—to assess the geographic aspects of organic food sales.

Following Greene (1993), the decision to sell in a market  $j$  can be modeled as a discrete choice where the intermediary chooses to sell in market  $j$ ;  $j =$  local, regional, or international (1, 2, or 3, respectively), or 0 if it uses the national market. This decision is unordered, and thus can be described in the random utility framework in which the intermediary selects the option that maximizes its utility. For the  $i$ th firm, the utility of choice  $j$  is given by:

$$(1) \quad U_{ij} = \beta'_j x_i + \varepsilon_i.$$

If the firm chooses to market locally ( $j = 1$ ), this implies that  $\text{Prob}(U_{ij} > U_{ik})$  for all other choices of market ( $k = 0, 2, 3$ ). Given a cumulative distribution  $F(\cdot)$ , the associated probabilities for  $Y$  are the following:

$$(2) \quad \Pr\{Y_i = j\} = F(\beta'_j x_i), \quad \text{for } j = 1, 2, \text{ or } 3,$$

and

$$(3) \quad \Pr\{Y_i = 0\} = 1 - F(\beta'_j x_i).$$

We assume the logistic form for  $F(\cdot)$ , resulting in the multinomial logit model. Based on the logistic distribution, equations (2) and (3) become:

$$(4) \quad \Pr\{Y = j\} = \frac{e^{\beta'_j x_i}}{1 + \sum_{k=1}^J e^{\beta'_k x_i}} \quad \text{for } j = 1, 2, 3.$$

In the empirical analysis that follows, we posit that the choice of market depends on measurable attributes, such as firm size, length of time certified organic, firm function (e.g., manufacturer or distributor), share of organic sales, whether the firm converted to an organic operation, and supplier attributes (see table 1). Eight different supplier attributes considered important by handlers were included as explanatory variables: local supplier, supplier knowledge of organic products, the length of the supplier relationship with handler, number of years handler has been certified as organic, range of organic products available, supplier can provide organic products year round, supplier reputation for quality, and price of organic product. Each of the independent variables, with the exception of the share of sales that are organic and the length of time the handler has been certified, are represented as dummy variables.

We expect that small handlers (in terms of sales) and those with a larger share of organic sales will be more likely to sell in local markets. Firms that converted from conventional to organic are expected to be less likely to sell locally, since their organic operations are likely to be conducted in a manner similar to their conventional business. Understanding the types of supplier attributes preferred by a handler can provide insight into the handler's marketing choice. Specifically, firms that prefer local suppliers may be more likely to market locally, while firms that market nationally may be likely to prefer suppliers who can offer a wide diversity of products. Many national supermarket chains, for example, will only buy fresh produce from large shippers able to supply a wide range of products in a large quantity (Calvin et al., 2001). On the other hand, regardless of where a firm markets, reputation for quality is likely to be important.

A total of 1,295 firms were included in the analysis. Each firm was classified as a local, regional, national, or international marketer, where the categories consist of firms that sell 50% or more of the value of their sales in the respective market. Because 68 firms did not sell at least 50% in one market, they were excluded from the analysis. Of the remaining firms, 289 were considered local marketers, 344 regional marketers, 662 national marketers, and 95 international marketers (table 1 lists the variables used in the analysis and reports descriptive statistics).

Handling firms perform a range of possible functions, which could be any combination of manufacturer/processor, wholesaler/distributor, broker, or packer/shipper. The function of manufacturer/processor was carried out most often (68% of firms), while most firms performed multiple functions. Other variables include

