Local food purchasing frequency by locavores across market channels – implications for local food system development

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ABSTRACT

We designed three models to estimate how different customer preferences along with demographic variables (gender, age, education, income) explain change in local food purchased from farmers' markets, grocery, and local restaurants. Define the customer preference by j, where j = 1 for the "core" customers and j = 2 for the "mid-level" customers. The non-observable utility function which ranks the preference of the life customer is given by a U(j), where U is a vector of customer and customer-specific attributes (e.g., gender, age, education, income). As a vector of the different customers' preferences. The functional form of utility function is specified with a triple model, which is a value of mean zero and random constant variance \( \sigma^2 \).

\[ U(j) = \mu(j) + \epsilon(j) \]

where \( U(j) \) is the probability of local food purchase, \( \mu(j) \) is a non-observable latent variable, and \( \epsilon(j) \) is non-observed threshold level.

The triple model, (Parkes, 1959) therefore measures the probability that a customer will be a local food purchaser.

Data and Methodology

Three triple models were estimated to know how different customer preferences along with demographic variables (gender, age, education, income) explain change in purchase behavior. The models were estimated with MNL, Ordinal OLS, and Probit models. The results were presented in Table 4. The purchasing frequency of local food products by locavores was significantly higher in each model, expected, while a negative age effect is observed in all three models. The purchasing frequency of local food products in local markets are higher than in non-local markets. Future income effects are observed in all three models, expected, while a negative age effect is observed in all three models. The purchasing frequency of local food products in local markets are higher than in non-local markets. Future income effects are observed in all three models.

Results

We estimated three triple models for each dependent variable. The multiple regression model for farmers' market purchases was the best model for the entire data set. Each model was estimated across market channels by locavores, including demographic variables. The results were presented in Table 4. The purchasing frequency of local food products by locavores was significantly higher in each model, expected, while a negative age effect is observed in all three models. The purchasing frequency of local food products in local markets are higher than in non-local markets. Future income effects are observed in all three models.

Conclusion

Customer preferences (Core and Mid-level) are significant in all triple models. However, differences between 'core' and 'mid-level' may not be significant in some markets such as core.

Results also suggest core customers buy more from farmers' markets than grocers and restaurants.

Income and age of income is positively associated with local food purchasing frequency across all markets. Furthermore, Income coefficient is highest for local food purchase from restaurants while purchasing from farmers' market and grocers are in the second and third places, respectively.

On the other hand, Age coefficient shows a negative effect on local food purchase from restaurants.

Considering that primary shoppers in families are mostly females, female coefficient is lower for local food purchase from farmers' market. This is probably because buying from supermarkets is more convenient, accessible, always available, washed, cut, pickled, and purchased without having cash.

Factors contributing to local food purchase frequency appear to be somewhat different across different channels of distribution.

City size and 'length of residency in the current area' are not significant.

Finally, since data were collected through survey and it is self-reported there might be bias in recall of local food purchases, while other factors are used as a control variable such as 'customers' expenditure on local food, we analyzed 'purchase frequency' that faces more limitations due to self-reported data.

The main goal of this study is to measure the frequency purchase of local products from farmers' markets, grocery, and local restaurants. Define the customer preference by j, where j = 1 for the "core" customers and j = 2 for the "mid-level" customers. The non-observable utility function which ranks the preference of the life customer is given by a U(j), where U is a vector of customer and customer-specific attributes (e.g., gender, age, education, income). As a vector of the different customers' preferences. The functional form of utility function is specified with a triple model, which is a value of mean zero and random constant variance \( \sigma^2 \).

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