

**"Taxpayer Preferences for Farm Policy and USDA Budget Expenditures"**

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Debates about the merits and demerits of farm policy frequently reemerge when a new farm bill is created or when economic conditions prompt lawmakers to contend with growing budget deficits. On one side of the debate are professional economists, more than 80% of whom believe that the United States should eliminate agricultural subsidies (Mankiw, 2009). On the other side are farm lobbying groups – and the American public. For example, over 80% of the taxpayers studied by Ellison, Lusk, and Briggeman (2010) reported favoring government subsidization of farmers. Growing budget concerns have prompted President Obama to recently weigh in, expressing the desire to cut direct payments to large agricultural producers (those who make more than \$500,000 in annual sales revenue), reduce crop insurance subsidies, and eliminate cotton storage credits. Obama argues that funding should be targeted toward family farms rather than “corporate megafarms” (OMB, 2009).

In addition to the arguments about the appropriate overall level of support to farmers are debates about how the U.S. Department of Agriculture (USDA) budget should be allocated among different categories. For example, despite the President’s call for budget cuts to “megafarms,” he has increased funding to nutritional programs such as the Women, Infants, and Children (WIC) program and the Supplemental Nutrition Assistance Program (SNAP, formerly Food Stamps), and he has emphasized rural development and resource conservation (OMB, 2009). Popular writers such as Michael Pollen (2008) have called for drastic reorganizations of food and farm policy, and argue for large shifts in the allocation of funding for food and farms. Farm lobbying organization often point out the relatively small share of the farm bill budget devoted to direct farm support, but others argue that more (rather than less) of the budget should be directed to food assistance programs for the poor (e.g., Greenstein and Rosenbaum, 2007). Indeed farm support programs are only *one* component of the overall USDA budget, and account

for about 20% of USDA expenditures. This means that 80% of the USDA budget is spent on other issues related to food assistance, rural development, research and education, natural resources and environment, and food safety.

It is clear that farm lobbying organizations would prefer a larger share of the USDA budget be directed toward direct farm support, environmentalists would prefer a larger share be directed toward conservation programs, and other groups would prefer a larger share be directed toward food assistance programs. These interest groups often have a significant impact on the outcomes of farm policy. The reason is that the groups are smaller, more efficient, and better organized compared to some larger, more diffuse groups such as the general electorate, who in aggregate bear the primary costs of the policy despite the fact that the cost per individual is small. To be sure, politics, in part, determine the ultimate budget allocations, but what does the average taxpayer prefer? The purpose of this paper is to answer this question; to provide a piece of information on what the citizenry desires, which most would argue that at some level should be relevant to farm policy debate. We do not argue that the average taxpayer is particularly well informed about agricultural policy. However, one need not be perfectly informed to have a preference. Moreover, we do not assert that taxpayer preferences should necessarily be used to set farm policy. Our analysis is positive rather than normative. We describe what consumers say they want in terms of the allocation of the USDA budget, and while these data are likely to be useful to those engaged in policy debates we are agnostic about what they imply for how farm policy should be set.

As previously mentioned, recent research shows that most taxpayers are sympathetic to the plight of the American farmer. However, Alston (2009) showed that farm support programs are not always efficient; farmers only receive a proportion of every dollar spent on farm

subsidies. Alston (2009) estimates that farmers (considered as landowners and suppliers of other farming inputs such as labor) receive about 50 cents of every farm subsidy dollar. By contrast, he estimated that every dollar spent on agricultural research and development would generate a \$10 benefit to farmers. Thus, if the desire is to convey \$10 billion in benefits to farmers, the outcome could be achieved either by spending \$20 billion on farm support programs or by spending \$1 billion on agricultural research. These results show that *even if* taxpayers are willing to direct their tax dollars to benefit farmers, they might be willing to redistribute money away from farm programs and toward agricultural research. Of course, whether taxpayers actually understand this link and are willing to make such tradeoffs is ultimately an empirical question, and one we address in this research.