**Table 1. Descriptive Statistics of Variables**

<b>Variable</b>	<b>Mean</b>	<b>Standard Deviation</b>
<b>Dependent Variables:</b>		
<i>Local Marketer</i> (markets within one-hour drive)	0.27	0.01
<i>Regional Marketer</i> (markets in State or surrounding states)	0.29	0.01
<i>National Marketer</i>	0.41	0.01
<i>International Marketer</i>	0.05	0.01
<b>Independent Variables:</b>		
Firm Function:		
<i>Manufacturer/Processor</i>	0.68	0.01
<i>Wholesaler/Distributor</i>	0.21	0.01
<i>Packer/Shipper</i>	0.15	0.01
Firm Characteristics:		
<i>Number of Years Certified</i>	4.07	0.14
<i>Producer/Handler</i>	0.25	0.01
<i>Share of Organic Sales</i>	0.35	1.27
<i>Gross Sales</i> (\$ millions)	10.95	0.67
<i>Began as Organic</i>	0.23	0.01
<i>Markets to Retailers</i>	0.46	0.01
<i>Markets to Manufacturers</i>	0.32	0.47
<i>Markets to Distributors</i>	0.54	0.50
<i>Markets Fruits, Vegetables, Beans, or Mushrooms</i>	0.20	0.01
Important Supplier Attributes:		
<i>Local</i>	0.59	0.02
<i>Knowledge of Organic Products</i>	0.85	0.01
<i>Length of Relationship with Firm</i>	0.67	0.02
<i>Number of Years Certified Organic</i>	0.47	0.02
<i>Diversity of Products Available</i>	0.42	0.02
<i>Year-Round Supply Available</i>	0.68	0.02
<i>Reputation for Quality</i>	0.91	0.01
<i>Price</i>	0.84	0.01

Source: 2004 Nationwide Survey of Organic Manufacturers, Processors, Distributors, Wholesalers, and Brokers.

Note:  $N = 1,295$ ; 68 handlers were excluded because they did not market 50% or more to one geographic market.

whether a firm began as organic (23% did so) and whether a firm is certified to raise organic products as well as handle organic products (25%). A dummy variable representing whether the firm handled fruits, vegetables, beans, or mushrooms is included (20% of firms); other product categories were omitted because of the small number of observations.

Firms marketed their output to a range of outlets: retail venues (natural products, conventional, and mass merchandisers—used by 46% of firms), manufacturers and processors (32% of firms), or to distributors (54% of firms). Most handlers market to more than one outlet. On average, firms were certified for 4.07 years, with the average share of sales that are organic equal to 35%.

Important supplier attributes include whether a firm preferred to do business with suppliers near the facility (an average of 59% reported this was important) and whether the firm preferred doing business with suppliers with extensive knowledge of organic products (an average of 85%). An average of 67% reported that the length of the supplier's relationship with the handler was important; an average of 47% of firms stated that the length of time certified organic was important; diversity of products available mattered to an average of 42%, reputation for quality was deemed important by an average of 91%, while 84% indicated price was important.

### **Results of Empirical Model**

The results of the estimated model are reported in table 2. Missing values for different observations resulted in 792 observations being used in the multinomial logit model. The estimates describe whether the independent variables make a particular market choice more or less likely relative to a base case; thus the results show how the independent variables affect the likelihood that a firm will market locally, regionally, or internationally, relative to the base case of marketing nationally. For ease of exposition, the individual coefficient estimates in table 2 are reported as odds ratios. The estimated coefficient, for example, on the firm characteristic "gross sales" under the "Local" column results in table 2 is 0.98. Because this number is less than 1.0, it means that as an organic handler's gross sales increase, firms are less likely to market locally than nationally, which is the reference case. Conversely, of course, it means that firms with lower total sales are more likely to market locally than nationally.

In the comparison of a firm's choice to market locally versus nationally, the results suggest firms that market locally (relative to those that market nationally) are more likely to be wholesalers and less likely to be packers. Also, local marketers tend to have a higher share of their total sales devoted to organic sales, and they tend to be smaller firms. Local marketers have been in the organic business for a shorter time than national marketers and also have been certified for fewer years. Firms that market locally are less likely to sell to distributors and manufacturers than are firms that market nationally. These firms look for local



