Community Governance, Contingent Valuation, and Food Policy Councils: The Case of the Alabama Food Policy Council

by

William Charles Thomas

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Approved by

Norbert Wilson, Chair, Associate Professor of Agricultural Economics Michelle R. Worosz, Assistant Professor of Rural Sociology Deacue Fields, Associate Professor of Agricultural Economics

Abstract

This thesis seeks to explore an alternative method for valuing the units of community governance keeping in mind that it is similar to a public good. The example we use for this study is that of a hypothetical statewide Alabama Food Policy Council. Surveys from listening sessions around the state coordinated by working partners and online responses are used as data. We find that attitudes about food insecurity, as well as demographic variables, and survey method are significant when determining willingness to pay for this organization to exist using the zero-inflated Poisson regression estimation technique.

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Table of Contents

Abstract	ii
Acknowledgments	iii
List of Tables	vi
List of Illustrations	vii
I. Introduction	1
A. Food Policy Councils	1
1. Functions and History	1
2. Alabama Food Policy Council Steering Committee	3
B. Community Governance	5
C. Objectives of Study	7
II. Contingent Valuation	8
A. Literature Review	8
B. Theoretical Framework	9
III. Data	12
A. Listening Sessions	12
B. Online Surveys	14
C. Survey Results	15
IV. Model Specification	17
A. General Model	17

	B. OLS Technique	18
	C. Heckman Selectivity Model Technique	19
	D. Zero-Inflated Poisson Regression Technique	19
V. Re	sults	21
	A. OLS Technique	21
	B. Heckman Selectivity Model Technique	22
	C. Zero-Inflated Poisson Regression Technique	22
VI. C	onclusions	25
Refer	ences	28
Appe	ndix 1: Survey Instrument	42
Appe	ndix 2: Full Survey Results	57
Appe	ndix 3: Discussion Guide	65

List of Tables

Table 1: Statewide FPC Structures from Around the US	32
Table 2: Survey Sample Compared to Alabama Demographics	33
Table 3: Definition of Variables Used	34
Table 4: Summary Statistics of Variables Used	35
Table 5: Model Results for OLS Technique using WTPAmount	36
Table 6: Model Results for OLS Technique using lnWTP	37
Table 7: Model Results for Zero-Inflated Poisson Technique	38

List of Figures

Figure 1: Distribution of WTPAmount4	-0
Figure 2: First Place Rankings of Topic Areas	-1

I. Introduction

A. Food Policy Councils

1. Functions and History

Generally defined, a food policy council is a diverse group of representatives and stakeholders that work to identify and address issues within the food system. While there is limited literature on food policy councils and their impacts, food policy councils typically have four functions—to serve as a forum for the discussion of food issues, to foster coordination between sectors and stakeholders in the food system, to evaluate and influence policy, and to launch or support programs and services that address identified issues (Harper, et al. 2009). According to the Community Food Security Coalition, in 2012 there existed 180 known food policy councils in the United States, representing an 80% increase over 2010. Of these food policy councils, 38% have a local focus, 13% have a regional ("regional" referring to multiple counties in a state or a metropolitan region) focus, and 15% have a statewide focus (Sauer 2012). Many of them have priorities such as policy development and advocacy, improving the local food economy, education and outreach, partnership building, public health improvement, and addressing food insecurity.

Not all food policy councils attempt to fulfill each of these functions, but many work to integrate elements of each of these functions into their work (Harper, et al. 2009). Food policy councils tend to embrace a holistic view of the food system, meaning that they believe the food system should be place-based, ecologically sound, economically productive, socially cohesive, and food secure (Hodgson 2011). Food policy councils, particularly at the local level, tend to address food system issues using a comprehensive approach, building relationships across the five sectors of the food system, commonly defined as production (e.g. growing plants and raising

animals), processing (e.g. transformation and packaging of food), distribution (e.g. transporting storing and marketing of food), consumption (e.g. purchasing, preparing, eating food) and waste (e.g. discarding, composting, gleaning, or otherwise repurposing food).

Food policy councils often attempt to address food system issues holistically and strategically, and their successes are highly dependent upon a wide variety of factors. These factors include the regional values manifested in the food policy council's programming, the basic demographics, historical, and political contexts of the level of jurisdiction, whether the food policy council is legally mandated through ordinances, and integration into government. Also, more basic concerns such as staff and budget support, and also the diversity of leadership and membership in the community can affect a food policy council's ability to succeed (Dahlberg 1994). While the overall number of food policy councils across the United States and Canada has grown in the past two decades, some have failed and disbanded. Out of those that have endured, few have reached the level of influence on government policy that they intended (Clancy, et al. 2007). Though, this could be a result of many council's focus on program-oriented work as opposed to policy-oriented work (Schiff 2008).

Some food policy councils face resistance because of the way food and food issues are perceived. In the United States, issues of environmental or public health are seen as vital issues that necessitate policy action, and commissions exist at the local and state level to regulate public utilities (such as water or the environment). While these commissions are fairly common, food policy councils are not. It has been argued that this is due to the perception that food is a purely private good, not a question of public interest, but one of private concern. Thus it is perceived that these attitudes negatively impact the ability of food policy councils to achieve policy and program goals (Clancy 2004).

Though they often work in similar ways to local food policy councils and may address similar issues, statewide food policy councils have different historic origins and typically serve a different role than that of their locally-oriented counterparts. The first documented local food policy council emerged in Knoxville, Tennessee in 1981; however, state nutrition councils that sought to address the issues of food policy (specifically as it affected food insecurity) emerged in the 1960s. The structure of statewide food policy councils differs greatly depending on the state and level of government involvement. Some food policy councils, such as Connecticut, North Carolina, South Carolina, Oklahoma, and Utah are housed within the state's departments of agriculture, whereas in states such as Michigan, Iowa, and New Mexico, the food policy councils largely operate without financial support or mandate from the government (Clancy, et al. 2007). Table 1 compares some of the existing statewide food policy councils.

2. Alabama Food Policy Council Steering Committee

Overall, Alabama is a state that could benefit tremendously from a statewide food policy council. Alabama holds the dubious distinction of being both the fourth most food insecure (17.3% of households) and the third most obese (32.2% of the adult population) state in the nation. (US Census Bureau 2010).

According to research from the Robert Wood Johnson Foundation, if Alabamians reduced their body mass index (BMI) by 5% by 2020, individuals in the state would save over \$3.381 billion dollars on healthcare costs for obesity-related illnesses such as Type 2 Diabetes, obesity-related cancers, heart disease, stroke, hypertension, and arthritis. By 2030, those savings could amount to approximately \$9.481 billion. Based on the current trajectory, Alabama's obesity rate will be 62.6% in 2030 (Robert Wood Johnson Foundation 2012).

Food deserts span large swaths of the state, especially in the Black Belt and urban centers (US Department of Agriculture 2011). According to research in 2012 by the Centers for Disease Control, 87.1% of Alabamians indicated that they did not eat three or more servings of vegetables a day, and 77.5% did not eat two or more servings of fruit a day (US Center for Disease Control 2012). Currently, the state's agrifood system is unable to feed Alabamians, as the top agricultural products are trees, poultry, and livestock (specifically cattle), which either cannot be eaten, or serves as raw inputs into the national agrifood system. Furthermore, acreage in vegetable production has decreased by more than 29% between 1997 and 2007, overall acreage in Alabama's farms decreased by only 5.1% during the same period. These issues alone highlight the need for more citizen involvement in food policy (US Department of Agriculture 2007).

In early 2012, a broad coalition of stakeholders created a Steering Committee to develop the Alabama Food Policy Council (AFPC). This group is comprised of representatives from AARP, the Alabama Cooperative Extension System (ACES), the Alabama Sustainable Agriculture Network (ASAN), Auburn University, the Bay Area Food Bank (Mobile), the Emerging Changemakers Network, the Food Bank of North Alabama, the Greater Birmingham-Jefferson Community Food Partners, the Hampstead Institute, Inc. (now known as EAT South), the River Region Food Policy Council, and the North Alabama Food Policy Council.

This coalition sought to assess Alabama residents' willingness to participate in a possible AFPC, to determine the policies the AFPC should pursue, and to evaluate resources stakeholders and possible participants in a food policy council would be willing to contribute. Additionally, the steering committee sought information about Alabamians' attitudes about food insecurity, economic development, and individuals responses to messaging given their religiosity or

political affiliation, which are all factors that would be important to consider in the development of the AFPC.

B. Community Governance

Over the past three decades, there has been an increasingly large interest and literature on the subject of social capital in the social sciences. In economics specifically, the interest was so great that in 2002, *The Economic Journal* issued a special feature on the subject so as to offer insight into how the ideas of social capital could be integrated into the study of economics. Social capital can be broadly defined as the set of informal values or social norms among members of a group that permit cooperation and builds trust (Fukuyama 1999). While there are many qualities that could be attributed to social capital, there are four central aspects to the idea of social capital—relations of trust; reciprocity and exchanges; common rules, norms, and sanctions; connectedness, networks, and groups. These attributes generally lower transaction costs in a society, give individuals confidence to invest in group activities or commerce, and improve societal and economic conditions (Pretty and Ward 2001).

While the term social capital is widely used and generally well-regarded, it can be argued that the term does not necessarily capture the true essence of what it is trying to describe. Bowles and Gintis (2002) argue that the social capital boom in the social sciences represented a turning away from the "empirically implausible utility functions of *Homo economicus*" and reoriented the discipline of economics towards the values of individuals in their daily lives. They argue that capital is something that can be owned, and that communities are central to good governance because they are often able to address issues in a better way than individual actors, government bodies, or market mechanisms. They claim that the types of problems communities solve are typically too complex to be solved through strong government or market mechanisms alone.

Additionally, using the term community governance to describe the phenomenon of social capital could be a more intellectually inclusive term that captures the similarities of social capital to a public good, as described by Coleman (1988) when he states:

...the kinds of social structures that make possible social norms and the sanctions that enforce them do not benefit primarily the person or persons whose efforts would be necessary to bring them about, but benefit all those who are part of such a structure... (p.S116)

While unlike a pure public good it is possible to be excluded from social capital (by way of being forbidden group membership or being cast out of society), much like a public good the positive (and negative) benefits of community governance can be experienced by those who may not necessarily be participating directly in its workings (i.e. externalities).

However, much of the literature that attempts to value community governance and social capital attempt to do so from the perspective of individual utility maximization and not from the perspective that respects its similarities to public goods. Many studies use an approach similar to Putnam (1995) in using group memberships to explore broad trends, and some studies even use group membership as a proxy variable for investment in social capital (Glaeser, et al 2002). Some others, such as Furstenberg and Hughes (1995) use bundled variables to describe in-family and community-based social capital to attempt to describe its effects in development outcomes.

As Durlauf (2002) points out, the idea of social capital is often too vague or too subjective to permit precise analysis of its causes and impacts; however, if the problem is looked at from the perspective of community governance, or even from a group based perspective, we may be able to find a clearer way of looking at social capital based upon the attributes of its units (for example, community organizations), and may gain insight into the values that Bowles and Gintis (2002) claim have led social scientists to be so entranced by the idea of social capital in the first place.

C. Objectives of Study

This thesis seeks to explore an alternative method for valuing the units of community governance keeping in mind that it is similar to a public good. The example we use for this study is that of a statewide Alabama Food Policy Council.

Though not all Alabamians will necessarily join, agree with, or even know about the existence of this council, food is a requirement for daily life and it is foreseeable that changes in food policy could have an effect on an individual regardless of their participation. We seek to find out how individuals value units of community governance by exploring whether or not they are willing to pay to join the emerging statewide council. In addition to asking their willingness to pay, questions about their values, affiliations, and how they perceive Alabama's food system could provide insight into how they might value this unit of community governance.

Using contingent valuation similar to studies for environmental and artistic goods such as public parks or art museums, the author seeks to explore this method using the example of the Alabama Food Policy Council. Using survey responses obtained from Alabamians from August to December 2012, we seek to explore Alabamians' willingness to pay for a hypothetical food policy council as well as the values reflected in their responses.

II. Contingent Valuation

Community governance is unique in that unlike a private good, which has specific quantities and prices available in a market or unlike a perfectly public good that is non-excludable and non-rival, there is no open market that determines prices and quantities for the membership of organizations and individuals can be excluded from organizations. Since there is not a market for community governance, non-market valuation techniques may be a better strategy for attempting to value a good that is neither public nor private.

