

FARM POVERTY AND SAFETY NETS

Craig Gundersen –Iowa State University

Susan Offutt – Economic Research Service

Contact Author: Craig Gundersen, Department of Human Development and Family Studies, Iowa State University, 74 LeBaron Hall, Ames, IA 50011; phone: (515)294-6319; fax: (515)294-1765; email: cggunder@iastate.edu

FARM POVERTY AND SAFETY NETS

Craig Gundersen and Susan Offutt

Key Words: farm safety net programs, food stamps, Medicaid

Abstract: About one in ten farm families have incomes below the poverty line. These farm families are far less likely than wealthier farmers to receive farm support payments. We find that poor farm families are also not participating in programs designed for the general population. Controlling for other factors, eligible farm families have substantially lower participation rates in the Food Stamp and Medicaid programs than eligible non-farm families. Removing farm safety net program payments would increase the number of farmers eligible for these programs but, in the absence of behavioral changes, would only lead to small increases in the number of recipients.

Leading unnumbered footnote: Craig Gundersen is associate professor, Department of Human Development and Family Studies, Iowa State University; Susan Offutt is administrator, Economic Research Service, U.S. Department of Agriculture. Address correspondence to Craig Gundersen, Department of Human Development and Family Studies, Iowa State University, 74 LeBaron Hall, Ames, IA 50011; phone: (515)294-6319; fax: (515)294-1765; email: cggunder@iastate.edu. The views expressed in this paper are those of the authors and do not necessarily reflect the views of the United States Department of Agriculture. For their excellent comments, the authors wish to thank the participants in seminars at University of Kentucky and the USDA, Economic Research Service.

FARM POVERTY AND SAFETY NETS

The genesis of a strong federal presence in agricultural commodity markets was the persistence and pervasiveness of rural poverty. In the 1930s, most rural Americans lived on farms, and so farm household poverty presented an important challenge to achieving national prosperity. Food security and farm market performance were not unimportant policy issues, but social equity concerns were key in the development of the New Deal legislation aimed at solving the “farm problem.”

Today average farm household income is on par, and in some years exceeds, that of non-farm households. The availability of remunerative off-farm employment coupled with on-farm gains in labor productivity have improved the well-being of farm families, who are fewer in number than the 1930s yet better off. Farm programs transferred income to farmers, initially from consumers through higher prices brought about by direct market intervention and more recently through direct payments from the Treasury. Still, there are poor farm households, living mainly on small farms. Are the New Deal farm programs relevant to these households? These programs are often characterized as providing a safety net for agriculture, but because the distribution of benefits is still tied, as it was in the 1930s, to volume of production, larger farms receive most payments. Therefore, to consider the alleviation of remaining farm poverty, the efficacy of the farm programs but also of social safety nets for the general population ought to be compared.

In this paper, we contribute to the literature examining the effectiveness of the farm safety net. We are also contributing to another broader literature, namely one that

looks at farmers' interactions with the non-farm sector. There has been extensive research as it applies to issues such as the off-farm labor supply of farmers (for the U.S., see, e.g., Corsi and Findeis, 2000; Huffman, 1980) and the connection between land for farming and for alternative uses (see, e.g., Adelaja, Miller, and Taslim, 1998; Lockett, 1989). Given the emphasis in other areas on the connection between the agricultural and non-agricultural sectors, the absence of research looking at the connection between farm and non-farm safety nets is perhaps surprising; here, we address this absence.

Our paper begins with a review of the current set of farm safety nets. While the farm safety net is one method of ensuring the well-being of farmers there are a wide variety of other assistance programs available to both farmers and the general population. We review two of these safety net programs, food stamps and Medicaid, and then consider the participation of farmers viz. the general population in these programs. For this analysis, we use the 1992 to 2002 Current Population Survey (CPS) (survey years, 1991 to 2001). The participation rates in these programs is of interest but so, too, is the following question: In the absence of the farm safety net, what might be the eligibility and participation of farmers in the general safety net? For this analysis, we again use the CPS augmented by information from analyses using USDA's Agricultural Resource Management Study (ARMS). We finish with some concluding remarks, emphasizing the policy conclusions and directions for future research.

We find that low-income farmers are much less likely than the general low-income population to use the two largest safety nets available to the general population (the Food Stamp Program and Medicaid). The low participation rates of farmers can be

ascribed to their status as farmers but the holding of multiple jobs also contributes to the low participation rates. If the farm safety net were eliminated, there would be small increase in the number of farm households eligible for food stamps and, given current participation levels, very little change in the number of families receiving food stamps.