**Table 2. Results of Multinomial Regression**

<b>Variable</b>	<b>LOCAL</b> Est'd. Coeff. (z-Statistic)	<b>REGIONAL</b> Est'd. Coeff. (z-Statistic)	<b>INTERNATIONAL</b> Est'd. Coeff. (z-Statistic)
<b>Firm Function:</b>			
<i>Manufacturer/Processor</i>	1.13 (0.38)	-0.94 (-0.22)	0.41* (-1.86)
<i>Wholesaler/Distributor</i>	2.00* (2.33)	0.74 (-1.08)	1.21 (0.36)
<i>Packer/Shipper</i>	0.52* (-1.69)	1.36 (1.04)	0.71 (-0.62)
<b>Firm Characteristics:</b>			
<i>Began as Organic</i>	0.73 (-0.99)	0.85 (-0.59)	2.08 (1.48)
<i>Number of Years Certified</i>	0.95* (-1.77)	0.99 (-0.40)	0.99 (-0.18)
<i>Share of Organic Sales</i>	1.01* (2.65)	1.00 (0.73)	1.00 (-0.51)
<i>Gross Sales (\$ millions)</i>	0.98* (-2.94)	0.99* (-2.09)	0.98 (-1.41)
<i>Markets to Retailers</i>	1.04 (0.14)	1.03 (0.12)	0.28* (-2.73)
<i>Markets to Manufacturers</i>	0.20* (-5.25)	0.47* (-3.22)	0.47* (-1.77)
<i>Markets to Distributors</i>	0.25* (-5.42)	0.68* (-1.72)	1.07 (0.16)
<i>Markets Fruits, Vegetables, Beans, or Mushrooms</i>	0.95 (-0.13)	0.77 (-0.87)	5.38* (3.84)
<b>Important Supplier Attributes:</b>			
<i>Local</i>	2.23* (3.23)	2.86* (4.63)	-0.45* (-1.86)
<i>Length of Relationship with Firm</i>	1.39 (1.21)	1.25 (0.92)	0.54 (-1.38)
<i>Number of Years Certified Organic</i>	0.63* (-1.73)	0.72 (-1.45)	1.39 (0.74)
<i>Diversity of Products Available</i>	1.81* (2.22)	1.65* (2.11)	0.98 (-0.04)
<i>Year-Round Supply Available</i>	1.02 (0.07)	0.99 (-0.03)	0.62 (-1.09)
<i>Flexible in Meeting Needs of Handler</i>	0.65 (-1.22)	1.00 (0.03)	0.51 (-1.23)
<i>Reputation for Quality</i>	0.96 (-0.09)	0.35* (-2.51)	3.58 (1.41)
<i>Price</i>	0.55* (-1.75)	1.46 (1.08)	1.44 (0.59)
Number of observations = 792		Log likelihood = -849	
Likelihood-ratio $\chi^2[75] = 232.30$		Pseudo $R^2 = 0.12$	
Prob > $\chi^2 = 0.00$			

Notes: An asterisk (\*) denotes significance level of 10% or better. National market is the base outcome. Coefficient estimates are reported as odds ratios.

suppliers and those with a diverse product line, and are more likely to do business with suppliers who have been certified for fewer years. Local marketing handlers are less likely to be concerned about price and the length of time their suppliers have been certified.

Taken together, the results have an appealing intuition: firms that have been in business for more years are most likely accessing markets that require a high degree of expertise in marketing organic products, as well as a successful track record. In general, firms that primarily access the local markets are smaller and thus probably supply smaller quantities. These firms are also willing to conduct business with suppliers based on personal relationships rather than a long proven track record. Selling to distributors and manufacturers may require firms to have more market expertise, also. Mainly because of the proximity between sellers and buyers, those selling in the local markets require less expertise and know-how than those conducting business over longer distances.

In many aspects, regional marketers are not significantly different from firms that market nationally, at least in terms of characteristics and function. Regional marketers are slightly smaller than national marketers, and are less likely to market to distributors and manufacturers. One notable difference between regional and national marketers is that the share of organic sales has little effect on the predicted probability of marketing regionally for wholesalers, manufacturers and processors, and packers and shippers; in contrast, the share of a firm's sales comprised by organic products has a negative relationship with the predicted probability of marketing nationally. In terms of attributes they seek from their suppliers, regional marketers are more likely to purchase from local suppliers as well as from those who offer a diverse product line, and are less likely to seek out suppliers with a reputation for quality.

