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Who Buys Local Food?

Lydia Zepeda and Jinghan Li

Using data from a national survey of food shoppers, a Lancaster-Weinstein model is estimated using probit analysis to investigate the characteristics of local food buyers. Because there is no standard for what “local food” is, consumer research is used to define the term fairly narrowly as buying from farmers’ markets, buying directly from farmers, and Community Supported Agriculture (CSA) membership. The results reveal that income and demographic characteristics are not dominant factors, nor do attitudes or behaviors related to the environment and health significantly affect whether shoppers buy local. Rather, it is the attitudes and behaviors related to food and shopping that significantly increase the probability that shoppers buy local food. The implications are strategies that will be effective in promoting local foods.

“The most sincere form of love is the love of food.” —George Bernard Shaw

The growing sensitivity toward origin of food is a predictable outcome of an increasingly competitive global food system; as sourcing in the commodity system becomes increasingly complex, consumers look for simple ways to identify desirable characteristics. For example, public support for mandatory country-of-origin labels (COOL) stems largely from food-safety concerns. Consumers in the United States view other countries or specific countries as having laxer rules or enforcement with respect to use of agricultural chemicals and food processing (Loureiro and Umberger 2005; Zepeda and Leviten-Reid 2004).

Global competition has also raised economic and community-development concerns, leading to programs and campaigns to promote agricultural products within the United States. Among these, state branding programs have increased from 23 in 1995 to 42 in 2006, spurred by an infusion of over \$200 million in federal and state funds in 2001 (Patterson 2006).

As a means of increasing profits to farmers by eliminating middlemen, the number of farmers’ markets and Community Supported Agriculture (CSA) has also grown. Four federal Departments (Agriculture, Commerce, Health and Human Ser-

vices, and Housing and Urban Development) and all 50 states have programs to promote farmers’ markets (Hance and Schumacher 2004). There are also many non-profit organizations dedicated to promoting local agriculture. Community Involvement in Sustaining Agriculture (CISA) is a prime example with its “Be a local hero” campaign that not only promotes local production but also assists farmers in beginning new enterprises (CISA 2002).

Consumers in the United States are generally supportive of mandatory state (86 percent in Shaffer 2002) or local (91 percent Wilkins, Bokaer-Smith, and Hilchey 1996) labels. However, Patterson (2006) has found limited empirical evidence to support the effectiveness of most state promotion campaigns. In addition, Zepeda and Leviten-Reid (2004) found that most consumers define local in terms of driving time rather than political boundaries. Furthermore, not all food products from a state participate in state promotional campaigns nor are the labels used exclusively for marketing within a state.

Given the attention and promotion local food has received, the lack of a clear definition is a primary stumbling block in analyzing local-food demand. Most researchers have responded by examining discrete marketing channels such as farmers’ markets. This article develops a workable definition of local food and examines these consumers and why they want to buy “local” food, if they are typical, and if they represent a large market. Data from a national survey of food shoppers is used in a probit model to examine the factors that significantly increase the probability that food shoppers buy local food.

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Funding for this research was provided for by the U.S. Department of Agriculture, National Research Initiative. The authors would like to extend their gratitude to all those who participated in the surveys.

What Is Local Food?

While the term “local” food is commonly used, there are no standards in the United States defining it. When asked to use political boundaries, consumers generally define the term as food grown within a county or neighboring counties, or within a state (Wilkins et al. 1996; Harris et al. 2000). Because consumers generally define “local” in terms smaller than their state, state labels are not a good proxy for local food, particularly given that many of the state campaigns are targeted to consumers in other states.

Furthermore, political boundaries do not appear to be the best delineation to define local food. When asking consumers for a definition, Zepeda and Leviten-Reid (2004) found that while many African-American food shoppers and some organic-food shoppers spontaneously defined “local” in terms of political boundaries, most food shoppers defined local in terms of driving time. Since time rather than political boundaries define local food for most, this is another argument against considering state-labeled foods as local foods.

That consumers do not appear to perceive state-labeled foods as local foods may explain the emergence of foods explicitly labeled as “local,” as well as campaigns to promote local foods. The “local food” label and campaigns appear to be filling a gap. Some stores will label food as “local” to relay the idea that the food was purchased from nearby farmers.

