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Motivations and Challenges in Farm to School Participation: Nutrition Versus Food Hardship Considerations

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Abstract

This paper explores the potential for the Georgia's public schools to participate in the Farm to School program. A survey was conducted with the Georgia Department of Education and Georgia Organics to assess the feasibility of Farm to School participation in Georgia. From the data, it was concluded that the willingness to participate exists, as well as the tools necessary for participation. What appears to be missing is the infrastructure that would allow schools to purchase food easily and frequently.

This primary dataset was then paired with secondary data from USDA and CDC to establish a correlation between Farm to School, obesity, and food hardship. The data was regressed using a PROBIT model in STATA. This study's results indicate that school districts are more influenced by food hardship considerations than nutritional issues (such as obesity) in deciding to participate in the Farm to School program.

Background and Motivation

Nutrition and good health are key factors in education and learning. Children are more focused and motivated when they receive proper nutrition. However, ensuring that school children are suitably nourished can be a daunting and costly task, especially when supplementing meals for low-income students.

Generally, low-income families experience food insecurity. Food insecurity is federally defined as "a household-level economic and social condition of limited access to food" (USDA, 2009). The first federal recognition for improvement towards nationwide food security came in 1946 with the National School Lunch Act. Congress appropriated funds at state-level in order to provide the minimum amount of nutrition to schoolchildren (USDA, 2009). The Food Stamp

Act of 1964 followed, after years of a similar trial program, and the official purpose as outlined by Congress was to “provide improved levels of nutrition among low-income households” (Gunderson, 2009). Later, in 1975, after doctors and officials realized that this curriculum left many impoverished women and children hungry, the Special Supplemental Food Program for Women, Infants, and Children (WIC) was permanently established to alleviate the special needs of this socioeconomic group. Most recently, in 1992, the WIC Farmer’s Market Nutrition Act passed, establishing the Farmer’s Market Nutrition Program (FMNP) specifically to “provide resources in the form of fresh, nutritious, unprepared foods (fruits and vegetables) from farmers’ markets to women, infants, and children” (USDA, 2006).

With the establishment of FMNP, the government and the United States Department of Agriculture (USDA) recognized the importance of providing nutrition and not just supplying groceries. Established within the purpose of FMNP is the goal of education for the benefit of the recipient, the farmer, and the community as a whole. In its purpose, the WIC Farmers Market Nutrition Program asserts nutritional education as its primary goal, to “emphasize the relationship of proper nutrition to the total concept of good health, including the importance of consuming fresh fruits and vegetables” (USDA, 2006). Apparent in this statement is the moving trend toward alleviating malnutrition congruent with food insecurity. Currently, forty-five states participate in FMNP, and the National Association of State Departments of Agriculture has declared: “FMNP has proven to be a highly cost-effective means to stimulate production of locally grown fresh fruits and vegetables and encourage the growth of farmers’ markets. These farmers’ markets provide an important outlet for local farmers while enhancing communities and providing consumers a wider variety of choices and greater access to local farm production” (NASDA, 2008).

Since obesity is also a rising concern in the United States, there has been a shift from simply feeding families and school children to nourishing them properly. According to the Food Action and Research Center (FRAC), “due to the additional risk factors associated with poverty, food insecure and low-income people are especially vulnerable to obesity” (2012). Therefore, government programs that focus on feeding low-income families have become more concerned with nutrition as well. Incentives, such as the EBT and SNAP’s ‘double dollars’ allow people living on supplemental income to get double their value at farmers markets. In other words, every one-dollar of supplemental income a recipient spends will count as two dollars at the local market. This is meant to encourage a greater intake of those commodities sold at local farmers markets, namely fresh produce. Ultimately, this is meant to encourage better nutrition in those below the poverty line.

In recent years, similar programs have taken grassroots approaches to this problem, slowly gaining national recognition through their success. The National Farm to School Program has grown from an estimated 6 schools in 2001 to a current estimate of 2,334 programs in operation to date. Started as a pilot program in 1996, Farm to School “is broadly defined as a program that connects schools and local farms with the objectives of serving healthy meals in school cafeterias, improving student nutrition, providing agriculture, health and nutrition education opportunities, and supporting local and regional farmers” (National Farm to School Network). Reaching beyond dietary supplement, the Farm to School Program aims to educate by engaging children within their food system. Likewise, it reaches beyond the health of the individual and undertakes an improvement on the community, farms, the environment, and the local economy as a whole.