Two firm characteristics—a firm's total gross sales and its share of total sales that are organic—are particularly striking as one examines the range of a firm's marketing choice. Figures 1–4 summarize the impact of the total value of a firm's gross sales on the likelihood of marketing choice. As firms grow larger, the predicted probability of marketing locally declines (figure 1). This result holds regardless of whether firms identify themselves as wholesalers, manufacturers, or packers. The same general results hold for the predicted probabilities of marketing regionally and internationally (figures 2 and 4). However, the opposite result holds for the probability of marketing nationally; as firms increase in size (defined by gross sales), they become more likely to market nationally (figure 3).

Figures 5–8 summarize the impact of a firm's share of its total sales devoted to organic products on the marketing decision. As a firm's share of organic sales increases, the predicted probability of marketing locally increases (figure 5), while the opposite results hold for marketing nationally and internationally (figures 7 and 8). Results are mixed for the probability of marketing regionally (figure 6). As the organic share increases, the predicted likelihood of marketing regionally slightly increases for packers, slightly decreases for wholesalers, and remains fairly constant for manufacturers.

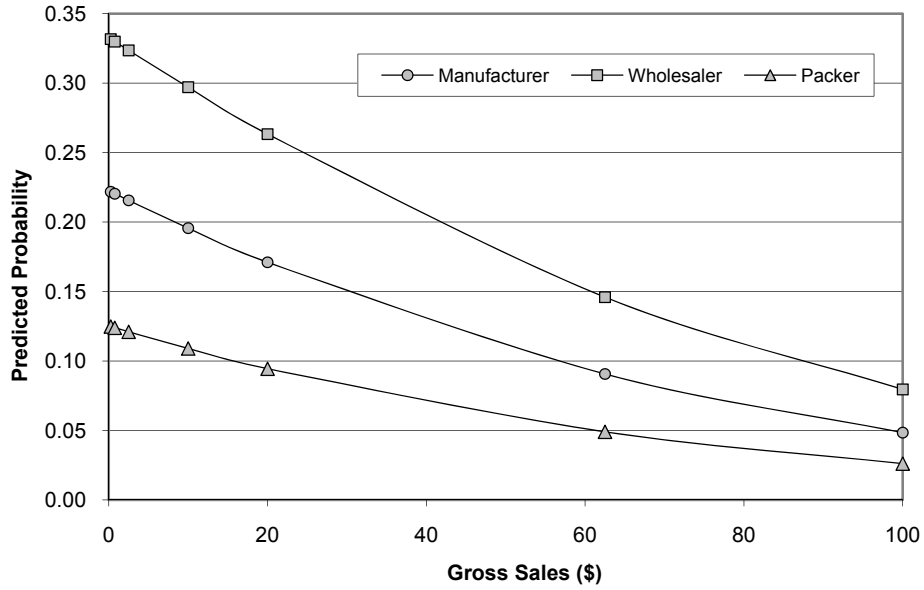


Figure 1. Predicted probability of marketing locally for wholesalers, manufacturers, and packers, by firm gross sales (\$ mil.)