Particularly since the Alabama Food Policy Council is an emerging organization, a non-market valuation such as the contingent valuation method (CVM) is a way to measure potential participants' willingness to pay (WTP) for membership, giving us a means by which the Council and its activities can be assigned some measure of value.

A. Literature Review

Researchers have used CVM in a wide variety of applications in order to elicit a measure of value from individuals for a hypothetical good or policy (Diamond, et al 1993). CVM has been utilized to value a variety of public and quasi-public goods, including art museums (Santagata, et al. 2000), mangroves restoration (Stone, et al. 2008), tsetse control (Echessah et al 1997; Kamuanga, et al 2001), domestic water services (Awad 2012, Whittington, et al 1990), and reduction of childhood obesity (Cawley 2008). None, however, have been done in an attempt to assign a measure of value to a unit of community governance such as a community organization, and none of these studies have been done in regards to a food policy council. CVM has been used in a broad array of applications, particularly for environmental goods, and though it was subjected to much criticism at the onset of its usage by economists, is gaining more respect as a tool for valuation. The general criticism of CVM stems from its use of stated preference instead

of revealed preference, as well as general distrust for the accuracy of survey responses (Carson, et al 2001; Hanemann, et al 1994; Hausman 1993; Portney 1994). There has been much debate in the literature concerning whether WTP responses to CVM surveys are more of an assessment of the individual's desire for moral satisfaction or values as a citizen or member of a community rather than as a rational, utility-maximizing economic agent (as is assumed by neoclassical economic theory) (Kahneman, et al 1992; Howley, et al. 2010; Splash 2000; Veisten 2007). Regardless, there is consensus in the literature that the context (i.e. experiment, community meeting, etc.) and method (i.e. online survey, focus group, community listening session, etc.) by which WTP responses are elicited through CVM are important to the estimation of WTP because of the method's reliance upon stated preferences (Champ, et al. 2003; McFadden 1994; Sagoff 1998).

B. Theoretical Framework

Just as with any valuation technique, the basic theoretical framework for CVM is primarily concerned with the individual or household utility function. CVM seeks to observe not only the object of choice, but also the circumstances of choice, so both the individual (or household) utility function and the attributes of the described good must be considered when estimating willingness to pay (WTP) (Santagata, et al 2000).

According to neoclassical economic theory, individuals and households seek to maximize utility given what is available and the quantity that is available to consume. Consider Equation 1, where u is the utility, q is the quantity of the goods available, which in this case is the units of community governance available for a given individual to join:

(1)
$$u = u^*(q_1 ... q_n)$$

9

Generally, it is assumed that individuals and households will seek to minimize their expenditures (p_x) , in order to attain a certain level of utility (u^*) . This leads to Equation 2, also known at the expenditure function, where e is the expenditure level, p is the price and q_0 is quantity consumed and u^* is a fixed level of utility:

(2)
$$e = e(p, q_0, u^*)$$

This being established, a survey participants' WTP for a change from q_0 to q_1 of a good is defined using Equation 3:

(3)
$$WTP(q) = e(p, q_0, u^*) - e(p, q_1, u^*)$$

In this case, we assume that individuals may currently have a bundle of community governance goods consisting of memberships to social organizations, faith-based groups, political parties, and etcetera. In this case, we are looking at how the expenditure function would change with the addition of one more group.

Through a survey instrument, individuals can indicate their WTP through an open elicitation mechanism, which as opposed to a closed-ended mechanism that simply allows participants the chance to accept or reject a bid. In an open elicitation mechanism respondents identify an amount they would be willing to pay for a specified good. From this, we can construct a simple WTP valuation function based on individual responses:

(4)
$$WTP = \beta_1 X + \beta_2 Y + \beta_3 Z + \delta Q + \varepsilon$$

In Equation 4, we explore four main affects on WTP. First, *X* is a vector of responses to questions that get at the individual's attitudes on the issues at hand and income. Secondly, vector Y reflects the core demographic characteristics of the respondents (such as gender, age, education) and vector Z reflects the secondary demographics and current affiliations respondents may have (such as race, political affiliation, and religiosity). *Q* is a vector of survey

10

characteristics (for example, in-person interview or online survey). Coefficient estimates are represented by β_n and δ , respectively and ε is an error term (Noonan 2003). This functional form will be the basis for our regression analysis of survey responses and WTP. Because of the simplicity of the question at hand, whether or not individuals would be willing to pay for a hypothetical food policy council to exist, and the use of an open-ended payment mechanism, this CVM is relatively simple in terms of what is required to estimate WTP (Hausman 1993).

Given that the good in question is hypothetical, in essence, we are testing for what Krutilla (1967) and Kahneman (1992) call existence value—or the willingness to pay for a certain good to exist. For example in Equation 3, we will be testing to see if and what individuals would be willing to pay for $q_1 = 1$ (there is a food policy council) when previously $q_0 = 0$ (there is not a food policy council). We are testing survey participants' willingness to pay for a food policy council to exist by way of paying membership dues, or the amount they are willing to pay for $q_1 = 1$, given that u^* stay constant. While survey respondents may already have a bundle of community governance goods in which they participate, and some respondents may already be participating in their local food policy council, we are testing to see if the respondents are willing to pay for the existence of a statewide food policy council.

III. Data¹

The most common way to collect data in order to perform a contingent valuation is through the administration of surveys. For this research, surveys were administered both inperson at listening sessions and online using existing networks.

A. Listening Sessions

Paper surveys were administered at listening sessions in nine locations throughout Alabama (Atmore, Auburn, Birmingham, Fairfield, Huntsville, Mobile, Montgomery, Rainsville, and Tuscaloosa). These sessions were held by the member organizations of the Alabama Food Policy Council Steering Committee, as well as their respective community working partners, and took place between September and October of 2012. Though each session was executed differently and included a different group of stakeholders, reflecting the regional diversity in interest and the ability of stakeholders to attend. Each session was intended to both yield survey data that could be used to make decisions for the future of the AFPC, build community capacity, and engage citizens. For example, one listening session held by the North Alabama Food Policy Council was held at the normal time and location of a local farmers market for which the season had just ended. On the other hand, a listening session in Tuscaloosa was held concurrently with a farmers market. Others, such as the sessions in Fairfield and Mobile, were held on weekdays and primarily aimed towards senior citizens, and some were focused on civic leaders, such as the listening session in Montgomery. Though these listening sessions were open to the public, given the partner organizations we anticipated that the respondents from these sessions would be more likely to have a high level of interest in food issues and thereby might not necessarily be reflective of the public at large. Despite these differences, listening sessions began with the

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¹ This research was approved under Auburn IRB Protocol Number 12-207 EP 1208.

administration of the survey, and then a moderated discussion using a discussion guide developed by Auburn University. In some cases, a post-session survey was administered, but those responses are not included in this research. The full text of the survey and listening session discussion guide can be found in the Appendix.

The survey included a series of 28 questions aimed at understanding the background, food preferences, attitudes, and policy preferences of respondents.

The first five questions sought to understand the overall policy preferences of respondents. In this series of questions, respondents were asked to rank individual policies or policy opinion statements based on their preferences in four different categories—school food, nutrition/food quality, food security, and local food production. These categories represent topics on which food policy councils around the country, both at the local and statewide levels, have focused on both currently and in the past.

In each category, a set of four or five specific policies or policy opinion statements were made, and respondents were asked to rank them from most preferable to least preferable. For example, one statement was, "State and local governments should work with food banks, food pantries, and other charitable organizations, including faith-based groups, to increase and improve programs that reduce food insecurity." These policies and policy statements were developed to determine what a formalized food policy council might do, and what it might accomplish, particularly in its first few years of existence. Next, respondents were asked to rank the overall categories in order of importance.

Additionally, respondents were asked if they would be willing to join a hypothetical food policy council by paying annual dues, and if so, how much they would be willing to pay (\$25, \$50, \$75, \$100, \$200, or more). This open-ended payment mechanism is bound in order to limit

variance and give respondents a realistic example of possible payments. This structure, in which possible policies that a food policy council might pursue were described before soliciting a WTP, as well as allowing for respondents to indicate a WTP of \$0, follows Portney's (2004) parameters of a reliable CVM questionnaire.

Respondents were also asked how and how often they might be willing to volunteer using statements aimed at determining whether respondents were more comfortable in advocacy, education, or community organizing.

Questions were also asked related to what respondents defined as "local food", where they believe much of their food is produced, their general attitudes on food insecurity and policy, and basic demographic information, including political leanings and religiosity. While these surveys were designed to learn more about respondents' attitudes and preferences, the surveys were also intended to determine precisely what kind of Alabamians demonstrated interest in food policy and the AFPC by attending these listening sessions.

B. Online Surveys

Online surveys identical to the pre-survey administered to listening session participants were distributed via e-mail to Master Gardeners and employees of the Alabama Cooperative Extension System (ACES), as well as members of the Alabama Food Policy Council e-mail listserv in December 2012 and January 2013. Data was collected digitally using Qualtrics. This population was selected because of their work and connection to food and agriculture issues by virtue of their position, but may not be involved with the Steering Committee organizations that executed listening sessions across the state. Additionally, since the listening sessions were geographically constrained, the online survey allowed for responses from individuals who may not have had a listening session in their area.

C. Survey Results

A total of 339 usable surveys were collected between the listening sessions and online distribution. For our purposes, a survey was usable only if it included a "yes" or "no" response to the initial willingness to pay question. From the nine statewide listening sessions, 221 usable paper surveys were collected out of the 234 responses from the 303 attendees of these sessions, yielding a response rate of 72.9%. Six responses were expunged from the data set because the respondents were below the age of 19 at the time of the survey, which is outside of IRB protocol, and an additional 7 responses did not include any "yes" or "no" vote for WTP. From the online surveys, 118 usable surveys were collected from the 134 responses.

From both the paper and online survey, 199 respondents (58.88%) indicated they would be willing to pay to join the statewide food policy council, with 139 (41.12%) responding that they would not. The mean willingness to pay was \$29.23. Distribution of the willingness to pay amounts can be found in Figure 1. WTP amounts, with the exception of one individual who selected \$10 (outside of the bounds of the open-ended solicitation mechanism), are normal in that as amounts go up, the number of individuals that are willing to pay the amount goes down (Hausman 1993).

From the ranking exercise, the most important issue for the combined paper and online survey respondents was food insecurity, with 50.30% indicating it was the number one issue that needed to be addressed, followed by local food production with 20.1% of first place votes. The results of this exercise are in Figure 2. Because food insecurity received the majority of first-place rankings, we focus on attitudes regarding food insecurity for the values questions in the empirical models.

In addition to perceptions and attitudes about the food system, the demographic composition of those interested in the Alabama Food Policy Council was also a subject of research. While we believe that the listening sessions were successful at engaging groups that are already concerned about issues of food policy in Alabama, there are concerns that the sample of respondents are not reflective of the state's population as a whole. When comparing the demographics of our sample of survey respondents to those listed for Alabama by the 2011 American Community Survey, it is easy to conclude we have a sample that is predominantly female, younger individuals, employed individuals with relatively high household incomes, and those who have higher levels of educational attainment than Alabama's population as a whole. Also, respondents tended to be much more Moderate and Liberal than Alabama as a whole, as well as less religious. The survey sample is compared to demographics measures from the American Community Survey, Gallup, and Pew Research in Table 2.

IV. Model Specification

In order to estimate the effects on participants' willingness to pay, three different empirical techniques were employed in an attempt to find the proper estimation—basic OLS, a Heckman selectivity model, and a zero-inflated Poisson regression.