The Farm Safety Net

From its birth, the U.S. government has had a pronounced involvement in agriculture (Wanlass, 1920).¹ During the twentieth century, this involvement took on many forms. In some instances, there were public good aspects to agricultural policy. As an example, the rural infrastructure (e.g. utility service) was enhanced by USDA programs. In most instances, however, agricultural policy was aimed at providing benefits to farmers themselves. If these benefits were evenly distributed to farmers and if farmers were poorer, on average, than the general population such a distribution could be seen as welfare improving. And this used to be the case; farmers were far poorer than the rest of the population. In the 1940's, per capita income of farmers was, on average, 50.7 percent that of non-farmers (Gardner, 1992; table 1). Moreover, given that most people lived on farms in the first half of the 20th century, efforts to alleviate poverty among farmers likewise eased the burden of poverty for a large segment of the population. To achieve this, farm programs were geared towards support of a few commodities. In the 1930s, U.S. farms were not as specialized in production as today, so most farmers grew one or more supported commodities (wheat, feed grains, dairy, cotton, sugar). As a consequence, benefits were broadly distributed across farm households.

By the 1980s though, the average farmer was as well-off or even better-off than the general population. Even if farm program benefits continued to be evenly distributed, it became difficult to argue that such benefits were part of the social safety net. Today, moreover, benefits are concentrated on larger farms because the volume of production continues to be the main criterion for benefit distribution. As a consequence, benefits do not accrue to low-income farmers because they generally have smaller operations and often produce non-program commodities such as beef. Instead, government payments tend to go to larger farmers who also tend to rank higher in the income distribution.

In Table 1 we present the distribution of farm payments broken down by farm typology. This farm typology distinguishes farms and farm households based on sales volume, occupational choice, and, in some cases, level of assets. This typology identifies eight categories (Hoppe, Perry, and Banker, 1999). Residential lifestyle farms, the largest group with more than 800,000 households, are small farms where the operator's primary occupation is something other than farming. The category defined as farming, low sales (around 400,000 households) are farms with sales of \$100,000 or less where farming is the primary occupation of the operator. Large family farms have annual gross sales between \$250,000 and \$500,000. Very large family farms have gross sales of more than \$500,000. The latter two typology groups accounted for more than 40 percent of the total value of agricultural production in 1997. Of particular interest for this paper are the limited resource farmers, the group of farmers most likely to need the safety nets available to the general population. These farms are defined as any farm with: (1) gross

sales less than \$100,000, (2) total farm assets less \$150,000, and (3) total operator household income less than \$20,000.

As seen in Table 1, 19.4 percent of the limited resource farmers received government support payments. In contrast, 73.4 percent of farming, high sales farms and 75.9 percent of large family farms received government support payments. These are two of the wealthiest categories of farms. Not only do a higher percentage of farm support payments go to wealthier farmers, the size of these payments are also substantially higher. For limited resource farmers receiving payments, the average payment is \$2,183 while the average payments for farming, high sales and large family farms are \$10,889 and \$17,766. Payments as a proportion of farm sales, however, may be more comparable between the groups.

Safety Net Programs for the General Population

In practice if not in intent the farm safety net in the U.S. primarily benefits more well-off farmers. Even though farm program payments are largely bypassing lower income farmers, it is possible that these farmers are benefiting from safety net programs designed for the population as a whole making the concern regarding the distribution of benefits perhaps less important. We now consider the participation of farmers in the Food Stamp Program and in Medicaid.

We have chosen to examine the Food Stamp Program because it is available to virtually the entire low-income population (other assistance programs like TANF are only for segments of this population); it can constitute a substantial portion of families'

income (in some Southern states, food stamps, if valued as cash, make up more than 50 percent of some families' income); and benefit levels are inversely related to income rather than in a lump-sum format.

In terms of total expenditures, Medicaid is far larger than the Food Stamp Program. In 2001 the combined Federal and state contribution totaled 227.8 billion dollars in comparison to 20 billion dollars for food stamps. We have chosen to analyze Medicaid because, unlike with food, farmers cannot provide their own medical care (unless they are also doctors or nurses) and because it has a higher income cutoff than the Food Stamp Program.

The Food Stamp Program

The Food Stamp Program is the cornerstone of food assistance programs in the United States. It works under the principle that everyone has a right to food for themselves and their families and, hence, with a few exceptions, this program is available to all citizens who meet income and asset tests. Participants receive benefits for the purchase of food in authorized, privately run retail food outlets selling food to participants and non-participants.