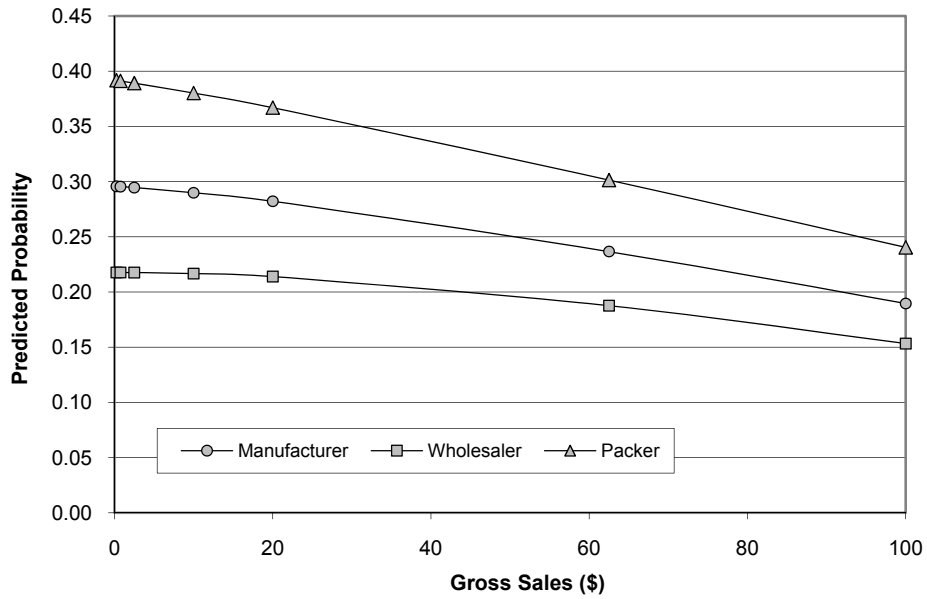
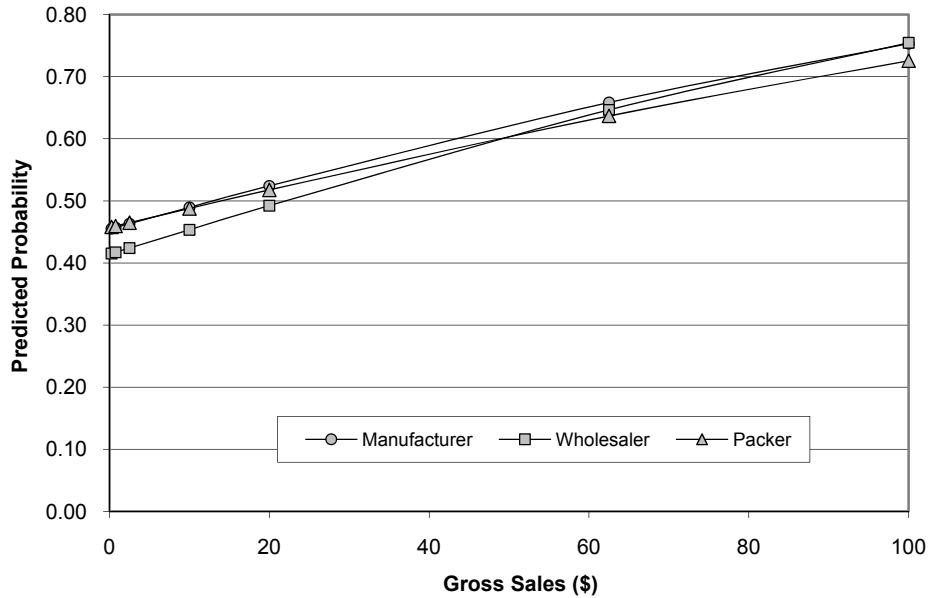
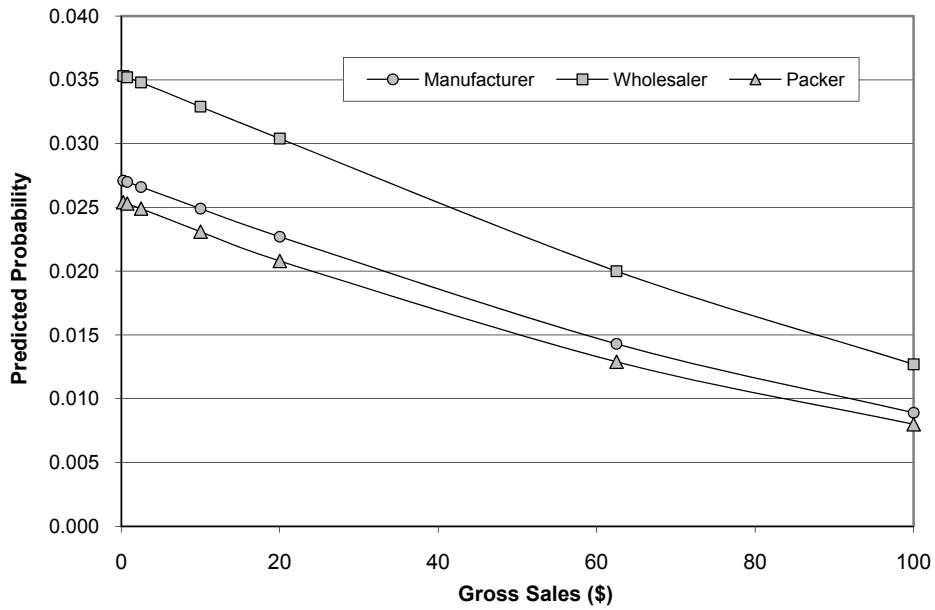


