Perhaps the greatest evidence of momentum in the local food movement is the recognition of “Locavores” as the 2007 word of the year by the New Oxford American Dictionary. Defined as “a local resident who tries to eat only food grown or produced within a 100-mile radius,” the term identifies the growing ranks of environmentally and edibility-conscious consumers who deliberately seek out locally produced food and beverages. Moreover, the market has witnessed considerable growth in the numbers of farmers using direct marketing strategies, a doubling of U.S. farmers’ markets over the past decade, and strong growth in Community Supported Agriculture organizations (CSAs), in which shareholders directly pay farmers for a proportion of output (USDA Ag Census 2002; USDA AMS 2008; Lass et al. 2003). Furthermore, national media outlets, including Time, have dubbed “Local the New Organic” (Cloud 2007). However, despite the apparent growth in demand for local foods, there has been a paucity of research results regarding the motivation of consumers to seek out and pay a premium for local produce offerings, the role of direct markets in consumer shopping choices, and buying profiles of consumers who frequent direct channels (Brown 2002; Zepeda and Li 2006).

In this article, we summarize much of the authors’ research on preferences of direct consumers of fresh produce in the context of a theoretical model regarding product and source choice. A particular focus is how local source and product attribution may connect with perceived private and public good dimensions of such choices. In addition, we present a newly developed analysis of willingness to pay (WTP) for the “local” attribute, which suggests heterogeneity in the interpretations of the public good dimension of the attribute across consumers who shop at direct markets with differing frequencies.

Going Local in Theory: A Mix of Private and Public Attributes

The decision to “go local” by consumers can be conceptually modeled using the framework of Lancaster (1966) and incorporating the concept of public goods, recognizing that consumer objectives may be more complex than simple self-interested behavior (Zaichkowsky 1985). Each consumer must choose (a) where to shop and (b) what to purchase once there. As such, the model is similar in spirit to those in the recreational demand literature, in which site attributes are mapped into utility-generating characteristics through chosen recreational activities (see, e.g., Cutter, Pendleton, and DeShazo 2007).

We assume that a consumer maximizes her utility, at each choice occasion $t$, by choosing consumption levels of individual goods within a (separable) category of food products such as fresh produce, but that the marginal utility from consumption of each good may differ with choice of source. The sources and products are characterized by perceived attributes, some of which tend to be privately appropriable in nature (e.g., convenience, cleanliness, travel costs, etc.) and some of which are quasi-public (e.g., locally sourced products, promoting environmentally friendly products, etc.). These latter attributes are motivated by the arguments of Seyfang (2006) and Vermeir and Verbeke (2006), among others, who argue that individuals are more consumer savvy in using their money to make a public statement of activism and pursue “sustainable” consumption.
Note that private and quasi-public attributes are not necessarily objective measures, but may be subjective in nature (Caswell and Mojduszda 1996). Furthermore, in the context of public goods, the perception of “effectiveness” of an action taken to achieve an objective may influence the marginal utility of that action. For example, the field of consumer behavior psychology analyzes the “perceived consumer effectiveness” (PCE) as a potential inhibitor to “activist” buying behavior if an individual consumer’s perceived belief is that her/his purchase will not prove to achieve some envisioned end-goal. To illustrate, Roberts (1996) found that 33% of the variation in ecologically conscious consumers’ behavior was explained by variability in the consumers’ PCE, while concern for the environment (a consumer belief) was not nearly as important. Similarly, eco-labels may provide information to the consumer, but may diminish PCE if direct impacts are not verified (Teisl, Noblet, and Rubin 2007).

Formally, source \( j \) can be described by two vectors of (perceived) attributes: private attributes \( X_j \) and quasi-public attributes \( Z_j \). Each consumer optimizes over a vector of (possibly restricted) goods \( Y \) and the \( J \) sources, subject to a budget constraint, so that the maximization problem can be written as

\[
\max_{\delta_j, Y} \sum_{j=1}^{J} \delta_j u(f(Y, t; X_j, Z_j); S)
\]

s.t. \( \sum_{j} \delta_j (P'_j Y) \leq I \)

where \( \delta_j \) is an indicator (or share) variable representing source \( j \); \( u(\cdot) \) is an ordinal utility function; \( P_j \) are source-specific prices; \( I \) is the consumer’s predetermined income available for this choice occasion; and \( S \) is a vector of individual-specific sociodemographic characteristics. Note that the function \( f(\cdot) \) maps from the purchased goods to a vector of “characteristics” valued by the consumer, and these latent characteristics may be private, public, or mixed in nature on the basis of the source-specific characteristics. As such, relatively complicated consumer objectives could be approximated by this flexible specification.

