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Willingness to pay for local food?: Consumer preferences and shopping behavior at Otago Farmers Market



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ABSTRACT

New Zealand (NZ) survey data from Otago Farmers Market (OFM) provide new expenditures-based measures of local food preference. Discounts applied by consumers to non-local food items (e.g., from USA, China, or elsewhere in NZ) are reported. Some consumers have lexicographic preferences; they are unwilling to purchase non-local food at any price. Others are willing to substitute non-local for local food when priced appropriately. Tobit and Fractional Probit models describe how consumer characteristics affect willingness to pay (WTP) for local food. The mean consumer's premium in WTP when a produce item is "local" ranges from 2.1 to 8.0% and is positively associated with age and income.

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1. Introduction

Otago Farmers Market (OFM) consists of 50–60 vendors selling a variety of vegetables, fruits, meat and prepared food that open for business most Saturday mornings throughout the year from 8 am to noon. Vendors are required to be the producer of their own products and to be from the surrounding region (Otago Farmers Market, 2015). OFM is therefore an important location in the Dunedin economy where consumers can buy local food directly from the producer. Although various theoretical rationales have been put forward to motivate expansion and development of new local food economies, the extant empirical literature provides, as yet, relatively scant descriptive characterization of consumer behavior when purchasing

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local food from the standpoint of microeconomic theory. Our empirical analysis is intended to address the question of which observable factors about consumers—explanatory variables grouped as *demographics and proximity*, *shopping behaviors*, and *attitudes* (i.e., self-reported motivations for shopping for local food)—are relatively important in influencing expenditures, shopping frequencies, and willingness-to-pay (WTP) premiums for local food.

We therefore designed a survey to elicit information about consumer preferences for local food concerning mechanisms that could be potentially useful both for private organizations and public policy makers undertaking market design—complementary with transportation networks—along with sellers in this market and other groups seeking to expand local food economies. Data collection followed the goals of: (i) generating a novel description of how consumer preferences drive observed purchasing behavior (measured as *levels* of expenditure on local food; the *proportion* of local food expenditures in total food expenditures; and shopping *frequency*), and (ii) comparing techniques for measuring consumers' subjective valuations of *localness*, reported both as empirical distributions and conditional models (e.g., regression) of the mean consumer's WTP premium for local food. An important observation in our data, however, is that there are two distinct subpopulations, one of which feels so strongly about the value of localness that they are not interested in purchasing non-local food even if its price is zero (i.e., lexicographic or non-compensatory preferences for local food). This observation requires special techniques of estimation that use different functional forms to describe expected purchasing behavior across these two subpopulations rather than averaging across the two.

Consumer advocates and policy makers in many parts of the world are pursuing policies that favor local food production based on motives such as environmental quality, public health, and local economic development (through expansion or intensification of the local food economy). Given such developments on the supply side (i.e., farmers markets being promoted by cities, regional governments and private entrepreneurs), one might suppose that there is already a substantial literature reporting broad empirical evidence which shows how observable characteristics of consumers and local food markets jointly affect (or predict) consumer preferences for local food. The empirical literature describing how geographic proximity of consumers to the place of origin of food products that they purchase is, however, limited. We seek to fill this lacuna by providing new observational evidence about: the intensity of local food preferences; the prevalence of different motives underlying consumer preferences for local food; the observable institutional characteristics of different local food markets that amplify or attenuate local food consumption; and the price-sensitivity of individual decisions to purchase local food and to other measurable features of farmers markets such as convenience and quality. The primary motivation for, and contributions of, this paper are descriptive.

The number of farmers markets in New Zealand (NZ) increased from one to more than 30 from 1997 to 2007 (Cameron, 2007). Beyond standard consumer motives such as quality, price, and convenience (Guthrie et al., 2006; Lawson et al., 2008), a distinct set of social and environmental motives also appear to be important to a substantial share of consumers interested in shopping at farmers markets.³ Social motives for shopping at a farmers market can be surprisingly subtle and difficult to measure, however. For example, the sentiment of "supporting local business" is, in political or ideological terms, highly non-specific. It would be unsurprising, for example, to hear such sentiments expressing support for local businesses from Green Party supporters that campaigning for environmental sustainability as well as from National voters and Chamber of Commerce boosters. Theoretical motivation for our empirical inquiry could be cast in terms of a random utility model of a representative consumer's decision about how much to spend on local food. Another (complementary) theoretical motivation could be cast as seeking to better illuminate how to rank policy objectives which aim to increase local food consumption based on a social welfare function prescribing, for example, reductions in food miles, improving environmental quality, and various public health motives thought to improve social efficiency.⁴

Previous studies reveal that "local" is an important hedonic attribute of food not subsumed by freshness or other confounding quality characteristics (Darby et al., 2007). We therefore collect and report additional information about willingness-to-pay premiums for local food and subjective discounts applied to foreign items. The goal of measuring consumers' valuations of "local" as a hedonic attribute of food complements previous work demonstrating wide-ranging relevance to both public health campaigns and firms' efforts to market healthy food (e.g., Harker et al., 2010; Bublitz et al., 2013; Bublitz and Peracchio, 2015). We follow Luomala (2007) in distinguishing food attitudes from actual food purchases. Based on a food marketing experiment, Choi and Reid's (2016) data reveal important distinctions between health consciousness as a consumer characteristic (positively affecting purchase behavior) and perceived healthiness of advertised food (which has weaker effects). The willingness-to-pay premium variable that we analyze can be interpreted as the net effect of an underlying "muddling-through decision process" based on conflicting goals (Hausman, 2012) or as the result of orthodox benefit-cost maximization. The lexicographic preferences among the subset of consumers with exactly zero willingness to pay for

² A number of important papers examining other interesting aspects of farmers markets are discussed subsequently.

³ The "farmers market" as a retail format has been around for many decades and covers a heterogeneous assortment of markets sizes, proportions of genuinely local products, and degrees of public support in ownership structure. The quantitative measures of willingness to pay for *localness* as a food attribute are not intended to generalize in any straightforward way to a well-defined population of farmers markets with identically distributed error terms.

⁴ Establishing an exhaustive list of stakeholders in the local food economy is complex. The most directly linked stakeholders that we focus on are OFM shoppers and vendors. Social objectives such as public health, environmental sustainability, and local economic development would, of course, imply different views of the social welfare function. There is, at least in theory, a possible indeterminacy regarding the effect of local food on social welfare. Policies that encourage local food could, at least in theory, reflect socially inefficient rent seeking by politically connected producers (or consumers). Such motives seem unlikely, however, insofar as it is primarily very small producers engaged in small-scale production and consumers who prefer small-scale production that we find at OFM. They are small in number and have very small budgets (if any at all) for political lobbying.

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