To receive food stamps, households must meet three financial criteria: the gross-income test, the net-income test, and the asset test. A household's gross income before taxes in the previous month must be at or below 130 percent of the poverty line. Households headed by someone over the age of 60 are exempt from this test, though they still face the other tests. In addition to the gross-income test, a household must have a net

monthly income at or below the poverty line.² Finally, income-eligible households with assets less than \$2,000 qualify for the program (\$3,000 for households headed by someone over age 60). The value of a vehicle above \$4,650 is considered an asset unless it is used for work or for the transportation of disabled persons. The value of a home is not considered an asset. Households that receive the Temporary Assistance for Needy Families (TANF), or households in which all members receive Supplemental Security Income (SSI), are categorically eligible for food stamps and do not have to meet these three tests.

Even if farm households are eligible for food stamps, many will choose not to participate. This is also the case for the general population. The decision not to participate is often ascribed to three main factors. First, there may be stigma associated with participation. Stigma encompasses a wide variety of sources, from a person's own distaste for receiving food stamps to his or her desire to avoid disapproval from others when redeeming food stamps to the possible negative reaction of caseworkers (Moffitt, 1983; Ranney and Kushman, 1987). Second, transaction costs increase the pecuniary and non-pecuniary disadvantages to participation. These transactions costs include the amount of time to get to the food stamp office and the time spent in those offices; the burden of taking children to the office or paying for child care services; and the availability and costs of transportation. To remain a participant, a household faces these costs on a repeated basis when it must recertify its eligibility. Other costs that a household faces only when applying for the program include the time and effort needed to acquire all the necessary paperwork and to fill out the application forms. Third, the

benefit level may be too small to induce participation. Food stamp benefits can be as low as \$10 a month for a family. At higher benefit levels, the benefits to receiving food stamps may outweigh the costs but this may not hold at lower levels.

In the farm population, there are at least two other possibly more prevalent reasons for non-participation. First, farmers have the ability to utilize their farm as a personal food source. If this food source is sufficiently large, the need for food stamps is correspondingly diminished. In comparison with higher-income farmers, lower-income farmers are less prone to produce food for a far-away market with little in common with their own food preferences. A second reason for the observed lower participation rates is likely related to the result seen in other studies where participation in the workforce, above and beyond its effect on income, leads to lower participation rates. This is probably due to the higher opportunity costs of an employed person's time and, perhaps, expectations of future income increases due to labor force participation. Here, farm households are defined explicitly by whether or not the household has at least one person who lists farm self-employment as his or her primary source of income. As a consequence, we may expect lower participation rates for farmers due to their participation in the paid labor force.

Medicaid

Medicaid began as a joint Federal and State program in 1965 and is now the largest source of funding for medical and health-related services for America's poorest people. Under federal guidelines, Medicaid recipients must have access to health-care

services such as inpatient and outpatient hospital services, prenatal care, vaccines for children, physician services, rural health clinic services, laboratory and x-ray services. At state discretion, various other services may also be available. Each State, conditional on federal guidelines, has broad discretion in determining the payment methodology and payment rate for services. For children receiving Medicaid, the average expenditures are about \$1,170 per child per year and for non-disabled, non-elderly adults, the figure is \$1,935 per person per year. In distinction to food expenditures, medical care expenditures vary widely across people so these averages are in contrast to the very high expenditures on certain categories of recipients. For example, for services for persons over age 65, the average was about \$10,335 per person and for disabled persons, who comprise 18 percent of beneficiaries, payments average about \$9,000 per person.

As described above, the guidelines for food stamp eligibility are the same across all states (with a few exceptions). With Medicaid, however, each State establishes its own eligibility standards; definitions of available services; and rate of payment for services. As a consequence of this diversity, who is eligible for Medicaid also varies widely across states. There are some groups, however, that are eligible for Medicaid in all states, including Temporary Assistance for Needy Families (TANF) and Supplemental Security Income (SSI) recipients; children under age 6 and pregnant women with family income under 133 percent of the poverty line; children in families with incomes at or below the FPL; and some Medicare recipients. The reasons for non-participation in Medicaid are similar to those found in food stamps – stigma, transactions costs, and benefit levels relative to income.

Data

The CPS is administered monthly by the Census Bureau for the Bureau of Labor Statistics to approximately 50,000 households. This nationally representative survey is the primary source of information on the U.S. labor force. In this paper we rely on four primary groups of questions – food stamp participation; income; returns from assets; source of earnings; and demographic characteristics. We define a farm household as one with farm self-employment income.