Now, consider the choice between a direct source (such as a farmers’ market) denoted with the subscript \( d \) and a nondirect source (such as a supermarket) denoted \( nd \). A consumer will choose a direct source (at time \( t \), suppressed here for clarity) so long as

\[
V(P_d, X_d, Z_d, I, S) \
\geq V(P_{nd}, X_{nd}, Z_{nd}, I, S)
\]

where \( V(\cdot) \) is the consumer’s indirect utility function uniquely evaluated at each source of fresh produce. This specification can be used to motivate a number of random utility models of consumer choice (McFadden 1974) and to empirically identify the responses of individuals to different levels of both product and source attributes essential to understanding consumer purchasing behavior.

Furthermore, this framework can be used to recover WTP for the private or quasi-public attributes. For example, let \( Z \in (Z_0, Z_1) \) represent the absence (subscript 0) or presence (subscript 1) of the sole quasi-public good “local,” which can be perceived by different consumers as composed of a number of specific public attributes. Ceteris paribus, the WTP for the local attribute is implicitly defined by \( V(\bar{P}, \bar{X}, Z_0, I, S) = V(\bar{P}, \bar{X}, Z_1, I - \text{WTP}, S) \). Note that this value will be a function of preferences over both the goods and the purchase source given this specification.

Of course, we would expect fairly extensive heterogeneity across individuals with regard to their preferences, especially in terms of the utility arising from public good attributes. In particular, it may be that utility arises not only from the private benefits to the consumer that result from the quasi-public source attributes, but also from the public benefits to all other consumers. Lusk, Nilsson, and Foster (2007) develop a simple model of such altruism and empirically find altruism to have a significant effect on the demand for pork chops with certain quasi-public properties (e.g., environmentally friendly production practices). Although these findings run counter to models of purely self-interested behavior, they do suggest that, with low transaction costs, a substantial level of perceived (quasi)-public goods production can occur even in the absence of government regulation. It may be that farmers’ markets and CSAs could be considered instances of such a circumstance, as direct buyers at these venues would typically have lower transaction costs (or less uncertainty) related to information on the locality and production practices of food marketed at such sources.
Grouping Customers Through Private and Public Attribute Preferences

From the model described above, it is clear that preferences for a number of product, source, and production process attributes, some of which may be quasi-public in nature, influence the demand for local food products. Bond, Thilmany, and Keeling Bond (2008) present the results of a factor and cluster analysis from a national survey conducted in 2006 in order to segment consumers based on analysis of Likert-scale responses. Responses to questions about the importance of motivations for choosing a particular source (such as the extent of varieties available, safety of the product, perceived support offered to local producers and businesses from purchases made at that location, etc.) and the importance of various product and process attributes (such as pesticide-free, firmness and texture, locally grown, etc.) were integrated into the clustering exercise, in addition to more conventional demographics and buying characteristics. These factors, which included intrinsic attributes, quasi-public good attributes, perceived nutrition and health attributes, and economic/financial dimensions, can be interpreted as the realized \( f(\cdot) \) mapping in the theoretical model.

Ultimately, consumers were clustered into four segments: Urban Assurance Seekers, Price Conscious Consumers, Quality and Safety Consumers, and Personal Value Buyers, none of which can be interpreted as a pure “locavore” group. Each cluster, however, valued both private and public attributes (though with differing intensities and focus). In general, local production was more highly valued than organic production, and the pesticide-free attribute ranked highly (and above organic) for at least three clusters. Similarly, in natural meat markets Thilmany, Umberger, and Ziehl (2006) found positive values for private and public good aspects of the natural meat market, and consumers valued “no hormone” and “no antibiotic” claims more highly than “organic,” a potentially quasi-public attribute.

In these cases, privately appropriable claims tend to dominate, although certain clusters (such as Urban Assurance Seekers and Quality and Safety Consumers) appear to perceive a correlation between direct sourcing and pesticide-free production, safety, and organic production. For local producers, this suggests that reduction of uncertainty and the complexity of claims, as well as highlighting privately appropriable benefits, may provide additional direct marketing opportunities. Indeed, it appears that farmers’ markets are differentiating their products in terms of freshness and variety available (Brown 2002).

This Locavore Went to Market: Sources of Fresh Produce

Keeling Bond, Thilmany, and Bond (2006) explored the shopping location preferences of consumers, focusing on where they do their primary, secondary, and seasonal produce shopping. Those who do at least some of their shopping (secondary or seasonal) at farmers’ markets or through other producer venues were labeled \emph{direct occasionally} and represented 50% of this survey’s sample, while those that prefer to shop \emph{direct always} (direct from producers as a primary source) account for just 30%. The remainder reported no preference for purchasing from direct sources.