Farmers’ markets are unambiguously local food. Governing rules often have explicit geographic restrictions as well as restrictions that require the vendor to participate in the production of the products sold. They differ from open-air markets throughout much of the world in that middlemen are forbidden. Farmers’ markets in the United States have been growing rapidly: in 2006, there were 3,766 farmers’ markets in the United States, an annual growth rate of about ten percent since 1994 (U.S. Department of Agriculture 2005, 2006). Sales in 2000 at farmers’ markets were \$888 million and served nearly 2.8 million customers (Payne 2002).

CSAs are also unambiguously “local.” They are a form of direct buying from farms located near (and even within) urban areas. They have grown from two in the United States in the mid-1980s to 1,138 in 2006 (Lass et al. 2003; Van En 2006).

Therefore, a fairly narrow definition of local food

is used in this study: buying directly from farmers in one’s county or neighboring counties. Direct buying may include farmers’ markets, Community Supported Agriculture (CSA), and farm stands. Most studies have examined these components individually rather than collectively as “local foods.” This may explain conflicting results; each venue is small, emerging, and rapidly growing. However, all are motivated by the same goal of permitting consumers to buy directly from farmers. Collectively, they may paint a more complete picture than when viewed separately.¹

Findings of Previous Studies

Lockeretz (1986) found that consumers who shop at farmers’ markets do so because they enjoy the shopping experience. Those who do not shop at farmers’ markets cite access issues as obstacles such as distance from the consumer’s home and inconvenience of the location (Eastwood, Brooker, and Gray 1999).

Consumers in the United States are motivated to join CSAs in order to access fresh organic food, support local farmers, and have direct contact with the food producer (Laird in Kolodinsky and Pelch 1997, p. 131). CSA membership is associated with those who both purchase organic food and are socially or politically aware (Kolodinsky and Pelch 1997). CSA membership is inhibited by lack of choice in mix and amount of produce provided, particularly the inclusion of unfamiliar or undesirable vegetables, lack of transportation, and inconvenience in pick-up place or time (Zepeda and Leviten-Reid 2004).

Research by Zepeda and Leviten-Reid (2004) found only positive attitudes toward local foods among consumers. Participants associated local food with supporting the local economy and environmental benefits. Other characteristics associated with those who purchase local produce include farm background and membership in environmental groups (Brown 2003). Attitudinal and behavioral characteristics generally are better predictors of local food buying behavior than are demographic characteristics; research on demographic characteristics is often conflicting. Brown (2003), Eastwood,

¹ Estimation results using CSA membership or shopping at a farmers’ market separately had poor fit; prediction was reduced to as little as eight percent correct.

Brooker, and Gray (1999), Govindasamy, Italia, and Adelaja (2002), Kezis et al. (1998) and Wolf, Spittler, and Ahern (2005) characterized the typical local-food shopper as female, college educated, and with above-average income. However, Kolodinsky and Pelch (1997) found income was unrelated to local-food demand, while Jekanowski, Williams, and Schiek (2000) found that education was negatively related. Onianwa, Wheelock, and Mojica (2005) found that income level was unrelated to direct buying from farmers, and that education was the most significant factor. Brooker and Eastwood (1989) found conflicting results with respect to state labels; those over 35 years and those in larger households were more positive toward state labels but their willingness to pay was low.

The implications of the literature are that attitudinal variables related to the environment, health, and support of the local economy and behavioral variables such as organic food purchase and where one shops are more likely to predict local-food purchase than are demographic variables alone (Eastwood, Brooker, and Gray 1999; Kolodinsky and Pelch 1997; Lockeretz 1986; Wolf, Spittler, and Ahern 2005; Zepeda and Leviten-Reid 2004).

A Lancaster-Weinstein Model of Local-Food Buying Behavior

In a neoclassical demand model, the dependent variable of interest is generally expenditure and the primary explanatory variables are price, income, and demographic variables, which act as proxies for preferences. For most demand studies, expenditure categories are viewed as homogenous or as commodities. Lancaster (1966) introduced the concept of demand for product attributes. The Lancaster model has been applied to examine multiple attributes such as health, status, environment, and convenience (Fischer 2005), as well as single attributes such as nutrition (Variyam, Blaylock, and Smallwood 2002).