A. General Model

As with all CVM applications, we assume that stated WTP is based not only on income (though income is included in all of our models), but also on many other preferences that determine an individual's or a household's utility. In this case, we use responses to statements that attempt to acquire some measure of the individual respondents' values, specifically those on the issue of food insecurity, as a way to test how values affect WTP. As was mentioned earlier, given that food insecurity was indicated as the most important issue to survey respondents, we chose to use the response to food insecurity opinion statements as a basis for values. We hypothesize generally that the more respondents agree with statements such as "Food insecurity is a problem in Alabama" or "I would be willing to support a program that reduces food insecurity," the more they would be willing to pay to a hypothetical food policy council. Thus, the first stage of the regression, which we will call "Model A," can be written as follows (with the residual error terms):

(5)
$$WTP = f(Food\ Security\ Attitudes, Income) + \varepsilon$$

Standard demographic variables, such as age and educational attainment, were included in a second stage with the assumption that, along the lines of other research on the subject of community governance (social capital), WTP would increase as both age and educational attainment increase (i.e. Cawley 2008, etc.). This second stage, which we will call "Model B," can be written as:

17

(6) WTP =
$$f(Food\ Security\ Attitudes, Income, Core\ Demographics) + \varepsilon$$

Other demographics, such as race, religiosity, and political affiliation were included in a third stage without assumptions as to how they would affect WTP. With religious individuals particularly, they may have a values set in which they feel the need to help those less fortunate, potentially increasing WTP, or conversely they could already be members of or donating money to organizations that they see as fulfilling this role, potentially decreasing WTP. Additionally, a dummy variable was added to test any effects of listening session or online survey response. In line with the rest of CVM literature (i.e. Kahneman and Knetsch 1992), we expect online response to have a negative impact on WTP because of the lack of perceived social pressure to pay. The third stage, which we will call "Model C," can be written as:

(7)
$$WTP = f \binom{Food\ Security\ Attitudes\ , Income\ , First\ Core\ Demographics\ ,}{Additional\ Demographics\ , Response\ Method} + \varepsilon$$

A summary of the variables used in the empirical models with anticipated effects on WTP, as well as summary statistics can be found in Tables 3 and 4, respectively. The full survey as well as the full results can be found in the appendix.

B. OLS Technique

Along the lines of the formula outlined in Chapter IV Section A, stated WTP is the dependent variable, using Models A, B, and C as our basis for analysis.

Using a log-transformed version of WTP is also common to the literature. These models tend to assume that the decision of what amount to pay over 0 is independent of whether or not to state a WTP of 0, and is regarded as generally efficient and unbiased estimate of effects on WTP (Gyldmark and Morrison 2001).

C. Heckman Selectivity Model Technique

In data sets with zero votes, a Heckman Selectivity Model can be used to overcome selectivity bias, or the presence of inconsistent parameters. Given that some of the variables, particularly the willingness to pay, are distributed unevenly, this technique may be a better estimation technique. Often, the Heckman model is used to correct for correlation amongst estimators that would lead to inconsistent and biased estimators in a typical OLS regression. The Heckman can be estimated in two different ways, the two-step version or the Maximum-Likelihood Estimation (MLE). For the purposes of this paper, the MLE technique was used, which is not as general as the two-step procedure and assumes that the error terms are normally distributed (Golder 2012).

D. Zero-Inflated Poisson Regression Technique

Especially given that our dependent variable is a non-negative integer variable with a low number of values and the large number of zero votes due to the bounded open-ended response mechanism used in the survey, a zero-inflated Poisson regression may be a proper estimation technique for this data. The Poisson regression generally estimates asymptotically normal estimators of independent variable coefficients, and given that it has weak assumptions, is often referred to as a quasi-maximum likelihood estimator (QMLE), though it does have the restriction that the mean and variance of the error term be equal (Wooldridge 2009). Given that there are so many zero votes in the data, they may cause the model to be what is called over-dispersion, and thus a simple Poisson model may not be appropriate for a CVM such as this (Durham et al 2004).

The zero-inflated Poisson (ZIP) model uses a logistic function (logit) to predict the probabilities of zero responses and positive non-zero responses separately. Following along with

19

Lambert (1992) and Scrogin, et al. (2004), we can derive two separate probability functions as follows:

(8) Prob
$$[Y_i = 0] = \theta_i + (1 - \theta_i)e^{-\mu_i}$$

(9) Prob
$$[Y_i = a] = (1 - \theta_i) \frac{e^{-\mu_i} \mu_i^a}{a!}$$

Where θ_i is the proportion of zeros in the data set, μ_i is the mean and variance of the Poisson distribution, and α are the positive non-zero values. The ZIP model does not assume that the probabilities for each response are necessarily related and thus the log-likelihood estimation uses separate parameter vectors. This allows for us to specify which parameters we feel would affect a zero vote and the parameters that would affect WTP separately (Scrogin et al 2004).

In more intuitive terms, the ZIP model is performing a logistic regression to compare determinants of zero votes with all other positive integers assuming a certain set of parameters, and then examining the value determinants of positive non-zero integers (Greene 1994). ZIP Models have been used as estimation of CVM before, so the use of this technique to compensate for the over-dispersion of zero votes is not unprecedented. (Martínez-Espiñera 2007, Scrogin et al. 2004, Durham et al. 2004, Cameron and Englin 1997).

20

IV. Results

A. OLS Technique

The simple willingness to pay model using ordinary least squares (OLS) regression in two ways—first using the variable stated willingness to pay (WTPAmount) and then using the natural log version of the stated willingness to pay (lnWTP). Each model was run in three stages, as described in Chapter IV Section A. Robust regressions were used to control for heteroskedasticity, as well as outliers in the data.

As can be seen in Table 5, the application of was not a good fit for Models A (1), B (2) or C (3). Because of the large distribution of zeros for WTPAmount (displayed in Figure 1), the simple OLS model was not an accurate estimation technique for gathering what drove participants' willingness to pay to join a food policy council. Willingness to pay was significantly affected by participants' stated willingness to support programs that reduced food insecurity. Income is positive, though it is not statistically significant, meaning that we might think of a food policy council as a normal good.

As Table 6 shows, the use of a log-transformed version of WTP also did not provide much insight, partially because the use of natural logs censors zero votes. This means that the model does not provide insight into how participants choose between a zero vote and any other stated willingness to pay. Though significance was observed for variables such as income in Model A (4), and gender in Models B (5) and C(6), using a log-linear model also proved to be a poor fit for the data.

Because of the failure to capture differences between the zero votes and the positive amounts of WTP, both the linear and log-linear OLS models have selectivity bias (Gyldmark and

Morrison 2001). Thus, a Heckman selectivity model might be a more proper estimation technique.

B. Heckman Selectivity Model Technique

In order to account for the selectivity bias inherent in a contingent valuation with many zero votes, a Heckman Selectivity Model was run using the food insecurity variables. Upon running both Bowman-Shenton and Jarque-Bera tests for the normality of residuals, it was found that the Heckman Selectivity Model yielded non-normally distributed residuals. This violates the conditions for the Heckman Selectivity Model, and thus it is an improper estimator for this kind of contingent valuation.

This led to the use of the zero-inflated Poisson model, which is well suited for abnormally-distributed data with large zero votes (Cameron and Englin 1997; Durham et al, 2004).

C. Zero-Inflated Poisson Regression Technique

Similar to the OLS models above, the zero-inflated Poisson model was run in three stages—Models A (7), B (8), and C(9). The full estimation results can be found in Table 7.

The inflations of the three models found that a zero vote was significantly affected by the respondents' beliefs that food insecurity was a problem in Alabama (if they did not perceive it to be a problem, they were more likely to indicate that their willingness to pay was zero), and in Model C (9) it was found that conservative political affiliation was also significantly associated with a zero vote.

In the zero-inflated Poisson regression of the WTPAmount, some interesting insight into how attitudes about food insecurity and demographics affect the willingness to pay of participants emerges. For example, the variable AmericansConcernedAboutFI, which asked

22

respondents to state if they believed that other Americans cared about food insecurity in their states, is highly significant and positive in Models A(7), B(8) and C(9). This indicates that respondents who believed that their fellow Americans did not care about food insecurity were willing to pay more than those who did believe that their fellow citizens were concerned with these issues (refer to Table 3 to understand response mechanism). This could indicate that those indicating a willingness to pay higher than zero could be doing so because they believe that they are being counter-cultural, or potentially because they believe that their fellow citizens are not doing enough to alleviate food insecurity. Also, IntendtoSupportReductionFI is highly significant and positive in Model A(7). This question asked respondents if they would be "willing to support programs that provide food to people who are food insecure" and a positive value indicates that those who were willing to pay more tended to *disagree* with this statement (refer to Table 3). This could be because they see current food banks or efforts to reduce food insecurity as insufficient, or they might have a different idea of food justice that constitutes actions beyond simply providing food to those experiencing food insecurity. In Models A(7), B(8), and C(9), WillingToSupportFI is negative and highly significant, indicating that respondents who are willing to pay more to join a hypothetical food policy council are also likely to indicate that they are willing to support a policy that they see as reducing food insecurity.

In Model B(8), the added demographic variables of female, age, and educational attainment are found to be statistically significant, with age and educational attainment having a positive effect on willingness to pay. Perhaps surprisingly, being female had a negative impact on willingness to pay, though given that the sample demographic was largely female (see Table 2), there could simply be a bias towards low indications of WTP and female respondents.

In Model C(9), the second stage of added demographic variables showed that political affiliation, race, and survey response method significantly affected WTP. While more liberal respondents were willing to pay more than more conservative respondents, white respondents were likely to be willing to pay less than respondents of other races. Just as with gender, the race variables being negative could be a result of the lack of diversity in the survey response rather than a statement about how race actually affects WTP. Online survey respondents were statistically more likely to indicate lower amounts of WTP, which is in line with the literature surrounding CVM survey methods.

Though Income is statistically significant in the WTP estimations of Models A (7) and B (8), it loses significance in Model C (9). Though this loss of significance could be attributed to some issues with multicollinearity, the fact that Income has a positive effect on WTP and has a negative effect on the inflation leads us to conclude that the food policy council can be considered a normal good.

Statistically significant Vuong values on all three models indicate that the ZIP technique was a better estimation technique than a traditional Poisson estimation technique (Martínez-Espiñera 2007).

V. Conclusions

The main purpose of this thesis is to apply the technique of the contingent valuation method (CVM) to a unit of community governance using the example of the emerging Alabama Food Policy Council, as well as to assess Alabamians' attitudes about the food system. Our findings are in line with neoclassical economic theory in that higher income has a positive effect on willingness to pay, and in line with previous applications of CVM in that stated values have an effect on willingness to pay. Interestingly, our survey respondents exhibit increased willingness to pay to join a food policy council the less they felt that other Americans were concerned about food insecurity. Additionally, those that took the survey online exhibited lower willingness to pay than those who attended in-person listening sessions.

Age and education had positive effects on willingness to pay, which is in line with other CVM applications. Our inclusion of variables measuring religiosity and political affiliation also revealed much about the nature of the individuals that were likely to attend food policy council meetings, as the sample was composed primarily of White females who are relatively liberal with high educational attainment and household incomes compared to the State of Alabama as a whole.

Also we can see the effects of political affiliation with these other forms of community governance in that those who claim Moderate or Liberal political views are both more likely to pay to join a hypothetical food policy council and willing to pay more. This has major implications for the Alabama Food Policy Council as it seeks to address policy issues in a state where the majority of voters and policy makers identify with more Conservative ideology, and it may impact how successful the AFPC is in implementing policy changes. We would recommend that the AFPC explore ways to adapt to the current policy environment by finding ways to relate

to ideologies that may not necessarily be represented in this data set. It's recommended that, moving forward, the Alabama Food Policy Council think intentionally not only about who is included in their events, but also how they can enact policy that achieves their goals in an environment which may not be immediately receptive to their choices of policy positions.

Alabama's Food Policy Council is far from the only such organization, either at the statewide level or otherwise, that exists in such an environment.

Because of the large number of zero votes in the willingness to pay exercise, the zero-inflated Poisson model was used as a technique to account for the irregular distribution that, while common to CVM applications, was particularly problematic given that the good was both hypothetical (at the time) and an idea that could be particularly new to many Alabamians, especially those who did not attend an in-person meeting of a local food policy council or those that do not have any such organization in their community. Additionally, given that the survey was anonymous, there is no way for this research to conclude if respondents who indicated their willingness to pay will actually convert stated preference into revealed preference and join the Alabama Food Policy Council. While food policy councils across the country continue to address issues related to the food system, it is worth noting that, as is evidenced in this data, that values and identity are important in determining who comes to the table and how people perceive the value of what these units of community governance do.

Though this research is by no means conclusive that CVM is the only technique by which the units of community governance can and should be valued, we can conclude that when presented with a hypothetical organization seeking to make broad changes that could benefit a wide range of individuals, citizens can make estimations of their willingness to pay for this hypothetical organization to exist that is reflective of their stated values, demographics,

associations, and survey response method. Thus, CVM may be an effective alternative method by which economists can begin to value the units of community governance from a perspective of valuing the organizations themselves as opposed to valuing what benefits individuals may receive from them.