Although research such as that by Variyam et al. (1990) and Ellison, Lusk, and Briggeman (2010) provide some evidence on taxpayer support for direct farm supports, and Zulauf et al. (1987) report on farmers' preferences for farm support, we are not aware of any previous research investigating the tradeoffs people are willing to make among the various programs carried out by the USDA or how taxpayers would allocate the USDA's budget among farm support, food assistance, food safety and inspection, natural resources and environment, research and education, and rural development. The purpose of this research is to use results from a nationwide survey to determine taxpayer preferences for the various programs supported by the USDA. More specifically, this research will determine preferences for and marginal rates of substitution between the major USDA programs and will determine the extent to which information about current USDA spending affects the stated preferences.

## **Methods and Procedures**

A web-based survey was created and administered through Knowledge Networks (KN). The KN panel is the only existing online panel that is representative of the U.S. population. KN achieves this outcome by randomly recruiting participants using random digit dialing (using both listed and unlisted numbers and using cell phone numbers). Panelists are provided with access to the Internet if the household does not have ready availability. Thus, the panel is designed to be a true probability-based sample comprised of both Internet and non-Internet households, all of which are provided the same equipment for participation in Internet surveys.<sup>1</sup>

In July 2009, a survey was sent to 1,833 individuals in the KN panel 1,196 of whom completed the survey, implying a response rate of 65%. Characteristics of study participants are provided in table 1. The characteristics of our sample correspond quite well with the U.S. population. The survey consisted of approximately twenty questions and took participants, on average, about 10 minutes to complete.

In this paper, we focus on the initial two questions asked in the survey. Each respondent was first asked “Which category of the United States Department of Agriculture (USDA) spending do you believe is *most important*?” Respondents were presented with a list of the six budget categories (farm support, food assistance, food safety and inspection, natural resources and environment, research and education, and rural development) along with a brief description of the types of programs falling under each category. For example, under the farm support category, participants were informed that this category “includes farm and commodity programs (direct payments, price supports), crop insurance fund, etc.” For some categories, such as food safety and inspection and natural resources, there is a broad array of programs, so we opted to list some of the main agencies receiving funding in these areas. In the case of natural resources

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<sup>1</sup> More information on the panel, recruitment methodology, studies comparing the Knowledge Network panel to other sampling techniques, and a bibliography of published academic papers which have employed the Knowledge Network panel can be found at <http://www.knowledgenetworks.com/ganp/>.

and environment, we informed respondents this “includes Natural Resource Conservation Service, National Forest System, etc.”

Secondly, respondents were asked how they would distribute the USDA budget across the aforementioned six budget categories if given the chance. Study participants were given the following scenario, “Suppose the USDA gave you \$100 to divide among its six budget categories. How much money would you give to each budget category? (*If you would not give money to a certain category, please place a zero (0) in its box.*)” Respondents were prompted if their responses did not sum to \$100.

All respondents were asked to answer this question; however, they were randomly assigned to one of two information treatments. In one treatment, subjects were simply given the name and brief description of each of the six categories, and were asked to allocate the \$100 to each category. The second treatment was identical to the first except, in addition to the budget category description, they were also told how the USDA currently allocates its budget. For example, food assistance, was described with the phrase, “includes the Food Stamp Program, Women, Infants and Children (WIC), School Lunch Program, etc.,” and then in this information treatment we add in parentheses that food assistance “currently receives approximately \$60.40 out of every \$100 spent.” Tables 2 and 3 show the exact phrasing of the category descriptions given to respondents in the two aforementioned questions. Undoubtedly, participants could have been provided more information about individual programs. We chose to present brief and unbiased descriptions of each program. The USDA has 17 agencies with multiple programs under each agency, so processing information on the costs and benefits of each individual program would likely be a cumbersome task for the majority of participants had we tried to provide more comprehensive explanations for each category.

Answers to the relatively simple budget-allocation question can be used to infer people's preferences for the six budget categories. We study people's preferences for six major USDA activities: farm support (FS) programs, food assistance (FA) programs, food safety and inspection (FSI), natural resources and environment (NRE) programs, research and education (RE), and rural development (RD). Taxpayers are assumed to derive utility from the services or outcomes generated from expenditures on each of these programs. If one is willing to assume utility takes on the familiar Cobb-Douglas form, then utility can be written as:

$$(1) \quad U(FS, FA, FSI, NRE, RE, RD) = FS^{\beta_{FS}} FA^{\beta_{FA}} FSI^{\beta_{FSI}} NRE^{\beta_{NRE}} RE^{\beta_{RE}} RD^{\beta_{RD}}$$

where  $FS$  is the quantity of services or outcomes people enjoy from expenditures on farm support programs,  $FA$  is the quantity of outcomes people enjoy from expenditures on food assistance, and so on. Taxpayers' preferences for each of the programs are described by the parameters  $\beta_j$ , which sum to one across all six categories.