Along with Lancaster's attribute model, we incorporate ideas from Weinstein (1988) that individual behavior reflects stages; attitudes and preferences do not unvaryingly result in action. Consumers not only have to perceive a need, they must believe that it has a personal connection to an action, develop an intention to act, and then actually act on the preference. Thus a disconnect between attitudes and behavior (e.g. "environmentalists" who buy large

houses or vehicles) can be explained as formative or emergent. These individuals have not reached the stage where they recognize the personal connection between preferences and actions, develop a plan to act, or take the opportunity to act. Not only do we use attitudes and preferences in our model, we also incorporate individual behaviors, because they reflect enactment of preferences. Therefore, the model is a hybrid of a Lancaster attribute model and a Weinstein stages model.

In this case, the demand for the proximity of the production of the food with respect to the consumer is the product characteristic of interest. The question in this research is not how much one spends on local food but whether one buys local food and the characteristics of the local-food shopper. Part of the reason for this focus is that there is no standard definition of local; hence the collection of detailed expenditure data is problematic. In order to examine consumer choice, we focused on whether and how often they shopped at farmers' markets or farm stands when they were open or whether they were members of a CSA, all of which are unambiguously "local." State promotion campaigns were excluded because they may not necessarily be linked to labels and hence to consumer behavior, because most consumers do not equate state political boundaries as "local," and because state labels are often used as marketing tools outside a state. For this study we define "local" to mean food purchased at farm stands, directly from farmers, or at farmers' markets, or CSA membership.

What would motivate consumers to purchase locally produced foods? Proximity is associated with freshness and improved quality, hence one would expect consumers for whom this is important (those who cook from scratch frequently [a behavior]) or are more knowledgeable (e.g. gardeners or those who cook frequently [behaviors] and people who enjoy cooking [an attitude]) to be more likely to buy local food.

Proximity means the food travels less distance; for many this implies lower fuel costs². Thus those with environmental concerns may be more inclined

² However, one needs to examine the average cost of fuel use per pound to verify. For example, a tractor-trailer transporting 30,000 pounds of produce 1000 miles uses about 0.0067 gallons of fuel per pound transported. A pickup truck or SUV transporting 100 pounds of produce ten miles uses slightly more fuel per pound transported: 0.0071 gallons. (Based on estimates of five mpg and 14 mpg respectively from Kodjak [2004]).

to buy local. Other attitudes that one would expect to be associated with buying local include the desire to support the local economy or local farmers.

Cost and income are expected to influence local purchases. However, indirect search costs may overshadow monetary costs. If one shops regularly at a store that features local food (a behavior), the search cost is minimal. However, local food may not be available at one's regular shopping venue; it may require a special trip to a farmers' market, farm stand, or health food or other store that promotes local food. Thus regular shopping venue and availability of local shopping venues are expected to affect local-food demand.

It is also important to include demographic characteristics (age, race, gender, education) which may act as proxies for unspecified preferences and also to compare to other studies that have used demographic characteristics. For example, previous studies characterize local-food shoppers as women, but do not control for the fact that women are the predominant food shoppers. A more precise question is whether female food shoppers are more likely to buy local food than are male food shoppers.

The model is estimated using probit analysis to control for the different effects and to examine the relative importance of demographic characteristics, attitudes, and preferences about food, behaviors, and economic variables. The general form of the model is

Buy Local = f (attitudes and preferences about food; behaviors related to food and health; knowledge; search costs; economic factors; demographic characteristics).

Data

A U.S. consumer survey on food buying was conducted in the fall of 2003. Historically, telephone surveys generally have better response rates than do mail surveys. Given the proliferation of telemarketers and caller ID, experts were unable to recommend one method over the other³. The decision was made to compare telephone and mail surveys. With a target of 900 observations, a telephone survey and a mail survey were developed and tested. For each venue, there were four versions with different ordering of answers to mitigate bias due to answer

order. Negative and positive answers were used for knowledge questions to assess whether negative or positive wording affected answers.