References

Awad, Ibrahim M. 2012. "Using econometric analysis of willingness-to-pay to investigate efficiency and quity of domestic water services in the West Bank." *The Journal of Socio-Economics*. 41:485-494.

Bowles, S. and Gintis, H. 2002. "Social Capital and Community Governance." *The Economic Journal*. 112 (483): F419-F436 (Features).

Cameron, Trudy Ann and Englin, Jeffrey. 1997. "Respondent Experience and Contingent Valuation of Environmental Goods." *Journal of Environmental Economics and Management*. 33:296-313.

Carson, Richard T., Flores, Nicholas E., and Meade, Norman F. 2001. "Contingent Valuation: Controversies and Evidence." *Environmental and Resource Economics*. 19: 173-210.

Cawley, John. 2008. "Contingent valuation analysis of willingness to pay to reduce childhood obesity." *Economics and Human Biology*. 6: 281-292.

Champ, Patricia A., Boyle, Kevin J., Brown, Thomas C. eds. *A Primer on Nonmarket Valuation*. Kluwer Academic Publishers, 2003. Print.

Clancy, K. 2004. "Potential contributions of planning to community food systems." *J Planning Ed and Res.* 23 (4):435-438

Clancy, K., Hammer, J. and Lippoldt, D. 2007. "Food Policy Councils: Past, Present, and Future." Pp. 121-140 in *Remaking the North American Food System*, ed. C. Clare Hinrichs and Thomas A. Lyson. Lincoln: University of Nebraska Press.

Coleman, J. 1988. "Social capital and the creation of human capital." *American Journal of Sociology*. 94: S95-S120 (Suppl).

Dahlberg, K. 1994. "Food Policy Councils: The Experience of Five Cities and One County." Paper presented at the annual meetings of the Agriculture, Food and Human Values Society and the Society for the Study of Food and Society Tucson, AZ.

Diamond, Peter A. and Hausman, Jerry A. 1994. "Contingent Valuation: Is Some Number better than No Number?" *The Journal of Economic Perspectives*. 8 (4):45-64.

Durham, Catherine A., Pardoe, Iain, and Vega-H, Esteban. 2004. "A Methodology for Evaluating How Product Characteristics Impact Choice in Retail Settings with Many Zero Observations: An Application to Restaurant Wine Purchases." *Journal of Agricultural and Resource Economics*. 29 (1): 112-131.

Durlauf, Steven N. 2002. "On The Empirics of Social Capital." *The Economic Journal*. 112 (483): F459-479 (Features)

Echessah, Protase N., Swallow, B.M., Kamara, D.W., Curry, J.J. 1997. "Willingness to Contribute Labor and Money to Tsetse Control: Application of Contingent Valuation in Busia District, Kenya." *World Development*. 25 (2):239-253.

Fukuyama, F. 1999. The Great Disruption, New York: Simon and Schuster.

Furstenberg, F. and Hughes, M. 1995. "Social Capital and successful development among at-risk youth." *Journal of Marriage and the Family*. 57: 580-592.

Glaeser, E.L., Laibson, D., and Sacerdote, B. 2002. "An Economic Approach to Social Capital." *The Economic Journal*. 112 (483): F437-F458 (Features).

Golder, Matthew. 2012. "Selection Models." Course materials for POS 5747: Advanced Quantitative Methods. Accessed at https://files.nyu.edu/mrg217/public/selection.pdf.

Greene, William H. 1994. "Accounting for Excess Zeros and Sample Selection in Poisson and Negative Binomial Regression Models" Working paper.

Gyldmark, M., and Morrison, G.C. 2001. "Demand for helaht care in Denmark: results of a national sample survey using contingent valuation." *Social Science & Medicine*. 53: 1023-1036. Hanemann, W. Michael. 1994. "Valuing the Environment Through Contingent Valuation" *The Journal of Economic Perspectives*. 8 (4):19-43.

Harper, A., Campbell, Marcia C., Holt-Gimenez, E., and Alkon, A. 2009. *Food Policy Councils: Lessons learned*. Oakland, Calif.: Food First Institute for Food and Development Policy. Hausman, J.A., ed. *Contingent Valuation: A Critical Assessment*. Elsevier Science Publishers B.V., 1993. Print.

Hodgson, Kimberley. 2011. "Food Policy Councils: helping local, regional, and state governments address food system challenges." Paper prepared for the American Planning Association's Planning and Community Health Research Center.

Howley, P., Hynes, S., and O'Donoghue, C. 2010. "The citizen versus consumer distinction: An exploration of individuals' preferences in Contingent Valuation studies." *Ecological Economics*. 69: 1524-1531.

Kahneman, Daniel, and Knetsch, Jack L. 1992. "Valuing Public Goods: The Purchase of Moral Satisfaction." *Journal of Environmental Economics and Management*. 22:57-70. Kamuanga, M., Swallow, B.M., Sigue, H., Bauer, B. 2001. "Evaluation contingent and actual contributions to a local public good: Tsetse control in the Yale agro-pastoral zone, Burkina Faso." *Ecological Economics*. 39:115-130.

Krutilla, John V. 1967. "Conservation Reconsidered." *The American Economic Review*. 57(4):777-786.

Lambert, Diane. 1992. "Zero-Inflated Poisson Regression, With an Application to Defects in Manufacturing." *Technometrics*. 34(1):1-14.

Martínez-Espiñera, Roberto. 2007. "'Adopt a hypothetical pup': A count data approach to the valuation of wildlife." *Environmental and Resource Economics*. 37:335-360.

McFadden, Daniel. 1994. "Contingent Valuation and Social Choice." *American Journal of Agricultural Economics*. 76 (4): 689-708.

Noonan, Douglas S. 2003. "Contingent Valuation and Cultural Resources: A Meta-Analytic Review of the Literature." *Journal of Cultural Economics*. 27: 159-176.

Portney, Paul R. 1994. "The Contingent Valuation Debate: Why Economists Should Care." *The Journal of Economic Perspectives*. 8 (4): 3-17.

Pretty, J. and Ward, H. 2001. "Social Capital and the Environment." World Development. 29 (2) 209-227.

Putnam, R. 1995. "Bowling alone: America's declining social capital." *Journal of Democracy*. 6 (1):65-78.

Robert Wood Johnson Foundation. September 2012. "Bending the Obesity Cost Curve in Alabama."

Sagoff, M. 1998. "Aggregation and deliberation in valuing environmental public goods: A look beyond contingent pricing." *Ecological Economics*. 24: 213-230.

Santagata, W. and Signorello, G. 2000. "Contingent Valuation of a Cultural Public Good and Policy Design: The Case of 'Napoli Musei Aperti'." *Journal of Cultural Economics*. 24: 181-204.

Sauer, Andrea. 2012. "FPC List Update Analysis." Paper prepared for the Community Food Security Coalition.

Schiff, Rebecca. 2008. "The Role of Food Policy Councils in Developing Sustainable Food Systems." *Journal of Hunger & Environmental Nutrition*. 3 (2):206-228.

Scrogin, D., Boyle, K., Parsons, G., and Plantinga, A.J. 2004. "Effects of Regulation on Expected Catch, Expected Harvest, and Site Choice of Recreational Anglers." *American Journal of Agricultural Economics*. 86(4):963-974.

Splash, Clive I. 2000. "Ethical Motives and Charitable Contributions in Contingent Valuation: Empirical Evidence from Social Psychology and Economics." *Environmental Values*. 9: 453-479.

Stone, K., Bhat, M., Bhatta, R., Mathews, A. 2008. "Factors influencing community participation in mangroves restoration: A contingent valuation analysis." *Ocean & Coastal Management*. 51:476-484.

US Center for Disease Control. September 2012. "Alabama State Nutrition, Physical Activity, and Obesity Profile."

US Census Bureau. 2010 Census.

US Department of Agriculture Economic Research Service. Food Desert Finder.

Veisten, Knut. 2007. "Contingent valuation controversies: Philosophic debates about economic theory." *The Journal of Socio-Economics*. 36:204-232.

Whittington, D., Briscoe, J., Mu, X., Barron, W. 1990. "Estimating the Willingness to Pay for Water Services in Developing Countries: A Case Study of the Use of Contingent Valuation Surveys in Southern Haiti." *Cities and Economic Development: From the Dawn of History to the Present*. University of Chicago Press. Pp 294-311.

Wooldridge, Jeffrey M. 2009. "Introductory Econometrics, Fourth Edition." South-Western Cengage Learning. Mason, OH.

Table 1: Sta	atewide FPC Structures from	Around the US		
	Government/Nonprofit Partnership	Nonprofit/School Partnership	Independent	Program of a Nonprofit
	1 at the simp	i ai theismp	Nonprofit	Nonpront
Governance	Comprised of government and nonprofit leaders named by Governor, with open meetings just as with any other State agency.	Run by volunteer board comprised of nonprofit leaders, school administrators, and citizens.	Run by volunteer board comprised of nonprofit leaders and citizens.	Comprised of agencies/ individuals that operates as program within a nonprofit.
Focus	Focused primarily on economic development through local food.	Focused primarily on improving school nutrition and education on local food.	Focused on alleviating hunger through local food system.	Focused on building capacity of existing groups.
Funding	Diverts existing state agency resources for FPC.	Funded primarily through grants from private foundations.	Funded through membership dues and grants.	Funded through host organization and stakeholders.
Examples	North Carolina, South Carolina	Michigan	Iowa	New Mexico

Table 2: Survey Sample Compared to Alabama Demographics

		Survey Sample Demographics ACS (2011)	Representative Sample	Difference
Gender	Female	67.8%	51.6%	+16.2%
	Male	32.2%	48.4%	-16.2%
Employment	Unemployed, Seeking Employment	2.2%	6.8%	-4.6%
Education	Four-year Degree (Completed)	25.0%	13.9%	+11.1%
	Graduate/Professional Degree	38.3%	8.4%	+29.9%
Income	\$75,000 or Greater (Household)	42.3%	25.2%	+17.1%
Race	White	79.9%	70.2%	+9.7%
	African-American	10.3%	27.2%	-16.9%
	American Indian	0.9%	1.1%	-0.8%
	Asian	0.6%	1.4%	-0.8%
	Hispanic/Latino	2.9%	3.9%	-1.0%
		Gallup (2011)		
	Conservative	33.0%	49.8%	-16.8%
Political Affiliation	Moderate	42.9%	31.9%	+11.0%
	Liberal	24.1%	13.1%	+11.0
		Pew (2009)		
Religiosity	"Very Religious"	57.0%	74.0%	-17.0%

Table 3: Definition of Variables Used

Variable Variable	Question	Response Format
WTPAmount	If a food policy council with these goals existed in Alabama, would you be willing to become a member by paying annual dues? If yes, what annual dues would you be willing to pay for this organization?	Dollar Amount
FoodInsecurityALProblem	Food insecurity is a problem in Alabama.	Scale; 1 is "Strongly Agree," 7 is "Strongly Disagree"
AmericansConcernedAboutFI	Most Americans are concerned about food insecurity in their state.	Scale; 1 is "Strongly Agree," 7 is "Strongly Disagree"
WillingtoSupportFI	I would be willing to support a policy that reduces food insecurity.	Scale; 1 is "Strongly Agree," 7 is "Strongly Disagree"
IntendToSupportReductionFI	I intend to support programs that provide food to people who are food insecure.	Scale; 1 is "Strongly Agree," 7 is "Strongly Disagree"
Income	Which category best describes your family's total income?	Scale; 1 is "Less than \$9,999," 6 is "\$100,000 +"
Female	What is your gender?	Dummy; 1 Female, 0 Male
Age	What month and year were you born?	Age in Years
EducationAttainment	What best describes your highest level of education?	Scale; 1 is "Less than 12 th grade," 6 is "Graduate/Professional degree"
ReligiousBeliefsImportant	My personal religious beliefs are important to me.	Scale; 1 is "Not at all," 7 is "Very much." Scale; 1 is "Very
PoliticalAffiliation	Politically, how do you consider yourself?	Conservative," 7 is "Very Liberal"
White	Do you consider yourself?	Dummy; 1 if White, 0 for all others
Online	Indicates if they took the survey Online	Dummy, 1 if online, 0 if took at listening session