The opportunity for local solutions to food insecurity has expanded tremendously in the past ten years as the climate surrounding local food demand and awareness has grown. The Food and Nutrition Act of 2008 authorized \$5 million per fiscal year through 2012 “to support the development of community food projects” (USDA, ERS, 2009). These grants target the food needs of low-income individuals and aim to specifically increase self-reliance within low-income communities. As a report by the USDA affirms, “A community food security approach to fighting food access problems is a viable way to make a difference in small, yet significant ways for those individual communities that are affected by a lack of access to food.” (USDA, ERS, 2009). With funds for purchase coming from FMNP and education about food production increasing, local economies continue to improve, closing the gap between the food secure and the food insecure.

Methodology

The first step in this study was to conduct a survey with the Center for Agribusiness and Economic Development at the University of Georgia and Georgia Organics to collect primary data. Using this data, a standard probit model (PROBIT) was constructed, which was used to determine the relationship between the Farm to School program, adult obesity—which served as a proxy for nutrition—and food hardship.

University of Georgia’s Center for Agribusiness and Economic Development collaborated with the Georgia Department of Education and Georgia Organics to develop a survey that met the following objectives: first, evaluate the current and future impact Farm to School has and will potentially have on the Georgia economy through schools purchase of local foods; second, measure the potential market for farmers; third, gauge school administrators willingness to buy local food by Georgia; forth, determine the level of infrastructure available

within schools to prepare fresh, whole foods; and fifth, assess the perceived opportunities and challenges to buying and preparing local food.

Primary data collected from the survey was paired with secondary data to gain an understanding of the significant factors that dictate a county's participation in Farm to School, particularly a county's prevalence of obesity. It was hypothesized that if a county had a high level of obesity in 2008, then it would be engaged in a Farm to School program in 2011. It stands to reason that counties in Georgia that already use the Farm to School program, in conjunction with nutrition education, are working to combat the rising occurrence of obesity.

The econometric analysis employs PROBIT estimation techniques whereby the binary choice model is used to empirically identify the determinants of Farm to School participation. Following the logic mentioned above, a school has chosen to participate in Farm to School if county obesity rates are high. Therefore, we model program participation as:

$$z_i^* = \beta' x_i + \varepsilon_i,$$

where z_i^* is the unobservable variable, x_i is a vector representing the variables that affect likelihood of Farm to School participation, β' is a vector incorporating the corresponding parameters, and ε_i is assumed to have a normal distribution with mean 0 and variance 1.

The binary dependent variable can be defined as $z = 1$, if $z_i^* > 0$, otherwise $z = 0$. In this analysis, the dichotomous dependent variable takes a value of 1 if the county participates in a Farm to School program, and a 0 if the county does not participate in a Farm to School program. It follows that:

$$\text{Prob}(z = 1) = \text{Prob}(\varepsilon > -\beta x_i)$$

$$F(\beta x_i),$$

where F is the cumulative distribution function of ε (Greene, 2003). Since a normal distribution is assumed for ε , the model's PROBIT form is estimated here. The PROBIT distribution is given by:

$$\text{Prob}(y = 1) = \int_{-\infty}^{\beta'x} \varphi(t) dt,$$

where φ represents the standard normal distribution. A maximum-likelihood procedure is used to estimate the parameters of the above binary choice model. Because the estimated coefficients arising from these regressions are not marginal effects, additional calculations are necessary.

The x_i vector in this analysis is comprised of a set of proxy local buying measures that represent the extent to which counties already participate in local buying infrastructure, as well as the level to which these counties are educated; the assumption is that better-educated populations have more dollars invested in the local community as well as lower rates of obesity and therefore improved nutritional habits. The x_i vector also has a set of continuous and dummy demographic variables that discern whether Farm to School participation is significantly influenced by school size, city size, age, education, and household income.

$$\frac{\partial E[z|x_i]}{\partial x_i} = \varphi(\beta x_i)\beta$$

The PROBIT method and the IVPROBIT method were considered for this study; however, after considering both models, their goodness-of-fit and the exogeneity testing, the PROBIT model was discovered to be a better approach in determining linkages among

farmtoschool, foodhardship and adultobesity_08. In a later discussion, the IVPROBIT model will be explained and the results will be presented as a means of contrast to the PROBIT results.