The final sample had 956 observations: 522 mail surveys and 434 telephone CATI (computer assisted telephone interview) surveys. The mail survey did substantially better than the phone survey; it had an unadjusted response rate of 47.7 percent versus 29.1 percent. Household-income data was divided into quintiles to examine how representative each type of survey was. While the mail survey had a higher response rate, this was mainly among the highest three quintiles of household income. Neither survey did particularly well among the lowest quintile; only eight percent of the mail-survey and ten percent of the phone-survey respondents were in the lowest income quintile.

After all missing variables were omitted, 758 usable observations remained. It should be noted that for both surveys, respondents were screened for adults who shopped and cooked. The reason for defining this population is because the question of concern focuses on behavior. The opinions of those who do not buy or cook food are unlikely to be reliable or consistent, as these people have no practical experience; their answers would be merely hypothetical.

The dependent variable is defined as shopping at least once per month at a farmers' market (during the season it is open), CSA membership, or regularly buying directly from farmer (Table 1). The explanatory variables used in the model include preferences and attitudes, behaviors, demographic characteristics of the respondent, and regional and economic variables.

Among the preferences and attitudes, it is expected that those who say that nutrition and health are the most important characteristics of food would be more likely to buy local since health and nutrition are often given as reasons for buying local food. It is expected that those who say cost is the most important characteristic of food are less likely to buy local because, presumably, these respondents view food merely as a commodity. Because most respondents claim to be concerned about the environment, we identified an environmental issue often cited as a reason to buy local: energy and resource conservation. We predict that those who are most concerned about this environmental issue are more likely to buy local. Agriculture and farming is also an issue that everyone supports in principle. We

³ Experts were consulted at two university survey centers where national surveys are routinely done.

asked respondents to rank various farming issues and created a variable for those who ranked farmers receiving an adequate price the highest. This is a reason cited for buying local food; hence we expect it to be associated with the behavior. We also included variables for those who enjoy cooking somewhat or very much. Enjoyment of cooking is probably associated with knowledge of food and food quality. We predict it will increase the probability of buying local food.

Among behaviors, there are several that have been cited in the literature as associated with local-food purchases. We have included households that follow a special diet, as we expect these households to put more effort into food decisions. We also expect those who buy organic food to be more likely to buy local food, as organic is also a production attribute. We expect shopping venue to affect the search cost for local food and therefore include a variable for those who shop at health food stores. We also expect those who grow their own food in their garden to be more knowledgeable about food and also to be more likely to purchase local food. We predict that households that prepare meals from raw ingredients at least once per day are also more likely to be knowledgeable or appreciative of food and more likely to buy local food. We used membership in a fitness club to represent those whose behavior reflects a priority on health and fitness. Given prior research indicating people buy local for health reasons, it is expected that fitness club members would be more likely to buy local.

The usual demographic variables are included: gender⁴, age, education, race and region. Age squared is included because age often does not behave in a linear fashion. We include the number of adults in the household to reflect an appreciative audience or shared responsibilities for prepared food. Religious affiliation is expected to be consistent with community building and hence with buying local food.

Among the economic variables, we expect the amount spent on food to be associated with local-food purchase. The literature would also predict that household income would be linked to shopping at farmers' markets and with other forms of local-food purchase.

⁴ Note that because the population is food shoppers, the sample is predominantly female (65 percent). Therefore the results will examine the effect of gender on food-shopping behavior.

Results

A probit model was estimated using Limdep 8 software (Greene 2002). This permits examining the marginal impact of variables on probability of shopping for local food, holding all other variables constant. Overall, the model fit is good: the chi-squared value is 142, significant at less than 0.01 percent, and the overall model fit is 0.675. The model predicts local-food buyers (68 percent) and non-buyers (67 percent) equally well.

The variables that are not significant are as revealing as those that are (Table 2). Attitudes about nutrition and health, energy conservation, and the importance of farmers receiving adequate prices have no significant effect on the probability of buying local. So while these may be cited as reasons for buying local food, such attitudes do not appear to affect actual behavior. These attitudes may reflect emergent stages, necessary but not sufficient, for eventual action. Or they may simply be "mom and apple pie" sentiments that people find it desirable to agree with but onerous to do anything about.