Table 4: Summary Statistics of Variables Used

Variable	Obs.	Mean	Std Dev	Min	Max
WTPAmount	339	29.2330	44.7015	0	500
FoodInsecurityALProblem	315	2.1016	1.5192	1	7
AmericansConcernedAboutFI	318	3.8428	1.6870	1	7
WillingtoSupportFI	308	2.0844	1.3814	1	7
IntendToSupportReductionFI	316	1.6203	1.1744	1	7
Income	298	4.0436	1.5313	1	7
Female	316	0 .6867	0.4646	0	1
Age	322	44.7516	19.5423	19	86
EducationAttainment	316	4.6361	1.3906	1	6
ReligiousBeliefsImportant	307	5.6026	2.0401	1	7
PoliticalAffiliation	303	3.7690	1.9899	1	7
White	310	0.8742	0 .3322	0	1
Online	339	0 .7670	04234	0	1

Table 5: Model Results for OLS Technique using WTPAmount

	Model A	Model B	Model C
	(1)	(2)	(3)
FoodInsecurityALProblem	-2.2106	-2.4861	-1.5503
	(1.0346)	(1.0148)	(1.0022)
AmericansConcernedAboutFI	0.9448	0.6130	0.0336
	(0.8503)	(0.8423)	(0.8745)
WillingtoSupportFI	-4.6803***	-4.5272***	-4.0905***
	(0.8503)	(1.2565)	(1.2571)
IntendToSupportReductionFI	-0.5845	-0.6460	-0.9793
	(1.4035)	(1.4754)	(1.4812)
Income	1.7393	1.4984	0.8128
	(0.9481)	(0.9264)	(0.9126)
Female		-3.8234	-2.5604
		(2.9836)	(2.9654)
Age		-0.0605	0.0560
		(0.0816)	(0.0846)
EducationAttainment		0.9208	0.5229
		(1.0452)	(1.0338)
ReligiousBeliefsImportant			-0.6916
			(0.6930)
PoliticalAffiliation			1.6053
			(0.7482)
White			5.4225
			(4.5081)
Online			-6.4618
			(4.0567)
Constant	24.3309***	26.9873***	19.1486
	(5.5133)	(8.5267)	(10.9486)
N	276	272	255
F	8.99	6.16	4.98
_		~·- ~	

^{***} Significant at 99% Confidence, ** Significant at 95% Confidence, * Significant at 90% Confidence

Table 6: Model Results for OLS Technique using lnWTP

Table 6: Model Results for OLS	Model A	Model B	Model C
	(4)	(5)	(6)
FoodInsecurityALProblem	0.0038	0.0130	0.0123
	(0.0393)	(0.0392)	(0.0390)
AmericansConcernedAboutFI	0.0619	0.0641	0.0417
W. W. C. P.	(0.0278)	(0.0284)	(0.0316)
WillingtoSupportFI	-0.0543	-0.0589	-0.0511
	(0.0671)	(0.0677)	(0.0679)
IntendToSupportReductionFI	0.0171	-0.0032	-0.0144
T	(0.0639)	(0.0663)	(0.0654)
Income	0.0972***	0.0828	0.0665
E1-	(0.0320)	(0.0327) -0.3007**	(0.0326) -0.2780**
Female		(0.1081)	(0.1092)
A 00		-0.0605	0.0001
Age		(0.0816)	(0.0030)
EducationAttainment		0.0164	0.0208
EducationAttainment		(0.0380)	(0.383)
ReligiousBeliefsImportant		(0.0300)	-0.0495
Rengiousbenersimportant			(0.0231)
PoliticalAffiliation			-0.0091
1 Ontican Armation			(0.0264)
White			0.1117
vv inte			(0.1594)
Online			-0.2426
omme.			(0.1580)
Constant	3.015***	3.3279***	3.5758
<u> </u>	(0.1830)	(0.2972)	(0.4019)
	/		,
N	165	163	150
F	3.59	3.06	2.71

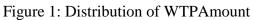
^{***} Significant at 99% Confidence, ** Significant at 95% Confidence, * Significant at 90% Confidence

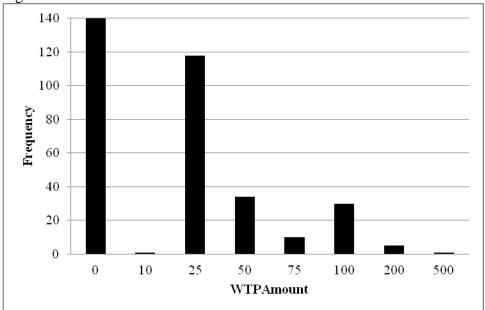
Table 7: Model Results for Zero-Inflated Poisson Model

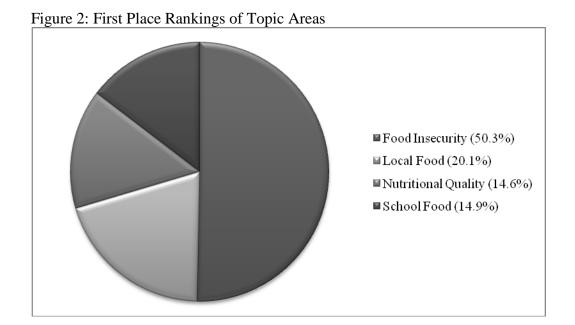
Table 7: Model Results for Zero-	Model A	Model B	Model C
	(7)	(8)	(9)
WTPAmount	(,)	(0)	
FoodInsecurityALProblem	0.0056	0.02272	0.0354***
	(0.0096)	(0.0097)	(0.0103)
AmericansConcernedAboutFI	0.1161***	0.1278***	0.1077***
	(0.0064)	(0.0065)	(0.0075)
WillingtoSupportFI	-0.140***	-0.1340***	-0.1411**
	(0.0172)	(0.0167)	(0.0189)
IntendToSupportReductionFI	0.0171***	0.0333	0.0386
	(0.0639)	(0.0154)	(0.0165)
Income	0.0477***	0.0190*	0.0178
	(0.0073)	(0.0076)	(0.0082)
Female		-0.5261***	-0.5729***
		(0.0232)	(0.0247)
Age		0.0019**	0.0038***
		(0.0007)	(0.0007)
EducationAttainment		0.0548***	0.0666***
		(0.0089)	(0.0095)
ReligiousBeliefsImportant			-0.0019
			(0.0053)
PoliticalAffiliation			0.0221***
			(0.0066)
White			-0.3225***
			(0.0332)
Online			-0.2426***
_			(0.1580)
Constant	3.3540***	3.4572***	3.6047***
	(0.0442)	(0.0707)	(0.0981)
<u>Inflation</u>	0. 40 7 Advisor	0.40.60 (b)	O O A CENTRAL
FoodInsecurityALProblem	0.4254***	0.4063***	0.3167***
	(0.969)	(0.1002)	(0.1067)
AmericansConcernedAboutFI	0.0564	0.0681	0.1548
т.	(0.0762)	(0.0795)	(0.0923)
Income	-0.0359	-0.0368	-0.0011
E1-	(0.0852)	(0.0881)	(0.0952)
Female		0.0281	0.1201
A ~~		(0.2871)	(0.3198)
Age		0.0044	-0.0104 (0.0087)
EducationAttainment		(0.0073) -0.0927	(0.0087) -0.1118
EducationAttainment		(0.0985)	-0.1118 (0.1070)
ReligiousBeliefsImportant		(0.0703)	-0.0582
Kengiousbeneisimportant			(0.0754)
PoliticalAffiliation			-0.3052***
1 OHUCAIAHHIAUOH			-0.3032

			10.000.00	
			(0.0836)	
White			-0.5103	
			(0.4140)	
			` ,	
Online			0.9660	
			(0.4140)	
Constant	-1.3685**	-1.1603	0.9051	
	(0.4915)	(0.7399)	(1.0882)	
N	276	272	251	
Log Likelihood	-3001.49	-2697.41	-2346.072	
Vuong	9.59***	9.17***	8.64***	

^{***} Significant at 99% Confidence, ** Significant at 95% Confidence, * Significant at 90% Confidence







Appendix 1: Full Survey Instrument

Coming to the Table



The purpose of this survey is to understand stakeholders' perceptions of food in Alabama.

We greatly appreciate your participation.

AARP Alabama 201 Monroe Street, RSA Tower 1880 Montgomery, AL 36104

Auburn University
Department of Agricultural Economics and Rural Sociology
Auburn, AL 36849

Coming to the Table

1	When discussing the food in your community, <i>school food</i> may be a consideration. Please rank the following proposed policy recommendations meant to improve school food. That is, put a "1" next to the most preferred recommendation, a "2" next to the second most preferred, and so on down to "4". Please no ties.
	Local, state, and federal governments should encourage school nutrition directors to buy from local farmers when possible.
	Schools should have proper equipment so that foods are cooked on campus and not just warmed up.
	Vending machines should either not be permitted on school campuses or those schools that choose to have vending machines should establish strict health standards for items offered.
	School garden programs should be developed to provide fresh fruits and vegetables to school lunchrooms.
	If other school food issues are important to you please list them below:
]	When discussing the food in your community, the nutritional quality of the food available may be a consideration. Please rank the following policy recommendations that are meant to <i>improve food quality</i> in your community. That is, put a "1" next to the most preferred recommendation, a "2" next to the second most preferred, and so on down to "4". Please no ties. Convenience stores, gas stations, grocery stores, and farmers' markets should carry locally produced foods.
	Communities should consider setting aside public property and creating zoning for community gardens and neighborhood farms in development plans.
	Government and civic groups should work with seniors to ensure they can access
	Senior Farmers Market Nutrition Program benefits online.
	· · · · · · · · · · · · · · · · · · ·

3.	When discussing the food in your community, hunger (food insecurity) may be a consideration. Please rank the following four policy recommendations proposed to reduce hunger in your community. That is, put a "1" next to the most preferred recommendation, a "2" next to the second most preferred, and so on down to "5". Please no ties. People who are food insecure lack access to both an adequate quantity of food and food that is wholesome and nutritious.
	State and local governments should work with food banks, food pantries, and other charitable organizations, including faith-based groups, to increase and improve programs that reduce food insecurity.
	State and local governments should make public transportation available and efficient so people who are food insecure can better access nutritious foods.
	State and local governments should offer incentives to <i>locally owned</i> companies that choose to open new grocery stores in areas that currently lack access to nutritious foods.
	State and local governments should offer incentives to any company that chooses to open new grocery stores in areas that currently lack access to nutritious foods.
	State and local governments should help more retailers, including farmers' markets and roadside stands, accept food stamps (SNAP).
	If other hunger issues are important to you please list them below:
4.	When discussing the food in your community, local food production may be a consideration. Please rank the following four policy recommendations proposed to increase local food production in your community. That is, put a "1" next to the most preferred recommendation, a "2" next to the second most preferred, and so on down to "4". Please no ties.
	Grants and tax incentives should be offered to farmers and processors who produce high quality foods that meet community needs.
	State and local governments should reduce regulations that make local food production and processing difficult.
	State and local policies should encourage local food production and processing as a means of job creation.
	State and local governments should enhance the profitability of small- and medium-sized farms in Alabama by supporting direct farm marketing, sustainable agriculture, and agri-tourism efforts.
If ot	her food production issues are important to you please list them below:

5.	Overall, please rank (a) school food, (b) nutritional quality of food available in communities, (c) hunger, and (d) local food production in order of their importance to you when you consider the food system in your community. That is, put a "1" next to the most important factor, a "2" next to the second most important, and so on down to "4". Please no ties.
	Improving school food
	Increasing the nutritional quality of the food available in communities
	Reducing hunger
	Increasing local food production
edi sys	food policy council is a diverse group of citizens from across the food system that seeks to acate citizens about the food system, collaborate to identify and address issues in the food stem, and advocate for policy changes that would improve the food system, such as the ones ove.
6.	If a food policy council with these goals existed in Alabama, would you be willing to become a member by paying annual dues? _YesNo
	If yes, what annual dues would you be willing to pay for this organization? □\$25 □\$50 □\$75 □\$100 □\$200
	ould you be willing to pay annual dues that are more than the stated amounts? If so, how much r year would you be willing to pay?
7.	In order for a food policy council to achieve their stated goals, many activities and skills are needed. Please rank the following volunteer activities based on your preferences and comfort level. That is, put a "1" next to the most preferred and a "3" next to the least.
	Meeting with city, county, or state officials to discuss food policy issues
	Hosting a discussion in your community or at a school about food policy issues

	nere any other way you would be willing to volunteer for the food policy council? If so, list offy below:
	Given the opportunity to volunteer by doing your top ranked activity, how much time a month would you dedicate to that activity on behalf of the food policy council? An average of one hours per month. An average of two hours per month. An average of five hours per month. An average of 10 hours per month.
	Would you be willing to volunteer more time per month than the stated options? If so, how many hours per month?
9.	That percentage of the food shopping do you do for your household? □ 0-25%
	□ 26-50%
	□ 51-75%
	□ 76-100%
10.	What does the term "local food" mean to you?