Figure 2. Predicted probability of marketing regionally for wholesalers, manufacturers, and packers, by firm gross sales (\$ mil.)



**Figure 3. Predicted probability of marketing nationally for wholesalers, manufacturers, and packers, by firm gross sales (\$ mil.)**



**Figure 4. Predicted probability of marketing internationally for wholesalers, manufacturers, and packers, by firm gross sales (\$ mil.)**

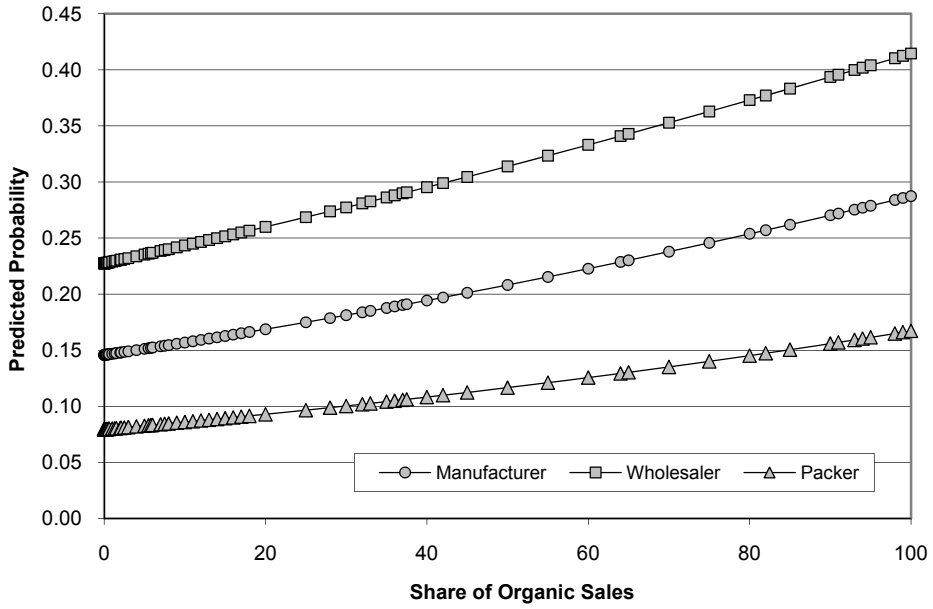


Figure 5. Predicted probability of marketing locally for wholesalers, manufacturers, and packers, by share of organic sales