On the other hand, attitudes toward cooking and the cost of food are significantly associated with local buying behavior; enjoyment of cooking significantly increases the probability of buying local food, while concern about the cost of food significantly decreases the probability of buying local food. The former may reflect greater ability or knowledge to identify and hence demand fresher, higher-quality foods. The latter is somewhat curious, as foods sold at farmers' markets, farm stands, and through a CSA are frequently cheaper. However, these venues do have an added indirect cost in terms of time and location.

Among behaviors, those related to cooking and to health and exercise had no significant impact on the probability of buying local; having someone in the household on a special diet, the frequency of cooking, and fitness-club membership were all insignificant. However, behaviors related to food knowledge (gardening) and food venue (shopping at a health food store) significantly increase the probability of buying local food. And behavior related to purchase of organic food significantly increases the probability of buying local food. Organic food purchasers are consumers who apparently value certain production aspects of food.

In general, the demographic variables were not significant when behaviors and attitudes were taken

Table 1. Description of the Variables Used in the Probit Analysis (N=758).

Variables	Description	Mean	SD
Dependent variable			
Localnew	1= Respondent shops at least once per month at a farmer's market when it is open, belongs to CSA, or buys food directly from a farmer on a regular basis 0= Otherwise	0.5211	0.4999
Independent variables			
Preferences/attitudes			
a07nutr	1= Nutrition/health are the most important characteristics of food 0= Otherwise	0.4354	0.4961
a07cost	1= Cost is the most important characteristic of food 0= Otherwise	0.1293	0.3357
a16energ	1= Energy or resource conservation are the most important environmental issues 0= Otherwise	0.1214	0.3268
a25adeq	1= U.S. farmers receiving adequate prices for their products is the most important agricultural issue 0= Otherwise	0.1438	0.3511
j01enj1	1= Respondent enjoys cooking not at all 0= Otherwise	0.1095	0.3125
j01enj2	1= Respondent enjoys cooking somewhat 0= Otherwise	0.4710	0.4995
j01enj3	1= Respondent enjoys cooking very much 0= Otherwise	0.4195	0.4938
Behaviors			
b01diet	1= Someone in the household follows a special diet 0= Otherwise	0.4525	0.4981
d01never	1= Never buy organic food 0= Otherwise	0.4222	0.4942
h03hlthf	1= Get groceries at health food store on a regular basis 0= Otherwise	0.1530	0.3603
h09mygar	1= Grow food in own garden 0= Otherwise	0.2467	0.4314
j02oft1	1= Household prepares meals from raw ingredients at least once per day 0= Otherwise	0.2836	0.4511
n15fitcl	1= Respondent belongs to a fitness club 0= Otherwise	0.2612	0.4396

Table 1. Description of the Variables Used in the Probit Analysis (N=758). (Continued)

Variables	Description	Mean	SD
Demographic variables of respondent			
n01adadt	Number of other adults in the household	0.9538	0.8394
n05gendr	1= Gender of respondent: male 0= Gender of respondent: female	0.3496	0.4772
n06age1	Age of respondent in 10 years	4.9955	1.5297
n06agesq	Age-squared in 10 years	27.2920	16.3432
n07eduh	1= Education: at least 4 years of college 0= Otherwise	0.4024	0.4907
n08race1	1= Race: Caucasian 0= Otherwise	0.8311	0.3749
n09rel1	1= Religious affiliation: none 0= Otherwise	0.1438	0.3511
Midwest	1= Household in Midwestern state 0= Otherwise	0.2612	0.4399
South	1= Household in Southern state 0= Otherwise	0.3470	0.4773
West	1= Household in Western state 0= Otherwise	0.2018	0.4052
Economic variables			
j03wk2	Amount spent on food per week by household (hundred dollars)	1.2367	0.8625
n16inc1	1= Household income in first quintile (low income) less than \$15,000 0= Otherwise	0.0937	0.2916
n16inc2	1= Household income in second quintile (low-middle income) \$15,000 to \$29,999 0= Otherwise	0.1623	0.3689
n16inc3	1= Household income in third quintile (middle income) \$30,000 to \$44,999 0= Otherwise	0.1821	0.3861
n16inc4	1= Household income in fourth quintile (upper-middle income) \$45,000 to \$75,000 0= Otherwise	0.2916	0.4548
n16inc5	1= Household income in fifth quintile (high income) above \$75,000 0= Otherwise	0.2704	0.4445

Table 2. Probit Analysis of Who Buys Local Food (N=758).