Assuming preferences for  $FS$ ,  $FA$ ,  $FSI$ ,  $NRE$ ,  $RE$ , and  $RD$  are separable from the demand for other goods, and that consumers utilize a two-stage budgeting approach allocating  $M$  total expenditure to these six goods, consumer demand for the services or outcomes provided by the USDA activities can be determined. In particular, maximizing equation (1) subject to the budget constraint,  $M$ , yields first order conditions of the form:  $\frac{\partial U}{\partial FS} = \frac{\beta_{FS}}{FS} - \lambda P_{FS} = 0$ , where  $P_{FS}$  is the price of  $FS$ , and  $\lambda$  is a Lagrangian multiplier. Solving the first order conditions yield demands for the outcomes or services provided by each of the categories, which are of the form:

$$(2) \quad FS^* = \frac{M\beta_{FS}}{P_{FS}}$$

Although the quantity of  $FS$  consumed and the price of  $FS$  are not generally observable, as we discussed previously, it is a relatively straightforward matter to ask taxpayers how they

would prefer that a given budget,  $M$ , be allocated across different goods or categories of expenditure. Equation (2) can be rearranged to yield:

$$(3) \quad \beta_{FS} = \frac{P_{FS}FS^*}{M}.$$

Because  $P_{FS}FS^*$  is simply the taxpayers' preferred expenditure on  $FS$ , and because  $M$  is total expenditure on all goods in the category, equation (3) shows that the preference parameter,  $\beta_{FS}$  can be determined by asking taxpayers' about their preferred allocation of expenditures across different categories. Stated differently, the answer a respondent provides on the budget share they prefer to be spent on  $FS$  is equivalent to their preference parameter  $\beta_{FS}$  assuming Cobb-Douglas preferences. Preferences parameters for the other five goods can be similarly determined by seeking information on preferred budget shares allocated to each good.

Recovering preference parameters for each of the goods provided by the USDA is useful because the parameters can be used to determine the marginal rate of substitution between different categories, which reveals the rate at which an individual is willing to give up one good in exchange for another holding utility constant. For example, the marginal rate of substitution of FA for FS is given by:

$$(4) \quad MRS_{FA,FS} = \frac{\partial U / \partial FA}{\partial U / \partial FS} = \left( \frac{\beta_{FA}}{\beta_{FS}} \right) \left( \frac{FS}{FA} \right).$$

Equation (4) reveals that the ratio of the implied preference parameters (evaluated at a particular point on the indifference curve given by  $FA/FS$ ), provides information on the willingness of individuals to trade FA for FS. In particular, the calculation reveals the number of units of FS an individual is willing to give up to receive one additional unit of FA.

The usefulness of the above conceptual framework is that it provides a convenient way to interpret the answers people give to our budget allocation questions in the sense that the Cobb-Douglas specification provides a direct link between budget allocations and preference

parameters (and thus marginal rates of substitution). Of course, there are other functional forms for utility in which expenditure shares can be expressed as a function of utility function primitives. Our purpose in focusing on the Cobb-Douglas specification is to provide some conceptual foundation for how a consumer might choose their budget share allocations, while providing a convenient way to look at marginal rates of substitution. The confidence one should place in these latter calculations is, of course, related to the confidence one has in the underlying assumed functional form.

## **Results**

Table 2 shows the percentage of respondents indicating each of the six budget categories as most important. Over half of respondents (50.7%) believe food safety and inspection expenditures to be the most important component of the USDA budget. This finding is interesting in light of the fact that food safety and inspection ranks second lowest out of the six categories in terms of current funding levels (it only receives \$3.14 out of every \$100 spent by the USDA).<sup>2</sup> After food safety and inspection, food assistance was chosen most often by respondents (20.2% believed it to be most important). The budget category receiving the least amount of support was rural development; only 3.4% believed this to be the most important USDA expenditure.