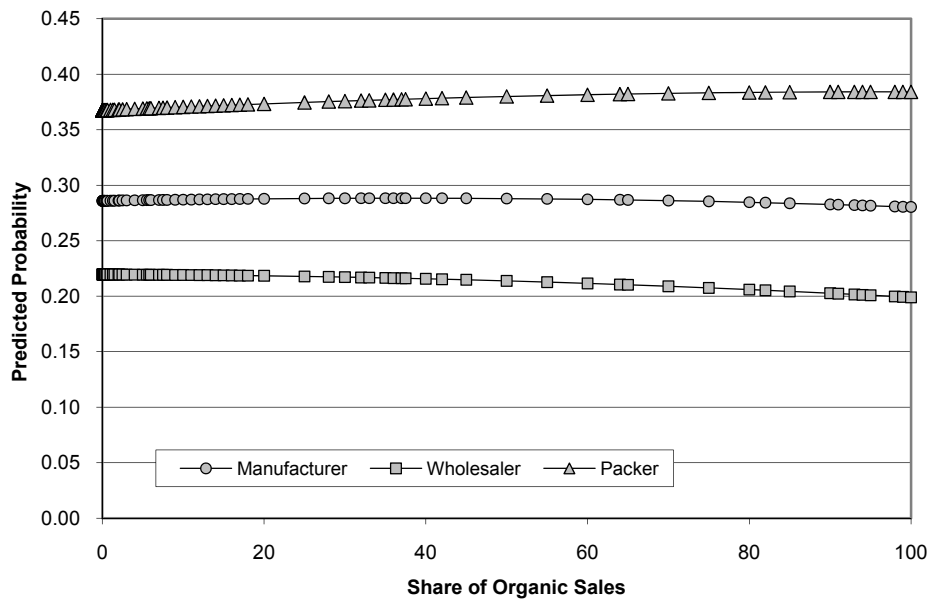
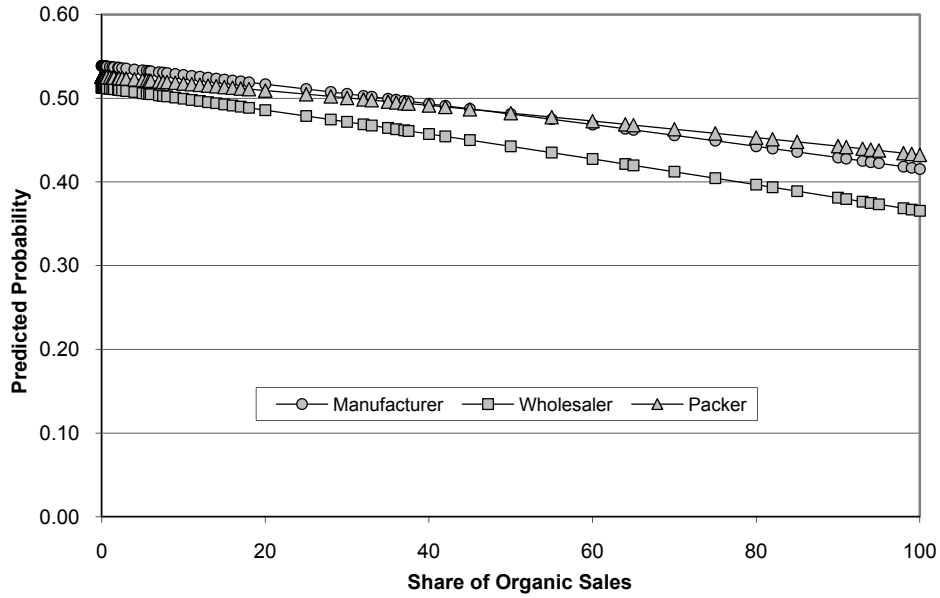
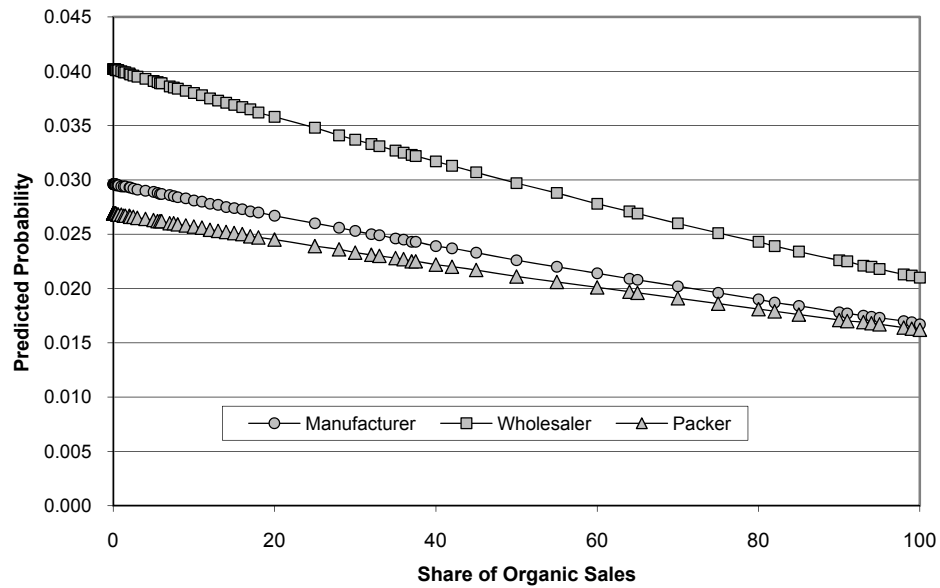