Variables	Coefficients	SE	Marginal	SE
Intercept	-1.3858 *	0.5627	-0.5516 *	0.2241
Preferences/attitudes				
a07nutr	0.0112	0.1072	0.0044	0.0427
a07cost	-0.4229 *	0.1592	-0.1668 *	0.0610
a16energ	-0.0665	0.1502	-0.0265	0.0599
a25adeq	0.1310	0.1420	0.0519	0.0559
j01enj2	0.4432 *	0.1706	0.1748 *	0.0661
j01enj3	0.8339 *	0.1771	0.3205 *	0.0637
Behaviors				
b01diet	0.0892	0.1032	0.0355	0.0410
d01never	-0.4188 *	0.1059	-0.1658 *	0.0413
h03hlthf	0.4820 *	0.1541	0.1854 *	0.0558
h09mygar	0.3010 *	0.1191	0.1184 *	0.0460
j02oft1	0.0952	0.1180	0.0378	0.0467
n15fitcl	0.0762	0.1184	0.0303	0.0470
Demographic variables of respondent				
n01adadt	0.2051 *	0.0677	0.0816 *	0.0269
n05gendr	-0.1427	0.1045	-0.0568	0.0416
n06age1	0.3205	0.1996	0.1276	0.0794
n06agesq	-0.0304	0.0188	-0.0121	0.0075
n07eduh	-0.0095	0.1099	-0.0038	0.0437
n08race1	0.2264	0.1396	0.0901	0.0553
n09rel1	-0.1359	0.1448	-0.0541	0.0577
Midwest	-0.0843	0.1503	-0.0336	0.0600
South	-0.0920	0.1400	-0.0366	0.0557
West	-0.2643 **	0.1595	-0.1051 **	0.0630
Economic variables				
j03wk2	-0.0433	0.0641	-0.0173	0.0255
n16inc1	0.0501	0.2042	0.0199	0.0810
n16inc2	0.2648	0.1735	0.1040 **	0.0668
n16inc4	-0.0690	0.1487	-0.0275	0.0592
n16inc5	-0.2680 **	0.1610	-0.1066 **	0.0637

* Significant at 0.05 level.

** Significant at 0.1 level.

into account. Gender, age, education, race, and religion had no significant impact on the probability of buying local food. This may offer an explanation of why studies that focus on demographic variables have conflicting results. Demographics are simply a poor proxy for preferences. Furthermore, many of the studies that found gender differences did not define their population as food shoppers. This is akin to polling the political preferences of those who never vote—it is interesting, but not relevant to election outcomes.

Among the demographic variables, only the presence of more than one adult in the household significantly increases the probability of buying local food at the five-percent level. The presence of another adult may reflect a positive externality: someone to share a meal with, someone who expresses appreciation of the meal prepared (in contrast to children, whose mealtime behavior may be less than appreciative). The only regional variable that was somewhat significant was “West,” and only at the ten-percent level of significance.

None of the economic variables (income or food expenditures) significantly affected the probability of buying locally at the five-percent level. This may simply be that local-food purchases are simply too small in size or proportion of expenditures to be affected by income or expenditures. At the ten-percent level of significance, households in the highest quintile of income were actually significantly less likely to buy local food. While one might suspect this is because they may eat out more, it should be noted that this result corrects for frequency and enjoyment of cooking. A possible explanation of this result may have to do with opportunity cost; buying local involves an added time component (going to a farmers’ market, farm stand, or CSA site). Perhaps the higher opportunity cost of time may inhibit high-income households from buying local. An alternative explanation may have to do with class; possibly high-income households prefer to get their raw ingredients from more upscale venues than farm stands.