In the second survey question, respondents were asked how they would divide \$100 between the six USDA budget components. Table 3 reports the average allocations made in each of the

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<sup>2</sup> Of course other government agencies, such as the Food and Drug Administration (FDA), also carry out regulatory activities related to food safety and inspection. We did not inform respondents of this fact, nor did we ask whether they were aware of other government agency activities on this front, so it remains to be seen whether people would be as supportive of USDA expenditures on food safety and inspection were they also aware of other federal programs. Of course, this is not an issue unique to food safety. For example, respondents were not told anything about the activities of the Environmental Protection Agency (EPA), and yet only 7% of respondents indicated USDA expenditures on natural resources and environment as being most important. It is hard to argue that fewer respondents would have ranked food safety and inspection as less important were they more aware of the FDA without also arguing that fewer respondents would have ranked natural resources and the environment as less important were they more aware of the EPA.

information treatments, along with the actual 2008 USDA budget allocation. On average, respondents assigned the highest budget allocations to food assistance and to food safety and inspection. Although information had an influence on the assigned allocations (t-tests reveal that the means are different across information treatments for each of the six categories with the exception of rural development at the  $p=0.05$  level or lower), it did not change the relative ranking across categories except with respect to expenditures on food assistance and food safety. Without information people assigned a higher budget share to food safety than to food assistance (\$30.07 vs. \$20.54), but with information on current USDA expenditures, people assigned a lower budget share to food safety than to food assistance (\$24.72 vs. \$28.43). Interestingly, regardless of information treatment, respondents, on average, allocated far fewer dollars to food assistance as compared to the current USDA allocation. In 2008, the USDA allocated \$60.40 out of every \$100 to food assistance, but on average people with (without) this information would prefer to allocate only \$28.43 (\$20.54) to this category. The high budget shares allocated to food safety and inspection correspond well to the data reported in table 2, and indicate this is an important category to participants. After food assistance and food safety and inspection, farm support was, on average, assigned the third highest level of funding: \$15.82 without information and \$17.94 with information. Categories receiving the lowest allocations were natural resources and environment, research and education, and rural development. While the USDA only allocates about \$3.00 out of every \$100 to research and education and rural development, our study participants gave each of these categories at least \$8.00.

Looking at the overall distribution of funds in table 2, we see that the USDA commits over 80% of its funding to farm support and food assistance, leaving less than 20% to divide among the other four budget components. Our study participants, however, prefer a more even

distribution of funds. Current USDA spending on the six categories varies from \$2.97 to \$60.40 (for a range of \$57.43), while the range of mean allocations from the two information treatments are both about \$20. This finding is especially noteworthy for the group receiving information on the current budget allocation, because they were willing to provide a more even allocation in spite of knowledge that current allocations are more concentrated.

The data in table 3 are useful for drawing inferences about the relative importance of different budget categories, but if one is willing to assume the Cobb-Douglas preferences, the responses can also be used to determine the trade-offs people are willing to make between the categories. The data in table 2 imply the following utility functions – evaluated at the average responses:

$$(5) \quad Utility_{info} = FS^{0.179} FA^{0.284} FSI^{0.247} NRE^{0.116} RED^{0.090} RD^{0.083}$$

$$(6) \quad Utility_{no\ info} = FS^{0.158} FA^{0.205} FSI^{0.301} NRE^{0.131} RED^{0.114} RD^{0.091}$$

Figure 1 uses the utility function given by equation (5) to illustrate the implied indifference curves between farm support programs and between food assistance, food safety, and research and education. To focus attention on the relative shapes of the indifference curves – or the implied tradeoffs people were willing to make – the overall level of utility was normalized to equal one for each curve when farm support was equal to 0.05. Figure 1 shows that the indifference curve between research and farm support is much more convex than the other two plotted curves, and it appears that the research/farm support relationship is approaching one of perfect complements. Apparently taxpayers want *some* minimal level research and education, but after this point are unwilling to trade the benefits and services provided by farm support for additional research and education. Conversely, there is a higher

degree of substitution between farm support and food assistance and between farm support and food safety.

In figure 1, the implied marginal rates of substitution (MRS) vary along the indifference curve; moreover, the curves in figure 1 are what are implied by the average preference parameters. Table 4 reports the distribution of MRS between the five budget categories and farm support evaluated at the point on the indifference curve implied by current USDA budget allocations.