Data

Four data sources were used for the econometric analysis. The first was the primary data collected from the survey; those methods were discussed previously. The second data source was USDA's Food Environment Atlas. Data collected for this extensive document is largely provided by the Economic Research Service who acknowledges the Center for Disease Control and Prevention for providing the data on obesity, diabetes, and physical activity; the National Cancer Institute for providing data regarding recreational activity; USDA's Agricultural Marketing Service for providing data regarding farmers' markets; USDA's Food and Nutrition Service for providing data regarding food and nutrition assistance programs; the National Farm-to-School Network for providing data regarding farm-to-school programs. Third, the Food Research and Action Center collected national data for food hardship, through Gallup and Gallup's Healthways Well-Being index project. Finally, the Georgia Public Policy Foundation's Report Card for Parents gives parents an idea of how their school measures up against other schools. Data included in this report was collected from the Georgia Department of Education and is simply compiled into an easily read spreadsheet by the Public Policy Foundation.

Table 1. Variables Defined

Variable Abbreviation	Definition of Variable
<i>farmtoschool</i>	Farm to School (F2S) participation, indicated with '0' or '1'
<i>directsalesfromfarmers</i>	Direct sales from farmers to consumers, measured in dollars
<i>freshpurchase</i>	Percentage of current total food purchase that is fresh, not canned

	or frozen, as indicated by schools in each county
<i>products*</i>	F2S barrier to entry: ‘lack of products available during certain times of year’ as indicated by schools in each county
<i>producer*</i>	F2S barrier to entry: ‘lack of local producers in the area from whom to purchase’ as indicated by schools in each county
<i>safety*</i>	F2S barrier to entry: ‘Liability/farmer compliance with food safety and food handling standards’
<i>time*</i>	F2S barrier to entry: ‘Extra time required to prepare and handle fresh produce’
<i>staff*</i>	F2S barrier to entry: ‘Lack staffing to prep fresh produce/uncooked bulk meat, etc.’
<i>fulltimeenrollment</i>	Full time enrollment, number of students, an average among schools within each county
<i>studentgraduationhs</i>	Percentage of students who graduated from high school, versus those who initially started high school
<i>foodhardship</i>	Georgia’s Food Hardship rate, by county, as measured by FRAC
<i>metro</i>	The metro classification of each county, as specified by USDA; measured as ‘1’ or ‘0’
<i>adultobesity_08</i>	Adult obesity rate, 2008, as specified by USDA, measured in percentage of people that are obese per county
<i>pc_college</i>	Percent of people in a county who have graduated from college
<i>averageage</i>	Average age per county, as measured by the 2010 census
<i>medhhincome_log</i>	Median Household Income, measured by USDA, logged

Note: * These variables were listed as barriers to entry for the Farm to School (F2S) program in response to the question: ‘Would any of the following describe an obstacle for your school or district in purchasing foods directly from local producers?’ Yes = 1; No=0

Table 1 provides a list of the variables used in the econometric analysis. The dependent variable *farmtoschool* is a categorical measurement of Farm to School’s presence in the county. This variable is measured in the Food Atlas and is defined as: ‘counties with one or more farm-to-school programs where 1=one or more “farm-to-school” programs, and 0=otherwise. These programs include: direct sourcing from local producers, local sourcing through the Department

of Defense procurement system (known as “DOD Fresh”), school gardens, farm tours, farm-related nutrition education or other classroom activities, and school menus and snacks highlighting locally-sourced or locally-available foods.’ The Food Atlas data was collected in 2010 and updated with the survey data. Using USDA’s data, the ‘0’ was changed to a ‘1’ (no to a yes) if a school reported that it had participated in local buying efforts. However, a ‘1’ was not changed to a ‘0’. The reason being, if USDA already had catalogued one or more schools in a county participating, one school in the survey reporting that they did not participate in Farm to School did not negate the participation of other schools in that area.

The independent variables X_i include the following production and program variables:

Directsalesfromfarmers is measured by USDA as ‘value of direct farm sales in the county divided by the residents of the county, in thousands of dollars.’ Data was collected by USDA from the 2007 Agriculture Census; population data was taken from the U.S. Census Bureau. It is hypothesized that counties that have higher dollar sales from farmers directly are more willing to participate in a Farm to School program and have lower rates of obesity.