12. When you purchase food, how	Very rarely (0 to 5 times a year)	Rarely (6 to 11 times a year)	Monthly (12 times a year)	Regularly (2 to 3 times a month)	Very regularly (4 or more times a month)
At a Supercenter such as Wal-Mart or Target					
At wholesale stores such as Sam's Club or Costco					
At a typical grocery store such as Kroger or Winn-Dixie					
At convenience stores such as Kangaroo or Circle K					
At a large specialty grocer such as Whole Foods or Earth Fare					_
At a small health/natural foods store or a food co- op					
At a Farmers' Market					
Directly from a producer's farm					
13.On average, where is most of the Outside the U.S. ☐ The U.S. ☐ The Southeastern U.S. ☐ Alabama ☐ Alabama and within S. ☐ Alabama and within S. ☐ I do not know	5. 50 miles fror	m where I liv	ve		

14. Next, we would like to ask you some additional questions about your views on food insecurity (hunger), food production, and your life.

DEFINITIONS:

Food insecurity: People who are **food insecure** lack **both** access to an adequate quantity of food **and food** that is wholesome and nutritious.

Local economic development is an increase in the ability of the local economy to create wealth for local residents.

	Strongly Agree	Strongly Disagree	
There are people in Alabama who are food insecure. State policies help to eliminate food insecurity. Food production in Alabama increases local economic development. State policies promote local food production for local economic development in Alabama.			7 7 7 7 7
Food insecurity is a problem in Alabar	na.		□ 7
We need state policies to reduce food insecurity in Alabama. My family is not concerned about food insecurity in Alabama. My family would support a policy that reduces food insecurity.			7 7 7 9 7
I do what my family thinks I should do).		□ 7
Food production is good for local economic development in Alabama. Most Americans are concerned about food insecurity in their state. My family is concerned about increasi local food production to improve economic development.	ng		7 7 7

Strongly Strongly Agree Disagree

	Most Americans would support a state or local policy to reduce food insecurity. If I supported a policy to reduce food insecurity I would tell my family. We need state policies to increase local food production for local economic growth Most people who are important to me think I should support a state policy that	7 7 7 0 7
	would reduce food insecurity. now a few background questions to help us know if we've surveyed all different kingeople in Alabama.	7 ids
15.	What month and year were you born? MMYYYY	
16.	What are the first three digits of your ZIP Code?	
17.	Politically, how do you consider yourself? Conservative Moderate Liberal I am	
18.	What is your gender? ☐ Female ☐ Male	
19.	Are you Spanish, Hispanic or Latino? ☐ Yes ☐ No	
20.	Do you consider yourself ? (feel free to select more than one) ☐ Asian ☐ Black or African American ☐ White ☐ Other (please specify)	
21.	What best describes your highest level of education? ☐ Less than 12 th grade ☐ High school or GED	

	☐ Some college, no degree			
	☐ 2 year college degree (Associate	e, Technical, e	tc.)	
	☐ 4year college degree (Bachelor	's)		
	☐ Graduate or professional degree	e (Master's, Ph	.D., M.B.A., etc.)	
22.	Are you married?			
	☐ Yes			
	□ No			
23.	How many children live in your housel	hold?		
	Number of children 0 to	6 years old		
	Number of children 7 to	17 years old		
24.	How many adults, including yourself, l	live in your ho	usehold?	
	Number of adults 18 to 64	4 years		
	Number of adults 65 to 84	4 years		
	Number of adults 85 and	over		
25.	Which Congressional District do you	live?	D' - 1 - 2 D - 14 - 4	D 1
	District 1 Rep. Jo Bonner		District 2 Rep. Marth	•
	District 3 Rep. Michael "Mike" Roger District 5 Rep. Mo Brooks	rs .	District 4 Rep. Robert District 6 Rep. Spend	
	District 7 Rep. Terri Sewell		District o Rep. Spene	cer Bachus
26	Dell'elema Authorite			
20.	Religious Attitude			
	religion an important part of your ily life? Ye	sNo		
		· · · · · · · · · · · · · · · · · · ·	_	
		Not at all		Very much
M	y personal religious beliefs are			
in	portant to me.			7
27.	What category best describes your curr	ent employme	nt status?	
	☐ Employed full-time	1 1		
	☐ Employed part-time			

☐ Employed part-time, but seeking full-time employment
☐ Unemployed
☐ Unemployed, but seeking full-time employment
□ Retired
□ Student
Which category best describes your family's total income?
☐ Less than \$9,999
□ \$10,000 to \$24,999
□ \$25,000 to \$50,000
□ \$50,000 to \$74,999
□ \$75,000 to \$99,999
□ \$100,000 or more
If you have any additional thoughts about food in Alabama, please share them here.

Thanks again for completing this survey!

Coming to the Table

Now that we have had a discussion of food issues in your community. Please repeat the ranking exercise.

1.	When discussing the food in your community, <i>school food</i> may be a consideration. Please rank the following proposed policy recommendations meant to improve school food. That is, put a "1" next to the most preferred recommendation, a "2" next to the second most preferred, and so on down to "4". Please no ties.
	Local, state, and federal governments should encourage school nutrition directors to buy from local farmers when possible.
	Schools should have proper equipment so that foods are cooked on campus and not just warmed up.
	Vending machines should either not be permitted on school campuses or those schools that choose to have vending machines should establish strict health standards for items offered.
	School garden programs should be developed to provide fresh fruits and vegetables to school lunchrooms.
	If other school food issues are important to you please list them below:
2.	When discussing the food in your community, the nutritional quality of the food available may be a consideration. Please rank the following policy recommendations that are meant to <i>improve food quality</i> in your community. That is, put a "1" next to the most preferred recommendation, a "2" next to the second most preferred, and so on down to "4". Please no ties.
2.	When discussing the food in your community, the nutritional quality of the food available may be a consideration. Please rank the following policy recommendations that are meant to <i>improve food quality</i> in your community. That is, put a "1" next to the most preferred recommendation, a "2"
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community. That is, put a "1" next to the most preferred recommendation, a "2" next to the second most preferred, and so on down to "5". Please no ties. People who are food insecure lack access to both an adequate quantity of food and food that is

wholesome and nutritious.

	State and local governments should work with food banks, food pantries, and other charitable organizations, including faith-based groups, to increase and improve programs that reduce food insecurity.
	State and local governments should make public transportation available and efficient so people who are food insecure can better access nutritious foods.
	State and local governments should offer incentives to <i>locally owned</i> companies that choose to open new grocery stores in areas that currently lack access to nutritious foods.
	State and local governments should offer incentives to <i>any</i> company that chooses to open new grocery stores in areas that currently lack access to nutritious foods.
	State and local governments should help more retailers, including farmers' markets and roadside stands, accept food stamps (SNAP).
Wher consider	ther hunger issues are important to you please list them below: a discussing the food in your community, local food production may be a deration. Please rank the following four policy recommendations proposed to use local food production in your community. That is, put a "1" next to the most
Wher consider the considering	discussing the food in your community, local food production may be a deration. Please rank the following four policy recommendations proposed to use local food production in your community. That is, put a "1" next to the most red recommendation, a "2" next to the second most preferred, and so on down to Please no ties. Grants and tax incentives should be offered to farmers and processors who produce
Wher consi- ncrea	discussing the food in your community, local food production may be a deration. Please rank the following four policy recommendations proposed to use local food production in your community. That is, put a "1" next to the most red recommendation, a "2" next to the second most preferred, and so on down to Please no ties.
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Wher considercasion	discussing the food in your community, local food production may be a deration. Please rank the following four policy recommendations proposed to use local food production in your community. That is, put a "1" next to the most red recommendation, a "2" next to the second most preferred, and so on down to Please no ties. Grants and tax incentives should be offered to farmers and processors who produce high quality foods that meet community needs. State and local governments should reduce regulations that make local food production and processing difficult. State and local policies should encourage local food production and processing as a

5. Overall, please rank (a) school food, (b) nutritional quality of food available in communities, (c) hunger, and (d) local food production in order of their importance to you when you consider the food system in your community. That is, put a "1" next to the most important factor, a "2" next to the second most important, and so on down to "4". Please no ties.

	Improving school food
	Increasing the nutritional quality of the food available in communities
	Reducing hunger
	Increasing local food production
ed sys	food policy council is a diverse group of citizens from across the food system that seeks to acate citizens about the food system, collaborate to identify and address issues in the food stem, and advocate for policy changes that would improve the food system, such as the ones ove
6.	If a food policy council with these goals existed in Alabama, would you be willing to become a member by paying annual dues? _YesNo
	If yes, what annual dues would you be willing to pay for this organization? □\$25 □\$50 □\$75 □\$100 □\$200
	Would you be willing to pay annual dues that are more than the stated amounts? If so, how much per year would you be willing to pay?
7.	In order for a food policy council to achieve their stated goals, many activities and skills are needed. Please rank the following volunteer activities based on your preferences and comfort level. That is, put a "1" next to the most preferred and a "3" next to the least.
	 Meeting with city, county, or state officials to discuss food policy issues Hosting a discussion in your community or at a school about food policy issues Attending monthly meetings to organize efforts of the state food policy council in your community
	there any other way you would be willing to volunteer for the food policy council? If so, list efly below:

8. Given the opportunity to volunteer by doing your top ranked activity, how much time a month would you dedicate to that activity on behalf of the food policy council?
 _ An average of one hours per month. _ An average of two hours per month. _ An average of five hours per month. _ An average of 10 hours per month.
Would you be willing to volunteer more time per month than the stated options? If so, how many hours per month?

Appendix 2: Full Survey Results

Question 1: "When discussing the food in your community, school food...Please rank the following..."

Policy Statement	1	2	3	4	Mean	Std. Dev.
Local, state, and federal governments should encourage school nutrition directors to buy from local farmers when possible.	136	112	58	19	1.9417	1.4779
Schools should have proper equipment so that food are cooked on campus and not just warmed up.	93	87	105	41	2.2883	1.0151
Vending machines should either not be permitted on school campuses or those schools that choose to have vending machines should establish strict health standards for items offered.	43	35	54	194	3.2237	1.0879
School garden programs should be developed to provide fresh fruits and vegetables to school lunchrooms.	53	92	110	70	2.6135	1.0066

Question 2: "When discussing the food in your community, the **nutritional quality**...Please rank the following..."

Policy Statement	1	2	3	4	Mean	Std. Dev.
Convenience stores, gas stations, grocery stores, and farmers' markets should carry locally produced foods.	88	66	53	118	2.6185	1.2281
Communities should consider setting aside property and creating zoning for community gardens and neighborhood farms in development plans.	119	83	71	52	2.1723	1.0948
Government and civic groups should work with secniors to ensure they can access their Senior Farmers Market Nutrition Program benefits online.	31	80	125	89	2.8369	0.9368
Food grown and process in Alabama should be purchased and prepared in public institutions such as hospitals, prisons, and senior centers.	87	96	76	66	2.3723	1.0858

Question 3: "When discussing the food in your community, hunger (food insecurity)...Please

Rank the following..."

Policy Statement	1	2	3	4	5	Mean	Std. Dev.
State and local governments should work with food banks, food pantries, and other charitable organizations, including faith-based groups, to increase and improve programs that reduce food insecurity.	160	56	42	42	23	2.1084	1.3342
State and local governments should make public transportation available and efficient so people who are food insecure can better access nutritious foods.	31	70	69	72	81	3.3158	1.3162
State and local governments should offer incentives to locally owned companies that choose to open new grocery stores in areas that currently lack access to nutritious foods.	44	78	77	90	34	2.9752	1.2207
State and local governments should offer incentives to any company that chooses to open new grocery stores in areas that currently lack access to nutritious foods.	25	52	88	72	86	3.4396	1.2530
State and local governments should help more retailers, including farmers markets and roadside stands, accept food stamps (SNAP).	63	66	48	47	99	3.1641	1.5285

Question 4: "When discussing the food in your community, local food production ... Please rank..."