Table 4 reveals a highly skewed distribution with mean MRS values far exceeding the medians. Because  $\beta_{FS}$  appears in the denominator of the MRS calculation (see equation (4)), a small value for  $\beta_{FS}$  yields a large MRS value. The large means result from the fact that a few respondents allocated very few dollars to farm support. Indeed, across both information treatments, about 15% of respondents allocated exactly zero dollars to farm supports, making the implied MRS undefined. To calculate the statistics in table 4, we reassigned allocations of \$0 for farm support to \$0.10. In any event, given the skewness of the MRS distribution, it is perhaps more instructive to focus on the calculated MRS values at the median and other quartiles.

The data in table 4 show that most people in both information treatments are not willing to give up farm support for more food assistance. With (without) information, at the median people were only willing to give up 0.55 (0.36) units of farm support to get one additional unit of food assistance. Of course, part of this finding is a result of the fact that the USDA currently allocates a large percentage of its budget to food assistance, and at this point on the indifference curve, our respondents would be more satisfied with a reallocation toward more farm support.

By contrast, the results imply that most respondents are willing to sacrifice farm support to have more food safety and inspection. With (without) information, most respondents are

willing to give up 7.02 (11.69) units of farm support to get one additional unit of food safety and inspection. In regard to the relationship between farm support and the other budget categories, the median estimates indicate people in both information treatments are generally willing to give up farm support to have more of the benefits and services provided by expenditures on natural resources and environment, research and education, and rural development. In each of these cases, the median MRS values without information are higher than those with information. After food safety and inspection, participants are most willing to give up farm support (3.71 and 7.42 with and without information, respectively) to obtain more research and education.

## **Conclusion**

Divergent desires of special interests will probably always result in debates on the appropriate allocation of USDA funds. Farm lobbyists will want to see more monies go to farm support programs, environmentalists to conservations programs, others to food assistance, etc.

Unfortunately, special interests are – special; none speak for the large but un-special group – the average taxpayer. While special interest groups may ultimately have a greater impact on the outcomes of farm policy and dollar allocation, it does not make the preferences of taxpayers unimportant. This paper sought to learn more about taxpayers, namely, how they would prefer allocate to USDA funds and their willingness to reallocate funds between budget categories.

Our results show taxpayers would make some changes based on the 2008 USDA budget allocation. While the current budget distributes the most money to food assistance programs, over 50% of respondents believe food safety and inspection is the most important budget category. This result is further supported by respondents' average allocation of funds. On average, respondents were willing to allocate \$24.72 and \$30.07 to food safety and inspection

(with and without information, respectively), both of which are substantially larger than the 2008 level of funding (approximately \$3.00). Compare this to the preferred and actual allocations for food assistance (\$28.43 and \$20.54 allocated by respondents with and without information, respectively vs. \$60.40 allocated by the 2008 USDA budget), and we can infer people are willing to trade some food assistance dollars to gain dollars for food safety and inspection.