Freshpurchase is the percentage of total food bought by the school or district that is fresh, not canned or frozen. It was quantified by primary data collected from the survey cited in the study previously defined. If schools use a higher percentage of fresh food, they may be more willing to purchase their cafeteria food locally.

Products, producer, safety, time, and staff are defined as Farm to School’s barriers to entry as perceived by the school district. In total, there were twelve barriers to entry listed in the survey; these five were the most cited in answer to the question: ‘would any of the following describe an obstacle for your school or district in purchasing foods directly from local

producers?’ *Products* refers to the response: ‘lack of products available during a certain time of year.’ *Producer* refers to the response: ‘lack of local producers in the area from whom to purchase.’ *Safety* refers to the response: ‘liability/farmer compliance with food safety and food handling standards.’ *Time* refers to the response: ‘extra time required to prepare and handle fresh food.’ *Staff* refers to the response ‘lack staff to prepare fresh produce, uncooked bulk meat, etc.’ These responses were measured as binary numbers, whereby ‘0’ indicated a ‘no’ response and ‘1’ indicated a ‘yes’ response.

Demographic and structural variables are also included: *fulltimeenrollment* (Georgia Report Card), as measured by the Georgia Department of Education’s numbers for average full time enrollment of high school students by district. It is hypothesized that schools with higher enrollment have greater funds and resources for local procurement.

Studentgraduaionhs is the percentage of the population that has graduated from high school (Georgia Report Card). Also collected by the Georgia Department of Education, this variable measures the percentage of students who actually graduate from high school, versus those who initially enroll. In other words, ‘the graduation rate reflects the percentage of students who entered ninth grade in a given year and were in the graduating class four years later.’ It would stand to reason that a higher percentage of students who graduate from high school indicates a greater likelihood that those counties will participate in Farm to School. This could hold not only because the population is better educated, but also because their parents are more well-educated and more invested in the education of their children. This may indicated that they are concerned with their children’s well-being and are more invested in their nutritional education as well.

The food hardship index, *foodhardship*, was taken from the ‘Food Hardship Rate in Georgia’ as prepared by the Food Research and Action Center. *Foodhardship*, as mentioned previously, is measured as a percentage of the population that answered ‘yes’ to the following question: ‘Have there been times in the past twelve months when you did not have enough money to buy food that you or your family needed?’ It was theorized that counties with higher participation in the Farm to School program have lower rates of food hardship. This is based upon the hypothesis that there is greater access to local foods; therefore, low-income families can readily access food through the community, especially with programs in place such as the Food Stamp program, which doubles dollars at the farmer’s markets. Furthermore, counties with lower *foodhardship* have lower levels of obesity and greater participation in *farmtoschool*, which promotes nutrition and healthy eating. However, this could also be correlated with *medhouseholdincome_log*, since households with greater income tend to have more education about nutrition and therefore better, and more regular, eating habits.

The *metro* index indicating an urban or rural area, *metro*, was measured in ‘2000 [as a] classification of counties by metro or nonmetro definition, where 1=metro county; 0=nonmetro county. Metropolitan (metro) and nonmetropolitan (nonmetro) areas are defined by the Office of Management and Budget (OMB). Under the 2003 classification, metro areas are defined for all urbanized areas regardless of total area population. Outlying counties are also classified as metro if they are economically tied to the central counties, as measured by the share of workers commuting on a daily basis to the central counties. Nonmetro counties are outside the boundaries of metro areas and have no cities with 50,000 residents or more.’

Adultobesity_08 was taken from the USDA’s Food Environment Atlas. As mentioned previously, the Food Atlas collected this data from the Center for Disease Control. As defined

by the Food Atlas, ‘body mass index (weight [kg]/height [m]²) was derived from self-report of height and weight.’ *Adultobesity_08* is measured by the county’s ‘estimates of age-adjusted percentage of persons age 20 and older who are obese, where obesity is Body Mass Index (BMI) greater than or equal to 30 kilograms per meters squared. The prevalence of diagnosed diabetes and selected risk factors by county was estimated using data from CDC's Behavioral Risk Factor Surveillance System (BRFSS) and data from the U.S. Census Bureau’s Population Estimates Program.’ It was hypothesized that counties that experience high levels of obesity in 2008 would engage in a Farm to School program, in order to mitigate rising levels of obesity.