Policy Statement		2	3	4	Mean	Std. Dev.
Grants and tax incentives should be offered to farmers and processors who produce high quality foods that meet community needs.	53	78	92	102	2.7477	1.0705
State and local governments should reduce regulations that make local food production and processing difficult.	86	59	82	98	2.5908	1.1740
State and local policies should encourage local food production and processing as a means of job creation.	90	103	66	66	2.3323	1.0888
State and local governments should enhance the profitability of small- and medium-sized farms in Alabama by supporting direct farm marketing, sustainable agricultur, and agri-tourism efforts.	96	85	85	59	2.3292	1.0855

Question 5: "Overall, please rank..."

Topic	1	2	3	4	Mean	Std. Dev.
School Food	48	77	108	95	2.7622	1.0278
Nutritional Quality	49	105	101	73	2.6037	0.9931
Food Insecurity (Hunger)	165	56	50	57	1.9970	1.1639
Local Food	66	90	69	103	2.6372	1.1250

Questions 6 & 8.

Measure	Average	Max	Min	Standard Deviation
Willingness to Pay Dues	\$29.32 /year	\$500	\$0	44.7394
Willingness to Volunteer	3.65 hours/month	15	0	2.8202

Question 9: "What percentage..."

Percentage of Food Shopping Done for Household	Percentage (Number) of Respondents
0-25%	21.4% (50)
26-50%	11.5% (27)
51-75%	11.1% (26)
76-100%	51.7% (121)

Question 12: "When you purchase food..."

	Very	Rarely	Monthly	Regularly	Very
	Rarely	(6-11	(12 times	(2-3 times a	Regularly
	(0-5	times a	a year)	month)	(4+ times a
	times a	year)	-		month)
	year)	-			
At a Supercenter such as	32.4%	14.2%	13.3%	21.0%	19.1%
Wal-Mart or Target	(105)	(46)	(43)	(68)	(62)
At wholesale stores	56.6%	16.3%	14.1%	8.1%	5.0%
(Sam's Club or Costco)	(181)	(52)	(45)	(26)	(16)
At a typical grocery store	9.6%	7.7%	16.7%	32.5%	33.4%
(Kroger or Winn-Dixie)	(31)	(25)	(54)	(105)	(108)
At convenience stores	78.2%	13.5%	3.9%	3.9%	0.6%
(Kangaroo or Circle K)	(244)	(42)	(12)	(12)	(2)
At a large specialty grocer	50.0%	21.2%	13.0%	7.6%	8.2%
such as Whole Foods or	(158)	(67)	(41)	(24)	(26)
Earth Fare					
At a small health/natural	58.7%	24.0%	9.6%	3.9%	3.9%
foods store or a farm co-op	(183)	(75)	(30)	(12)	(12)
At a Farmers' Market	25.7%	32.5%	17.7%	12.4%	11.5%
	(83)	(105)	(57)	(40)	(37)
Directly from a producer's	64.6%	19.3%	6.3%	5.4%	4.1%
farm	(204)	(61)	(20)	(17)	(13)

Question 13: "On average, where is most of the food you buy produced?"

Location	Percentage (Number) of Respondents
Outside the U.S	4.7% (10)
The U.S.	45.1% (96)
The Southeastern U.S.	8.0% (17)
Alabama	6.1% (13)
Alabama and within 50 miles from where I live	3.8% (8)
Alabama and within 25 miles from where I live	2.4% (5)
I do not know	30.1% (64)

Question 14: "Next, we would like to ask you some additional questions..."

	Strongly Agree				St	rongly D	isagree
There are people in AL who	66.3%	14.5%	9.5%	5.4%	1.6%	1.0%	1.9%
are food insecure.	(210)	(46)	(30)	(17)	(5)	(3)	(6)
State policies help to eliminate	10.3%	12.1%	22.1%	28.0%	11.8%	9.6%	6.2%
food insecurity.	(33)	(39)	(71)	(90)	(38)	(31)	(20)
Food production in AL	` ′	, ,	, ,	, ,	` ′	, ,	, ,
increases local economic	49.2%	23.7%	12.9%	6.9%	4.4%	1.3%	1.6%
development.	(156)	(75)	(41)	(22)	(14)	(4)	(5)
State policies promote local	0.70/	11 20/	10 10/	32.9%	12 00/	0.50/	4.70/
food production for local	9.7%	11.3%	19.1%		13.8%	8.5%	4.7%
economic development in AL	(31)	(36)	(61)	(105)	(44)	(27)	(15)
Food insecurity is a problem in	49.8%	20.3%	13.0%	10.8%	1.9%	2.9%	1.0%
AL.	(157)	(64)	(41)	(34)	(6)	(9)	(3)
We need state policies to	42.8%	18.2%	17.6%	9.1%	6.6%	4.1%	1.6%
reduce food insecurity in AL	(136)	(58)	(56)	(29)	(21)	(13)	(5)
My family is not concerned	9.7%	9.1%	10.7%	14.1%	13.2%	17.6%	25.7%
about food insecurity in AL.	(31)	(29)	(34)	(45)	(42)	(56)	(82)
My family would support a	35.8%	21.2%	13.6%	13.9%	7.0%	4.1%	4.4%
policy that reduces food	(113)	(67)	(43)	(44)		(13)	
insecurity.	(113)	(07)	(43)	(44)	(22)	(13)	(14)
I do what my family thinks I	28.5%	19.4%	12.0%	20.1%	6.8%	6.5%	6.8%
should do.	(88)	(60)	(37)	(62)	(21)	(20)	(21)
Food production is good for	40.9%	19.8%	10.2%	14.9%	7.1%	5.0%	2.2%
local economic development in	(132)	(64)	(33)	(48)	(23)	(16)	(7)
Alabama.	(132)	(04)	(33)	(40)	(23)	(10)	(1)
Most Americans are concerned	12.0%	12.0%	15.1%	25.5%	16.7%	14.2%	4.7%
about food insecurity in their	(38)	(38)	(48)	(81)	(53)	(45)	(15)
state.	(30)	(30)	(40)	(01)	(33)	(43)	(13)
My family is concerned about							
increasing local food	26.6%	22.8%	15.6%	20.9%	8.1%	5.0%	0.9%
production to improve	(85)	(73)	(50)	(67)	(26)	(16)	(3)
economic development.							
Most Americans would	28.7%	21.0%	19.0%	19.4%	8.1%	1.6%	2.3%
support a state or local policy	(89)	(65)	(59)	(60)	(25)	(5)	(7)
to reduce food insecurity.	(0)	(03)	(37)	(00)	(23)	(3)	(1)
If I supported a policy to	50.3%	26.6%	8.2%	7.9%	2.9%	1.3%	2.9%
reduce food insecurity I would	(159)	(84)	(26)	(25)	(9)	(4)	(9)
tell my family.	(10))	(01)	(20)	(20)	(2)	(.)	(>)
We need state policies to	35.7%	21.8%	15.8%	17.0%	4.7%	1.9%	3.2%
increase local food production	(113)	(69)	(50)	(54)	(15)	(6)	(10)
for local economic growth	(110)	(0)	(50)	(- 1)	(20)	(5)	(-0)
Most people who are	29.9%	18.7%	17.0%	23.5%	5.1%	2.6%	3.2%
important to me think I should	(93)	(58)	(53)	(5.1)	(16)	(8)	(10)
support a state policy that	(23)	(30)	(33)	(5.1)	(10)	(0)	(10)

would reduce food insecurity.							
My family would support							
programs that increased local	30.8%	19.9%	15.9%	16.5%	10.0%	4.1%	2.8%
food production in Alabama to	(99)	(64)	(51)	(53)	(32)	(13)	(9)
improve local economic	())	(04)	(31)	(33)	(32)	(13)	())
development.							
Most Americans are concerned							
about using local food	12.3%	12.0%	19.9%	29.1%	13.6%	10.1%	2.9%
production as a way to	(39)	(38)	(63)	(92)	(43)	(32)	(9)
improve local economic	(37)	(30)	(03)	(72)	(43)	(32)	())
development.							
Most Americans would							
support a state or local policy	29.3%	17.9%	19.5%	18.6%	10.8%	2.0%	2.0%
that increased local food	(90)	(55)	(60)	(57)	(33)	(6)	(6)
production to improve local	(90)	(33)	(00)	(37)	(33)	(0)	(0)
economic development.							
If I supported a program that							
increased local food	47.5%	16.6%	9.9%	16.9%	3.5%	3.5%	2.2%
production to improve local	(149)	(52)	(31)	(53)	(11)	(11)	(7)
economic development I would	(149)	(32)	(31)	(33)	(11)	(11)	(7)
tell my family.							
Most people who are							
important to me think I should							
support a program that would	33.0%	19.9%	19.6%	17.3%	4.3%	2.9%	2.9%
increase local food production	(101)	(61)	(60)	(53)	(13)	(9)	(9)
to improve local economic							
development.							
I would be willing to support a							
program that increases local	48.9%	24.4%	15.4%	7.4%	1.0%	1.0%	1.9%
food production as a means of	(152)	(76)	(48)	(23)	(3)	(3)	(6)
improving local economic	(132)	(70)	(10)	(23)	(3)	(3)	(0)
development.							
I would be willing to support a	45.5%	26.0%	14.9%	8.1%	2.0%	1.0%	2.6%
policy that reduces food	(140)	(80)	(46)	(25)	(6)	(3)	(8)
insecurity.	(140)	(00)	(40)	(23)	(0)	(3)	(0)
I intend to support programs							
designed to increase food	52.0%	23.8%	12.1%	7.7%	1.2%	0.8%	2.4%
production as a means of	(129)	(59)	(30)	(19)	(3)	(2)	(6)
improving local economic	(12))	(37)	(30)	(1))	(3)	(2)	(0)
development.							
I intend to support programs	69.3%	14.2%	7.9%	5.4%	1.3%	0.6%	1.3%
that provide food to people	(219)	(45)	(25)	(17)	(4)	(2)	(4)
who are food insecure.	(217)	(43)	(23)	(17)	(4)	(2)	(4)

Question 15: Age Average: 44.75 years old; Maximum: 86, Minimum: 19

Question 17: "Politically, how do you consider yourself?"

Affiliation	Percent (Number) of Respondents
Very Conservative	16.5% (50)
Conservative	16.5% (50)
Moderate, Lean Conservative	12.5% (38)
Moderate	19.8% (60)
Moderate, Lean Liberal	10.6% (32)
Liberal	10.9% (33)
Very Liberal	13.2% (40)

Question 18: "What is your gender?"

Gender: Female: 68.7% (217 respondents); Male: 31.3% (122 respondents)

Question 19: "Are you Hispanic?"

3.17% of respondents (10) indicate they are Hispanic.

Question 20: "Do you consider yourself...?"

Race	Percent (Number) of Respondents
African-American	16.9% (35)
Asian	0.98% (2)
White	87.4% (271)
Other	0.88% (3)

Question 21: "What best describes your highest level of education?"

Highest Level of Education	Percent (Number) of			
Highest Level of Education	Respondents			
Less than 12 th grade	1.3% (4)			
High School or GED	4.8% (15)			
Some college, no degree	24.7% (78)			
2-year college degree (Associate, Technical, etc.)	6.0% (19)			
4-year college degree (Bachelor's)	25.0% (79)			
Graduate/Professional Degree (Master's, PhD, MBA,	38.3% (121)			
etc.)	38.3% (121)			

Question 22: "Are you married?"

54.8% (173) respondents are married.

Question 23 & 24: Household Size

Average household size: 2.4. Min.:0 (not reported), Max.: 9

Question 25: "Which Congressional District do you live?"

Congressional District	Percent (Number) of Respondents
AL-01 Rep. Jo Bonner (R)	16.7% (41)
AL-02 Rep. Martha Roby (R)	16.3% (40)
AL-03 Rep. Michael Rogers (R)	17.5% (43)
AL-04 Rep. Robert Aderholt (R)	8.9% (22)
AL-05 Rep. Mo Brooks (R)	28.1% (69)
AL-06 Rep. Spencer Bachus (R)	3.7% (9)
AL-07 Rep. Terri Sewell (D)	8.9% (22)

Question 26a: "Is religion an important part of your daily life?" 74.7% (233) say "yes", 25.3% (79) say "no."

Question 26b: "My personal religious beliefs are important to me."