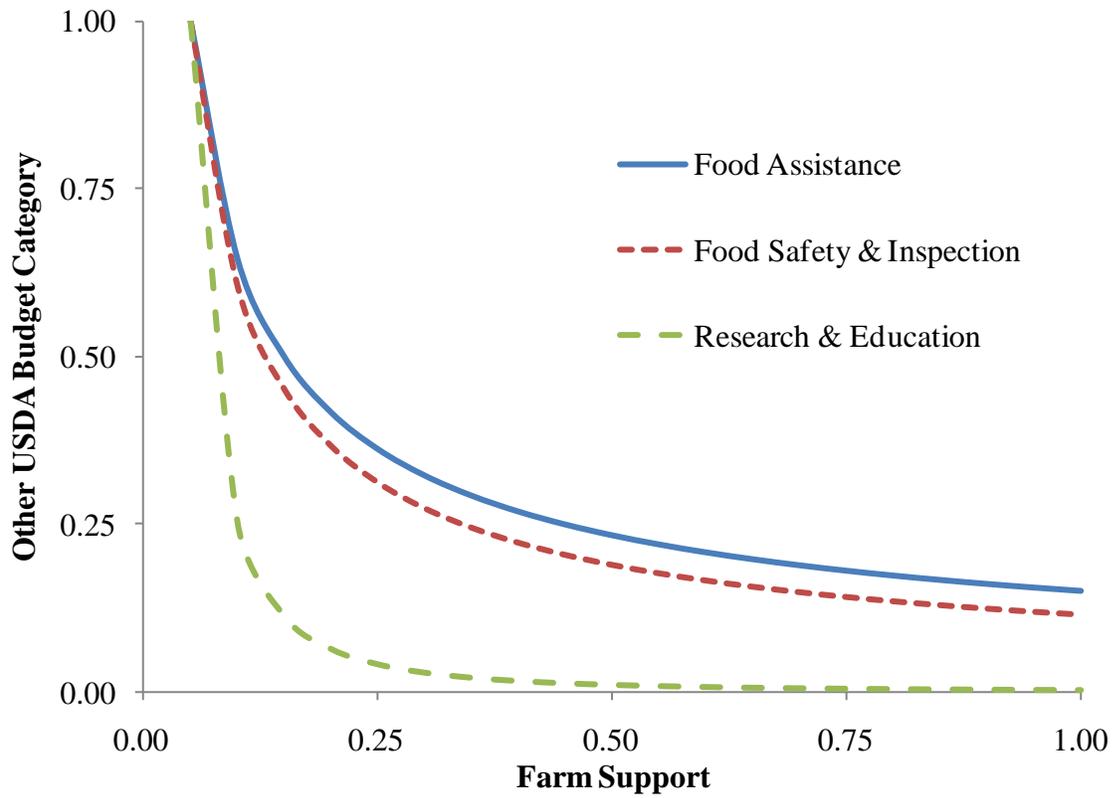
Looking at an overall distribution of funds, we can see people prefer a more equitable allocation of dollars. On average, respondents would like to see *more* dollars going to food safety and inspection, natural resources and environment, research and education, and rural development and *less* dollars going to food assistance and farm support (compared to the 2008 USDA budget). We are not suggesting these two categories (food assistance and farm support) are unimportant to people as both were still in the top three categories receiving funds in each of the information treatments; rather, we are suggesting the relative importance of the other categories to taxpayers may be greater than what is portrayed by the current allocation of funds.

One interesting result is the tradeoff people are willing to make between farm support and research and education. After food safety and inspection, research and education had the highest MRS values; respondents with (without) information were willing to give up 3.71 (7.42) units of farm support to procure an additional unit of research and education. This is especially interesting result in light of the research on the inefficiencies of farm support programs as an income transfer mechanism. For example, Alston (2009) suggests it would be more efficient to invest USDA dollars in research as opposed to farm subsidies because every dollar invested in research generates \$10 additional dollars for farmers whereas only \$0.50 of every dollar invested in farm subsidies actually reaches the farmer. Based on these estimates, taxpayers who want to support farmers may be more inclined to shift their dollars away from farm support

programs and toward research. Our results lend support to this possibility as respondents were willing to give up multiple units of farm support to gain one unit of research and education.

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**Figure 1.** Normalized Indifference Curves Implied by Mean Preferences when Taxpayers Have Information on Current Budget Allocations

**Table 1.** Characteristics of Study Participants (N=1,196)

<b>Variable</b>	<b>Definition</b>	<b>Mean</b>
Gender	1 if female; 0 if male	0.499
Farming Family	1 if immediate family farms for a living; 0 otherwise	0.144
College	1 if obtained bachelor's degree or higher; 0 otherwise	0.289
Democrat	1 if Democrat political party; 0 otherwise	0.390
Republican	1 if Republican political party; 0 otherwise	0.291
Political Other	1 if Independent or other political party; 0 otherwise	0.309
White	1 if of White ethnicity; 0 otherwise	0.749
Income1	1 if annual household income before taxes is less than \$50,000; 0 otherwise	0.472
Income2	1 if annual household income before taxes is \$50,000 to \$99,999; 0 otherwise	0.355
Income3	1 if annual household income before taxes is greater than \$100,000; 0 otherwise	0.173
Age1	1 if younger than 35 years of age; 0 otherwise	0.253
Age2	1 if age is 35 to 54.99 years; 0 otherwise	0.385
Age3	1 if age is 55 years or older; 0 otherwise	0.362
Northeast	1 if resides in Northeast region of U.S.; 0 otherwise	0.179
Midwest	1 if resides in Midwest region of U.S.; 0 otherwise	0.212
South	1 if resides in South region of U.S.; 0 otherwise	0.391
West	1 if resides in West region of U.S.; 0 otherwise	0.218