Adultobesity_08 is used to instrument the effect that the Farm to School program has upon nutrition within the county. It stands to reason that counties with greater access to local foods have lower rates of obesity and ultimately, better nutrition.

Pc_college was measured by the Georgia Department of Education and prepared by the Georgia Public Policy Foundation and presented in the Georgia Report Card. As defined by the Georgia Report Card, ‘this indicates the percentage of high school graduates who go to college. This data is provided by the Governor’s Office of Student Achievement and includes technical colleges, two-year colleges and four-year colleges and universities both in Georgia and out of state.’ It stands to reason that counties that are more well-educated (i.e. counties that have a higher percentage of students who go to college) have less food hardship, less obesity, and greater participation in health-promoting programs, such as Farm to School.

Averageage is the average age of the population, by county. The U.S. Census Bureau collects this information and defines age, ‘for the most recent decennial census, was the length of time in completed years that a person had lived as of Census Day--April 1, 2010. The Census Bureau’s national surveys compute age as of the interview date.’ Age was tested to see if there

an older population constituted higher levels of participation in Farm to School; the reason being, the older population would work to implement programs that would better educate and improve the nutritional future of the youth.

Medhhincome_log is an ‘estimate of median household income.’ The data source is the Census Bureau, Small Area Income and Poverty Estimates—2008 data. The variable was logged in order to scale it with the other data, making for a more accurate analysis. A greater median household income may indicate a higher participation in Farm to School, a lower rate of obesity, and a lower rate of obesity. Generally speaking, households with greater income have more time and money to spend on proper food and nutrition education.

Results

Table 2. County Estimates of Obesity and Food Hardship with farmtoschool as Dependent Variable – PROBIT Model Estimation

VARIABLES	Farm to School	
	PROBIT ^a	Marginal Effects ^a
directsalesfromfarmers	0.0067 (0.0046)	0.0014 (0.0092)
freshpurchase	-0.0199 (0.01473)	-0.0041 (0.0029)
producer	0.5902 (0.6721)	0.1282 (0.1451)
safety	-0.0467 (0.5851)	-0.0096 (0.1214)

time	2.2706*** (0.8259)	0.3970*** (0.1279)
staff	-1.5465** (0.7833)	-0.3809* (0.1967)
pc_college	-0.0479 (0.0687)	-0.0098 (0.0143)
averageage	0.2122* (0.1099)	0.0435** (0.0222)
foodhardship	0.7483* (0.4434)	0.1534* (0.0799)
adultobesity_08	0.2040 (0.1957)	0.0418 (0.0405)
medhhincome	0.00004 (0.00004)	9.66e-06 (0.00001)
population	9.11e-06* (4.92e-06)	1.87e-06** (0.0000)
Constant	-18.1486* (9.8122)	
LR chi2	19.39*	

^aStandard errors in parentheses

Significance levels are *** p<0.01, ** p<0.05, * p<0.1, respectively.

The IVPROBIT model results indicate the model does not have significant explanatory power, with Wald χ^2 statistic of 0.79 and Prob > χ^2 of 0.6561. Meanwhile, the PROBIT model has an F-statistic of 1.38 and Prob > F of 0.2130; thus, it stands to reason that the IVPROBIT model does not have significant explanatory power. Furthermore, the Wald Test of Exogeneity produced an insignificant χ^2 statistic that does not justify the use of instrumental variables for the

obesity variable. In other words, the test result indicates that the obesity variable cannot be endogeneously determined. Since the IVPROBIT results translate to a $\text{Prob} > \chi^2$ equal to 0.1908, the results cannot be used and instead the PROBIT model is used as the official model of this study.

Discussion of Results

Based on the summary in Table 2, the results indicate that food hardship, foodhardship, has a positive significant effect, though obesity is insignificant. This means that counties with higher levels of food hardship are more likely to participate in Farm to School programs. Food hardship could then potentially be a driving force for Farm to School participation. This finding is interesting and provides motivation for more specific further analyses on the specific drivers among factors related to food hardship as they can affect decisions to participate in the Farm to School program. This can be an area that future research efforts may be interested to focus on.