The marginal effects of the significant variables identify who buys local foods. The enjoyment of cooking is clearly the dominant factor in buying local. Enjoying cooking somewhat increases the probability that one will buy local food by 17 percent, while enjoying cooking “very much” increases the probability of buying local food by 32 percent. Venue is also quite important; shopping at a health

food store increases the probability of buying local by 19 percent. Buying organic food increases the chances by almost 17 percent, while gardening raises the chance by 12 percent and having more than one adult in the household increases the probability by eight percent. Attitudes about the cost of food being important reduce the chances of buying local by 17 percent. It is important to note that this attitude holds across both income levels and food expenditures.

The variables that are significant at the ten-percent level—Western region and the highest income category—each decrease the probability of buying local food by 11 percent. Given the level of significance and the size of the marginal effects, these are not of much consequence.

Conclusions

Using a national survey of food shoppers to examine who buys local food, the lack of significance of attitudes towards energy use, nutrition, and fair prices to farmers may surprise those promoting local foods. But consumer research frequently yields a disconnect between attitudes/convictions/opinions and behavior. The implication is that promotion campaigns that rely on energy, nutrition, and fair prices may be very well received by some consumers but will not significantly affect their behavior. One could view these attitudes as emergent, requiring further facilitation to realize changes in behavior.

However, the results imply that other existing attitudes more directly or readily translate into local-food buying behavior, and hence are more efficient promotion strategies. For example, the enjoyment of cooking “somewhat” or “very much” increases the probability of buying local food by 50 percent. Thus promoting the enjoyment of cooking (and presumably eating) local food would be a much more effective method of local-food promotion than are marketing strategies that emphasize energy, nutrition, or supporting farmers. Examples of marketing strategies that capitalize on enjoyment of cooking to promote local foods include recipes, cooking shows, demonstrations, food festivals, community events, or restaurants that feature local food.

The significant impact of the presence in the household of another adult on the probability of buying local food is very interesting, though its impact is not terribly large. It may represent a posi-

tive externality of sharing a meal or may be tied to enjoyment of cooking by having an appreciative audience for one's toil. This points to another possible message in promoting local food: connecting with other adults through local foods. The backdrop to this is that the increasing prevalence of households in which people live alone (29 percent of all households in 2004) does not bode well for local-food promotion. While Americans increasingly prefer to live alone, do they also prefer to eat alone? Even though the effect is not large, it is significant, implying that a "buy local" campaign that emphasized sharing a meal with someone would be more effective than campaigns that emphasize nutrition, energy, or supporting farmers.

The lack of significance of all other demographic variables (with the exception of the West region at the ten-percent level of significance) is consistent with the conflicting findings of other studies with respect to demographic variables. Demographic variables are simply not very precise means of assessing preferences.

The lack of significance of any of the economic variables (except the highest income quintile at the ten-percent level) may simply reflect that local foods are a small proportion of expenditures and income. Regardless, this is generally good news for local-food promoters; consumer income should not be a limiting factor. Promotion efforts should work equally well for all income groups. The exception is the highest-income households, who are actually less likely to buy local.

Attitudes toward cost pose an intriguing issue because they prevail across income and food-expenditure categories. It may be that these consumers' preferences are immutable; they may simply place value on other things and view food merely as a commodity whose only important characteristics are price and quantity. Yet with the rising prevalence of food-related diseases, there are growing incentives to examine what we eat, how we eat, what effect it has on us, and the long-term costs. One implication for marketing local foods would be to develop a campaign emphasizing the cost savings of buying local foods. However, what if the relationship is coincidental, rather than causal, i.e., cost-sensitive consumers already know local foods are cheaper? Further investigation is warranted before presuming that a campaign message of savings would necessarily increase local-food sales.

This research provides some insights into the

characteristics of local-food shoppers as well as the implications for promotion strategies that may or may not work. But clearly, in order to have a better understanding of how local food fits into the well-being of individuals, farmers, and local economies, the first step is developing a standard of what "local food" is. Without this, the next step—collecting consistent data over time for analysis—is not possible. The results also lend credence to a narrow definition of local food, one that encompasses direct buying from farmers.

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