Using this framework, Keeling Bond, Thilmany, and Bond (forthcoming) used a multinomial logit model to reveal that \emph{direct always} customers appear to place relatively greater importance than the other groups on a set of product attributes, including vitamin content, freshness, locally grown, and relationships with producers, and tend to discount the importance of packaging and color. Those that prefer \emph{direct occasionally}, on the other hand, have a weaker response to freshness and locally grown, do not seem to value producer relationships differentially, and do not discount packaging and color. It is somewhat surprising that the importance of the organic attribute is not significant among \emph{direct always} and lowers the probability of a consumer buying \emph{direct occasionally}. Again, personal interaction with producers at markets may make the need for third-party certifications, like the USDA organic seal, less important.

Overall, demographics tend to be a weak predictor of relative odds of preferring to purchase fresh produce at farmers’ markets, CSAs, and roadside stands. Nevertheless, results suggested that whites and those living in the Mountain region are more likely to prefer to purchase direct from fresh produce producers, while older singles and those living in a metro market are less likely to purchase from direct sources only occasionally. Contrary to the
conventional wisdom that middle- and higher-income cohorts more commonly shop direct, we do not find income to be a significant factor in determining fresh produce purchase location.

In sum, we find that a mix of private and public dimensions (including the support of local businesses) motivate purchases from direct sources, with the marginal impact of the importance of freshness, vitamin content, and the support for local producers much higher for the direct always group, which is consistent with past research (Jekanowski, Williams, and Schiek 2000; Stephenson and Lev 1998).

Willingness to Pay for the Local Attribute

In accordance with the theoretical model, WTP for a particular quasi-public attribute like “locally produced” is a function of preferences regarding product characteristics, source characteristics, sociodemographic characteristics of individuals, and beliefs about the effect of an action on the provision of the public good. In this section, we present the results of a WTP exercise based on data from the aforementioned 2006 national data (Keeling Bond, Thilmany, and Bond 2006; Bond, Thilmany, and Keeling Bond 2008). Specifically, we calculate the determinants of the WTP for a melon (base-priced at $0.59 per pound) identified as “locally produced and sold direct by producer.” Consumers were asked their maximum WTP for this differentiated melon using a payment card that included an opt-out option (consumers who opted out were dropped from the ensuing analysis).

The model regresses stated WTP from the payment card on Likert-scale rankings of importance for product and process-based attributes of fresh produce in general, as well as for the importance of fresh produce source characteristics, and a set of socioeconomic variables including geographic location, gender, life stage, market size, and education. In addition, indicator variables constructed from the respondents’ stated decomposition of their WTP for any “local” premium into their perceived beliefs related to “economic support for agriculture and the community”; “relationships with perceived produce quality and safety”; “relationship with land and environmental benefits from local farms”; and “minimizing food miles/energy dependency” are used as preference conditioning variables. Figure 1 provides a visual summary of this data. More specifically, these indicators equal one if the respondent showed a relative preference (defined as a share greater than 25%) for any of these dimensions, which are likely correlated with their beliefs about the nature of the “local” attribute and their effect on the provision of it.

The partial results of our linear Tobit model (chosen to account for the censoring of the dependent variable) for the pooled sample are reported in the first column of table 1, suppressing the socioeconomic and insignificant variables. While the fit is relatively poor, the model as a whole is significant, and several interesting findings emerge. First, those consumers who claim that pesticide-free produce and brand-name produce are relatively important (in addition to those that expressed a similar unconditional preference for locally grown produce) tend to state a higher premium than those who do not (the mean reported premium was 38.6% with a standard deviation of approximately equal magnitude).

![Figure 1. Share of local price premium attributed to motivations to buy direct](image-url)
Table 1. Significant (5%) Coefficients for “Local” Attribute of Base Price $0.59 Melon: Dependent Variable: Premium as a Percentage of Base Price

<table>
<thead>
<tr>
<th>Product/Process attributes</th>
<th>Y = X′β</th>
<th>Y = X′β + d1<em>X′γ + d2</em>X′δ</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pooled Data</td>
<td>Direct Never (Base)</td>
</tr>
<tr>
<td>Pesticide free</td>
<td>0.031* (0.013)</td>
<td>0.082** (0.031)</td>
</tr>
<tr>
<td>Brand name</td>
<td>0.042** (0.014)</td>
<td>0.068* (0.033)</td>
</tr>
<tr>
<td>Locally grown</td>
<td>0.035* (0.015)</td>
<td>–</td>
</tr>
<tr>
<td>Type of package</td>
<td>–0.031* (0.013)</td>
<td>–</td>
</tr>
<tr>
<td>Good value for price</td>
<td>–0.074** (0.017)</td>
<td>–0.184** (0.042)</td>
</tr>
<tr>
<td>Country of origin</td>
<td>–</td>
<td>–0.077* (0.031)</td>
</tr>
<tr>
<td>Color</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Source characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support local producers</td>
<td>0.035** (0.013)</td>
<td>–</td>
</tr>
<tr>
<td>Convenient location</td>
<td>–0.023* (0.013)</td>
<td>–</td>
</tr>
<tr>
<td>Public good dimensions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic support for agriculture</td>
<td>0.073** (0.025)</td>
<td>–</td>
</tr>
<tr>
<td>Relation with land and environment</td>
<td>0.073** (0.027)</td>
<td>0.150** (0.071)</td>
</tr>
</tbody>
</table>