Looking at the marginal effects, it can be said that for every categorical increase in food hardship – which is a categorical value with 1 being low food hardship and 5 being high food hardship – there is a 15.34% (0.1534×100) increase in the probability that the county does participate in a Farm to School program. This may be an economic indicator, which means that food hardship is prevalent in low-income areas, where programs like Farm to School have already started as a supplement to free- and reduced-price lunches. It cannot be said that Farm to School is meant to alleviate food hardship within the home, but it is a good sign that schools in low-income areas are starting to implement national programs in an attempt to supplement nutrition education to those who may not otherwise receive it.

Time indicates that a school has answered ‘yes’ to the assertion that too much time is required to prepare fresh foods and therefore they see it as a barrier for the Farm to School program to successfully enter into their school. Since the correlation is positive, a county that has said ‘yes’ to this question is also likely to participate in Farm to School. This is counterintuitive to the original hypothesis that corresponds with the variable. While it is possible to show correlation, it is not possible at this time to assert causation. However, one explanation may be that those counties that already participate in Farm to School have found that too much time is required to prepare food; therefore, this may prevent schools to pursue participation in Farm to School.

Staff refers to the fact that a school cited ‘extra time required to prepare and handle fresh produce’ in response to the question: ‘Would any of the following describe an obstacle for your school or district in purchasing foods directly from local producers.’ The negative significance in this case holds with the logic that a county measured with a ‘yes’ or a ‘1’ in this case would not participate in a Farm to School program. Therefore, it is likely that schools that have perceived barriers to participating in a Farm to School program will not, in fact, participate in Farm to School or try to buy produce locally.

Population refers to the size of the county’s population. In this case, population was used instead of metro to gain a better understanding of how metro versus rural areas participated in local buying efforts. It stands to reason that a larger, more metropolitan area would be more likely to participate in a Farm to School program because there are generally more resources and more education available when more people are concentrated into an area. Therefore, population is a potential indicator of the resources and therefore the probability that a Farm to School program exists within the area; however, the marginal effects of population upon Farm to School

participation are minimal. This finding may therefore require a more in depth look at this particular variable in order to draw conclusive results.

Averageage indicates that counties with older populations are more likely to participate in Farm to School. This may be because older populations are more likely to realize the importance of participation in local buying programs. Older populations may better understand how important food security and nutrition are, especially for the younger population. It is, however, important to note that the marginal effects of age on Farm to School are minimal at 4.35% (0.0435×100) and therefore may not have a large effect on the extent to which schools participate in the program.

Conclusions

The purpose of this study was to determine the driving factors for participation in the Farm to School program, focusing on food hardship and obesity. Though it was found that obesity is an insignificant indicator, it was also found that food hardship was correlated with Farm to School participation. At this time, it is inconclusive as to why counties that have higher food hardship rates also have higher participation in Farm to School; however, it is a conclusive result that can be motivation for future research. This is a significant finding in terms of supporting the reasoning that has been theorized as a proponent for Farm to School, though never proven. Hopefully, future studies can improve upon this finding with data that is continuing to be collected on Farm to School and other local buying infrastructures.

While the program is ideally envisioned to improve nutritional quality of food served in school cafeterias by serving fresh locally sourced foods, school districts may be motivated by food hardship considerations in their decisions to participate in the program. This may be a more

significant finding since it may be more relevant for school districts to consider alleviating food hardship, with nutritional improvement (and obesity reduction) as a secondary goal. Since food hardship relates to poverty and obesity, it may be more effective to target children growing up in low-income areas. This focus on food hardship as a motivating factor to improve local buying efforts, however, may be more transferrable to other states, especially in the southeast where hardship and obesity are very prevalent concerns. For further research, it may be beneficial for similar studies to look at food hardship and obesity at the county level and in other states to see if there is a similar concern – and the motivating factor of food hardship – elsewhere.

The demographic variables appear to be less significant than expected. With the exception of population, which indicates that a larger population may mean a greater chance the county participates in Farm to School, the quality of observations available may explain this. In order to produce a more conclusive model, it may be necessary to collect data from consecutive years in order to display significance. It is this progression that is visible in national institutions such as USDA, which have begun to recognize the prospect for increasing accessibility to fresh fruits and vegetables as a means of reducing local food insecurity. Since local buying is just beginning to be monitored in this vein, this study indicates the need for more data collection in the future. Continuing to watch the buying and selling habits within communities will not only indicate the latent potential these markets have upon food insecurity, but also upon local health, both physical and economical.

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