Not at all						Very much
9.8 % (30)	4.2% (13)	2.9% (9)	6.5% (20)	9.1% (28)	10.4% (32)	57.0%
						(175)

Question 27: "What category best describes your current employment status?"

Employment Status	Percent (Number) of Respondents	
Employed full-time	34.0% (106)	
Employed part-time	14.4% (45)	
Employed part-time, but seeking full-time employment	0.3% (1)	
Unemployed	2.6% (8)	
Unemployed, but seeking full-time employment	2.2% (7)	
Retired	26.9% (84)	
Student	19.6% (61)	

Question 28: "Which category best describes your family's total income?"

Income Level	Percent (Number) of Respondents
Less than \$9,999	6.7% (20)
\$10,000 to \$24,999	9.7% (29)
\$25,000 to \$50,000	21.8% (65)
\$50,000 to \$74,999	19.5% (58)
\$75,000 to \$99,999	18.8% (56)
\$100,000 or more	23.5% (70)

Appendix 3: Discussion Guide



COMING TO THE TABLE:

Assessing Our Food System and Making First Steps

Discussion Guide

Table of Contents

About	68
What is the purpose of this guide?	68
What is the Alabama Food Policy Council?	68
What is the goal of this listening session?	68
Sample Agenda	69
Table Manners	71
Food Policy Councils and the Food System	72
What is a Food Policy Council?	72
What is the Food System?	73
Assessing the Local Food System	74
Our Local Food System	74
Local Food System Worksheet	75
Questions about the Local Food System	76
Opportunities for Our Food System	77
What can we do?	77
Opportunities Work Sheet	78
Questions about our Opportunities	79
Next Steps	80
Acknowledgements	Q 1

About

What is the purpose of this guide?

This document is a discussion guide to be used for the Alabama Food Policy Council listening sessions, to be held in late 2012.

What is the Alabama Food Policy Council?

The Alabama Food Policy Council is a group formed in conjunction with various stakeholder groups, including the Alabama AARP, Alabama Sustainable Agriculture Network, Alabama Cooperative Extension System, Auburn University, Bay Area Food Bank, Greater Birmingham Food Policy Council, the Hampstead Institute, Food Bank of North Alabama, and the North Alabama Food Policy Council, . We'll discuss more about what a food policy council is and what they do on page 5.

What is the goal of this listening session?

The goal of this listening session is to identify priorities for the Alabama Food Policy Council's work, as well as to identify areas of local and statewide capacity to execute that work.

Citizen input is vital to improving the food system through food policy councils, and we look forward to your active participation at this stage, and your continued participation as the Alabama Food Policy Council begins working to improve Alabama's food system.

We're measuring your participation today in two ways-- the Auburn's surveys and your input in the listening sessions. The surveys are voluntary, and while you are encouraged to participate, it is not required.

Sample Agenda

This is a sample agenda for the statewide listening sessions. Your facilitator may have an event-specific agenda which he or she may use to guide the session, which will be provided to you.

AGENDA

Welcome and Refreshments

(30 minutes)

- Participants sign-in and receive agenda
- Provide food and drinks
- Auburn distributes Food System survey

Food Policy Councils and the Food System

(15 minutes)

- A brief primer on food policy councils and the parts of the food system/ and or panel discussion.
- Using as many local examples as possible to explain what is 'Food Policy', what are Food Policy Councils, and what things can Food Policy impact.

Opportunities for Our Food System

(30 minutes)

- Break into three small groups and identify challenges and opportunities within our food system.
- Facilitator documents ideas on poster boards

Each group tackles the first question:

1.What are some of the challenges facing the sectors of a food system? (Give an example of a challenge to help guide the discussion, e.g., finding ways to provide sustainable, healthy, affordable, responsible and equitable available food).

Each Small Group facilitates one of the following 3 questions -

2. What are some approaches to resolve these challenges; e.g., opportunities for growth in the local food system and possibilities of ways

to alleviate hunger, increase economic development and create jobs through strengthening our local food system?

- 3. Who should be involved in addressing and seeking resolutions of these challenges -- community organizations, schools, churches, governments, civic groups, food banks, etc.?
- 4. What policy changes, if any, would be necessary to implement these changes and should discussions of these changes be conducted locally or statewide?

Improving our Food System

(30 minutes)

- Regroup in the main room
- Facilitators post ideas from all three groups on the walls "challenges facing the sectors of the Food System"
- Participants use sticky dots to 'vote' on issues they feel are most critical
- Facilitators present information from the break-out sessions about the 3 other questions. Facilitators lead discussion. Ideas are documented on poster board.

Next Steps (15 minutes)

- Discuss Future Listening Sessions
- Announce State-wide Food Policy Council events (if any)
- ullet Food and Farm Forum presentation of feedback from state-wide listening sessions at the Alabama Sustainable Agriculture Network's annual conference in Gulf Shores on October 25th, 2012
- Distribute AU post survey and Workshop evaluation

Follow Up

- Facilitators take pictures of poster boards and event itself.
- Facilitators summarize small group discussion and priorities
- Facilitators send this information to Auburn (developing a white paper) and ASAN (presenting at conference and posting on web site).

Table Manners

When you were younger, more than likely your parents had rules for what kind of behavior was appropriate at the table.

We have similar rules for this conversation, called our Table Manners:

- Give everyone a chance to speak.
- Be respectful of others.
- Speak from your own experience.
- Be aware of your assumptions and talk about them.
- Address one another, *not* the facilitator.
- Build on, clarify, or, if necessary, provide factual correction to previous discussion points.

Facilitators and participants should feel free to add more Table Manners as they feel necessary.

Food Policy Councils and the Food System

What is a Food Policy Council?

A food policy council is a diverse group of citizens from across the food system that seeks to *educate citizens* about the food system, *collaborate to identify and address issues* in the food system, and *advocate for policy changes* that would improve the food system.

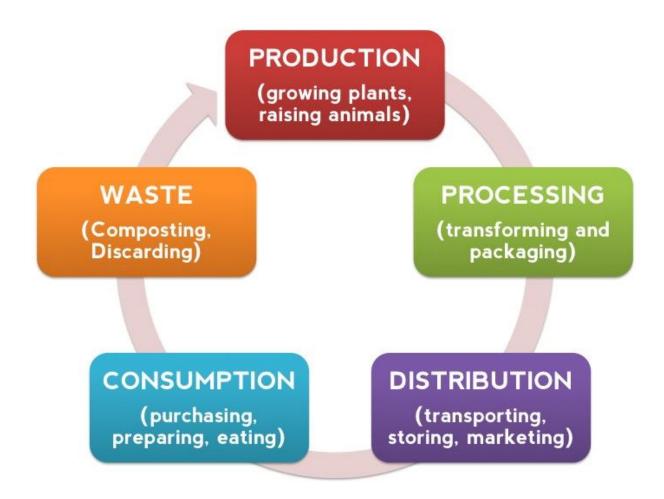
Food policy councils can focus on different areas of the food system and they can exist at multiple levels, but all are interested in improving their local food system in a way that is beneficial to their stakeholders.

For example, while the North Alabama Food Policy Council may focus on knowing and supporting local farmers, the Greater Birmingham Food Policy Council may focus on recruiting grocers to serve the area's many food deserts. Typically, food policy councils focus on issues such as hunger, food service and standards within public schools, economic development and job creation, community gardens, or agricultural education, just to name a few.

While statewide food policy councils focus on similar issues, they work to address them at a state level. Typically, this involves providing a voice to those advocating for food system changes to state governments, facilitating collaboration by local food policy councils, and informing state and US Congressional delegations about issues relevant to the food system in their home districts, so as to inform Federal policy on issues that impact local food systems.

What is the Food System?

The Food System is what it takes to make sure that food is available. It consists of five main elements: Production, Processing, Distribution, Consumption, and Waste.



The food system is more than just a supply chain. It is a complex, adaptive system that is comprised of various parts, even within the five we've named.

Ideally, the food system integrates elements to enhance environmental, economic, social, and nutritional health for all.

Assessing the Local Food System

Our Local Food System

Now that we have a good idea of what the food system is, let's find out what it looks like in our community. On the next page is a worksheet where the food system is broken down in parts, and an Alabama example is given for each piece of the system. Try to identify the parts of the food system within your community, keeping in mind that the food system can look different everywhere, and keeping in mind opportunities for growth within the food system.

Local Food System Worksheet

SYSTEM SECTOR	ROLE	ALABAMA EXAMPLES	LOCAL EXAMPLES?
Production	Growing plants and raising animals.	Snow's Bend Farm Coker, AL Belle Chevre Goat Cheese Elkmont, AL	
Processing	Transforming and packaging food.	Coosa Valley Milling Wilsonville, AL Sister Schubert's Rolls Luverne, AL	
Distribution	Transporting, storing, and marketing food.	Kelley Food Distribution Elba, AL SRA Foods Birmingham, AL	
Consumption	Purchasing, preparing, and eating food.	Star Market Huntsville, AL Homegrown Alabama Farmers Market Tuscaloosa, AL	
Waste	Composting, or simply discarding food.	Alabama Gleaning Birmingham, AL	

Questions about the Local Food System

Facilitators can use these questions to move the conversation along.

- •Do you, or do you know someone who works in the food production, processing, distribution, consumption, or waste sectors of the food system?
- •What is good about the local food system now?
- What are some of the challenges and unrealized opportunities specific to these sectors? What are some of the issues specific to those sectors in your community?
- How do you interact with your local food system on a daily basis? Do you try to eat locally produced food? Shop at locally owned grocery stores?
- Are there people that struggle to get adequate and/or appropriate food within your local food system? Are there people who fall through the cracks of the food system?
- What are the opportunities for growth in your local food system?
- What opportunities exist to alleviate hunger through strengthening your local food system?
- What opportunities exist to increase economic development and create jobs through strengthening your local food system?
- What do those opportunities look like? What would it take for these opportunities to become reality?
- Do these opportunities change how the food system enhances environmental, economic, social, and nutritional health for all? If so, how?

Opportunities for Our Food System

What can we do?

Here, facilitators can have participants break up into small groups where the opportunities developed in the previous exercise are deliberated upon. Facilitators should encourage participants to identify and think through pros and cons of each opportunity.

Have each small group identify and write down 2-3 opportunities for the local food system. Once small group time has elapsed, bring the larger group back together and have each smaller group present their opportunities. Encourage them to discuss pros and cons briefly as they did in the small group, and allow time questions and answers.

Here, participants should vote using "sticky dots" which will be provided to the facilitator, indicating which opportunities presented they would prefer to see implemented.

Opportunities Work Sheet

SYSTEM SECTOR	ROLE	LOCAL OPPORTUNITIES	PROS AND CONS
Production	Growing plants and raising animals.		
Processing	Transforming and packaging food.		
Distribution	Transporting, storing, and marketing food.		
Consumption	Purchasing, preparing, and eating food.		
Waste	Composting, or simply discarding food.		

Questions about our Opportunities

Facilitators can use these questions to move the conversation along.

- What are the pros and cons of these possibilities within the food system?
- What community organizations would be involved in implementing these possibilities? Schools? Churches? Governments? Civic Groups? Food Banks?
- What kind of policy changes would be necessary to make these possibilities happen? Would this be an issue best discussed locally? Statewide?
- Does Federal law play a role in making this possibility happen? Does anyone have experiences speaking to a Senator or Member of Congress or?
- If these possibilities were implemented, how would it change how the food system enhances environmental, economic, social, and nutritional health for all? If so, how?

Next Steps

Here, facilitators build upon the conversation in the last section, and encourage participants to take what they've learned and implement some of the more locally-based solutions.

Additionally, facilitators should actively encourage participants to identify local anchor organizations and individuals who may be pivotal in their efforts, especially if they were not present.

Participants should be thanked for taking the time to attend and give their extremely valuable input to the AFPC.

Participants taking the pre- and post-session surveys should be encouraged to complete the post-session survey and turn it in.

Information about the ASAN October meeting should be distributed.

Acknowledgements

AARP Alabama

Alabama Cooperative Extension System (ACES)

Alabama Sustainable Agriculture Network (ASAN)

Auburn University

Bay Area Food Bank

Emerging Changemakers Network, Inc.

Food Bank of North Alabama

Greater Birmingham Community Food Partners

Hampstead Institute, Inc.

North Alabama Food Policy Council

Oregon Food Bank (and their Community FEAST Model)