Notes: Standard errors in parentheses. Single asterisk (*) significant at 5%, double asterisk (**) significant at 1%, all other coefficients suppressed for clarity. *Coefficients of interaction term between dummy (d1 or d2) for indicated consumer group and explanatory variable.

This further suggests a correlation between the quasi-public attribute “local” and several privately appropriable attributes on the demand side, perhaps indicating an opportunity to use these preferences, to the extent possible, as the mechanisms for increased public good provision (say, through increased quality assurance and associated marketing efforts). On the other hand, respondents who expressed a preference for a particular type of packaging or who were searching for a “good value for the price” have relatively lower local premium values, as do those who value a convenient location (a source characteristic). This latter result implies that transaction costs may play a significant role in the decision to “go local” or not, and suggests that additional research using revealed, rather than stated, preferences is needed.

Finally, it is interesting to note that those consumers who allocated a relatively larger share of any stated local premium to “perceived economic support of agriculture” or “relationship with land and environmental benefit” are, on average, willing to pay an extra 7.3% for the “local” attribute. Both of these dimensions tend to have public good components (as does the insignificant “minimizing food miles” dimension). Iles (2005) states, “Since the mid-1990s, food miles have emerged as a new environmental representation supporting sustainable agriculture,” but this analysis could not verify that food miles were a significant determinant of demand for locally produced melon.

Hunt (2007), however, found that through direct farmer/consumer relations, farmers indicated a willingness to reduce chemical inputs.
to meet customer demands, and Moser, Raefelli, and Thilmany (2008) concluded that the local attribute tends to affect demand through enhancement of the trust of consumers. It may be that many consumers believe that frequenting direct sources, rather than purchasing products with complex value chains and certifications such as the USDA organic program, is a more effective means of influencing environmental quality or reducing uncertainty (increasing credibility) about a particular claim. This study’s finding that consumers are willing to pay more if they are motivated by perceptions of support for public goods also suggests a diminished temptation to free ride on behalf of these consumers.

In order to test if we can identify disparate marginal utilities (and thus WTP) from attributes conditional on source, we split the sample into the aforementioned customer groups based on preferred shopping location (those that prefer to purchase fresh produce from direct sources, those that do so only occasionally, and those that have not over the past twelve months). Results from this decomposition are provided in the final three columns of table 1.

Note that there are significant differences in the coefficients across groups for several of the product/process attributes, including pesticide-free, brand-name, good value for the price, country of origin, and color as well as the public good dimension that focuses on environmental benefits. This provides evidence that the marginal effect of perceived importance of the product’s public good attribute on the premium is different for consumers that shop at different locations. Particularly, country of origin labeling and getting a “good value” are relatively more important to direct buyers, and in both cases one could argue that direct markets lower transaction costs associated with securing these product attributes. Thus, we have limited evidence that heterogeneous consumers view the “local” attribute differently, dependent on their preferences and where they shop.

Implications for Market Structure and Performance

These results provide support for the hypothesis that various private and public attributes affect the demand for the “local” attribute and suggest that there is significant heterogeneity in the way that alternative consumers view this attribute. When marketers and food policy makers better understand consumers’ reasons for purchasing credence-differentiated food products, particularly if consumers perceive the attribute to have additional embodied attributes or a public good dimension, it will likely result in more effective oversight and implementation of the rapidly increasing number of market claims and certifications in the food industry. For example, this information might guide product labeling strategies or government-sanctioned certification programs.

The fact that private quality attributes tend to be correlated with the public dimension suggests some potential for market-based public good provision if direct markets provide the types of experiences and messages that assure consumers that their purchases have substantive impacts. However, consumer response is not likely to be uniform for any one strategy. Yet, to maintain consumer trust and confidence and to grow demand, fresh produce marketers must take into account the characteristics that consumers may perceive to be embodied in their offerings. For example, if consumers are looking for firsthand assurances of benefits to local farms, farmers’ markets may find it of value to allow only direct farm or value-added product sales, and where possible, encourage farmer participation in marketing activities as a means for developing relationships.

References