Figure 6. Predicted probability of marketing regionally for wholesalers, manufacturers, and packers, by share of organic sales



**Figure 7. Predicted probability of marketing nationally for wholesalers, manufacturers, and packers, by share of organic sales**



**Figure 8. Predicted probability of marketing internationally for wholesalers, manufacturers, and packers, by share of organic sales**

## **Discussion**

Analysis of new data on the marketing and procurement practices of organic handlers in the United States provides some insight into recent discussions concerning the relative merit of locally grown organic products versus products grown and marketed across long distances. Both descriptive statistics and the results of the modeling indicate relatively few firms use local markets as their primary market (25%) and about 15% of the value of sales (at the intermediary level) is for local sales. In contrast, many organic intermediaries market nationally, and more than half of the value (at the intermediary level) of organic food in the United States travels long distances before reaching consumers. This result is not exceptionally surprising given that the culture in the United States is for agricultural production to be concentrated in specific regions, and marketed around the country. Our findings further reveal the kinds of firms that are more likely to market locally: firms with a higher share of organic sales, those certified for a shorter period, and those functioning as wholesalers. These firms also prefer local suppliers, and are willing to work with suppliers who have been certified for a short period of time. The finding that length of time certified matters when making marketing decisions is comparable to Park and Lohr (2006), who found that farmers with more experience accessed a greater number of market outlets.

Policy makers interested in promoting local food might increase the impact of policy by targeting firms with the above characteristics in a variety of ways. Some potentially successful strategies include local governments' promotion of local organic marketing, such as supporting local farmers markets, restaurants that rely on local products, and sales of locally grown food in supermarkets. While some of these types of activities are currently being conducted for farm-level sales, handlers could be targeted for the same types of promotions. "Local" labels, used in conjunction with the "organic" label, might be a tool to increase sales. Government support, even through creating a state label, such as "raised and processed in Maryland," has the potential to increase awareness about local food. State Departments of Agriculture could better integrate organic into their marketing programs, either directly or through support of local nonprofits; some states have already done this (e.g., Minnesota, Washington, and Iowa), while others have not pursued this avenue.

Based on the findings of the multinomial logit model, firms who market locally and those marketing regionally seek suppliers with similar attributes. Since regional marketers move food over relatively short distances, they may be able to provide some of the social benefits attributed to local marketers, including reduced food miles, lower transportation costs and fuel usage, support of smaller and nearby food companies, and eating seasonally. This suggests that promoting regional organic food may be beneficial, although regional promotion might be harder to implement, since there are few governmental bodies involved in coordinating activities at a regional level. One way to overcome this difficulty

might be by promoting regional organic activities through organic certifiers or through regional organic producer and trade associations. Some initiatives targeting organic regional food are beginning to appear in Illinois, Wisconsin, Michigan, and Indiana; additional local and state funding would likely increase the number of these initiatives.

A different approach might be for governments to provide incentives for retailers to carry locally grown food. Whole Foods, for example, responded to public pressure, created in part by Pollan (2006), and developed a stronger local foods program, which defines locally grown/processed food as products originating from within a seven-hour drive from individual Whole Foods' stores. Whole Foods also established a local producer loan program in order to increase the supply of locally grown organic food.

As growth in the organic sector continues, many of businesses in the U.S. organic market are likely to continue doing business on a national scale, and potential supply shortages may encourage the organic market to partially globalize. Rising fuel prices—already felt in increased food prices—may cause some businesses to rethink their marketing strategies. These are supply factors. On the demand side, many consumers have expressed interest in purchasing locally grown organic food. The data suggest there is a segment of the handler population equipped to meet this market demand. Policies, such as promotional activities, labels, and retailer incentives, may be able to increase both the total amount and share of local and regional sales of organic foods.

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