**Table 2.** Most Important USDA Budget Categories to Taxpayers (N=1,196)

<b>USDA Budget Category</b>	<b>Percent Choosing Category as Most Important</b>
<i>Farm Support</i> – includes farm and commodity programs (direct payments, price supports), crop insurance fund, etc.	14.3%
<i>Food Assistance</i> – includes Food Stamp Program, Women, Infants, and Children (WIC), School Lunch Program, etc.	20.2%
<i>Food Safety and Inspection</i> – includes Food Safety and Inspection Service, Animal, Plant, and Grain Inspection, etc.	50.7%
<i>Natural Resources and Environment</i> – includes Natural Resource Conservation Service, National Forest System, etc.	7.0%
<i>Research and Education</i> – includes Agriculture Research Service, cooperative state research, education, and extension, etc.	4.5%
<i>Rural Development</i> – includes loans and grants for rural utilities, housing, and businesses	3.4%

Note: The exact phrasing of the question was, “Which category of the United States Department of Agriculture (USDA) spending do you believe is most important? Check one of the following”

**Table 3.** Allocations to Six USDA Budget Categories with and without Information on Current Allocations

USDA Budget Category	Actual 2008 USDA Budget Allocation	Mean Allocation with Budget Information <sup>a</sup>	Mean Allocation without Budget Information
<i>Farm Support</i> – includes farm and commodity programs (direct payments, price supports), crop insurance fund, etc.	\$22.03	\$17.94 (16.72) <sup>b</sup>	\$15.82 (14.62)
<i>Food Assistance</i> – includes Food Stamp Program, Women, Infants, and Children (WIC), School Lunch Program, etc.	\$60.40	\$28.43 (21.53)	\$20.54 (18.91)
<i>Food Safety and Inspection</i> – includes Food Safety and Inspection Service, Animal, Plant, and Grain Inspection,	\$3.14	\$24.72 (21.13)	\$30.07 (20.3)
<i>Natural Resources and Environment</i> – includes Natural Resource Conservation Service, National Forest System, etc.	\$8.27	\$11.61 (10.77)	\$13.06 (10.6)
<i>Research and Education</i> – includes Agriculture Research Service, cooperative state research, education, and extension, etc.	\$2.97	\$9.04 (8.55)	\$11.44 (8.94)
<i>Rural Development</i> – includes loans and grants for rural utilities, housing, and businesses	\$3.19	\$8.25 (9.3)	\$9.08 (9.85)
Number of Observations		591	605

Note: The exact phrasing of the question was, “Suppose the USDA gave you \$100 to divide among its six budget categories. How much money would you give to each budget category? (If you would not give money to a certain category, please place a zero (0) in its box.”

<sup>a</sup> The information given to respondents was included in the question itself. For example, the farm support category read, “Farm Support – includes farm and commodity programs (direct payments, price supports), crop insurance fund, etc. (Currently receives approximately \$22.03 out of every \$100 spent).”

<sup>b</sup>Numbers in parentheses are standard deviations

**Table 4.** Marginal Rate of Substitution of Five USDA Budget Categories for Farm Support

<b>Category</b>	<b>Mean</b>	<b>Min</b>	<b>Lower Quartile</b>	<b>Median</b>	<b>Upper Quartile</b>	<b>Max</b>
<i>Without Information (N=605)</i>						
Food Assistance	19.30	0	0.18	0.36	0.91	364.74
Food Safety & Inspection	441.21	0	7.02	11.69	35.08	7015.92
Natural Resources & Env.	54.46	0	0.67	2.66	4.00	1997.88
Research & Education	108.46	0	2.12	7.42	9.89	3708.75
Rural Development	88.03	0	0.46	3.45	6.91	6905.96
<i>With Information (N=591)</i>						
Food Assistance	17.35	0	0.30	0.55	1.09	364.74
Food Safety & Inspection	429.56	0	3.51	7.02	24.56	7015.92
Natural Resources & Env.	41.44	0	0.81	1.78	2.66	2663.85
Research & Education	73.06	0	1.48	3.71	7.42	7417.51
Rural Development	49.60	0	0.94	2.76	6.91	6905.96

Note: The calculations reveal the number of units of farm support the taxpayer is willing to give up to receive one additional unit of the respective budget category, evaluated at a point on the indifference curve equal to the current USDA budget allocation levels.