Because it has data about food stamp participation and to ensure comparability with the non-farm population, we use the CPS for our analyses of food stamp and Medicaid use by farmers. We are also interested in the importance of farm safety net payments in the incomes of farmers and the possible consequences of eliminating these payments. The CPS does not have information on farm safety net payments so we instead impute information about government payments from analyses using the ARMS.³

The ARMS is conducted annually by the Economic Research Service (ERS) and the National Agricultural Statistics Service (NASS) in all States except Alaska and Hawaii. Approximately 15,000 farms and ranches (defined as establishments from which \$1,000 or more of agricultural products were sold or would normally be sold during the year) are contacted annually and their operators were personally interviewed. The ARMS is a probability-based survey in which each respondent represents a number of farms of similar size and type. Thus, sample data can be expanded using appropriate weights to represent all farms in the contiguous United States.

Results and Descriptive Statistics

Participation in Non-Farm Safety Net Programs

In Figures 1 and 2 we compare the percentage of farm households and non-farm households eligible for the Food Stamp Program and for Medicaid. For these and all succeeding tables, we confine our sample to households with children. We do so primarily because of the eligibility rules for Medicaid. While food stamps is available to virtually all income and asset eligible persons, Medicaid, as discussed above, has more categorical restrictions. For many of these categorical restrictions, farmers would tend to not be eligible. For families with children, however, the restrictions for farmers and non-farmers are similar. For the sake of consistency across the two assistance programs, we restrict the sample to families with children in both cases.

In every year from 1991 to 2001, farm households with children are less likely to be eligible for food stamps than non-farm households without children. The gap is, on average, 7.6 percentage points. The gap has diminished over time, however, reaching a 4.1 percentage point gap in 2001. One possible explanation is that the strong economic expansions in the mid-to-late 1990s which lead to decreases in poverty for non-farm households did not have a similar effect on farm households. (For more on the relationship between economic growth and poverty over this time period, see Gundersen and Ziliak, 2004.) As seen in the Medicaid eligibility rates in Figure 2, the percentage of families with children eligible for Medicaid are higher than for food stamps. This is due to the more liberal eligibility criteria described above. The differences between farm and

non-farm Medicaid eligibility rates are smaller than for food stamps and, in some years, a higher percentage of farmers are eligible for Medicaid. The decline in the portion of food stamp eligible households is not seen in the case of Medicaid, perhaps because of expansions to the categories of eligible families over this time period.

In Figures 3 and 4 we consider the proportion of eligible households deciding to participate in food stamps and Medicaid. As in Figures 1 and 2, we do so for every year from 1991 to 2001. In every year participation rates (i.e. the ratio of households receiving benefits to eligible households) for farm households are substantially lower than for the entire population. On average for the Food Stamp Program this gap is 32.0 percentage points and, while we do not display the results for the income-eligible case, this is true, irrespective of the choice of income criteria –income eligible and income and asset eligible^{4, 5} For Medicaid (Figure 4) the gap is usually smaller. If we look only at the post-1994 period, the average gap is 26.9 percentage points.

In Tables 2 and 3 we consider the differences in demographic characteristics of farmers and non-farmers as one possible explanation for the difference in participation rates in food stamps and Medicaid. In Table 2 we compare gross-income eligible farmers and non-farmers over several variables correlated with the probability of receiving food stamps. In comparison to non-farmers, farm households are more likely to own their homes (on average, 71.8 percent of farmers are homeowners versus 30.5 of non-farmers), are more likely to be married (84.8 percent versus 45.0 percent), are more likely to be high school graduates (90.6 percent versus 68.5 percent), and are more likely to have only white persons (82.2 percent versus 40.8 percent). These four characteristics have all

been found to be associated with lower rates of participation in the Food Stamp Program (see, e.g., Keane and Moffitt, 1998; Gundersen and Oliveira, 2001). The differences between farm and non-farm households in Table 3 (for Medicaid) are similar. Alongside demographic differences, eligible farm households also have higher incomes than eligible non-farm households. As noted above, food stamp benefits are inversely related to income and, therefore, households with higher incomes will receive lower benefits, making them less likely to choose to receive food stamps. Out of food stamp eligible households, the average income of farm households is \$13,497 and for non-farm households it is \$11,397. Out of Medicaid eligible households with children, the figures are \$17,294 and \$14,287.

The employment status of eligible households is another determinant of food stamp participation. We use a binary variable to reflect whether income is received through wage and salary and/or through self-employment (other than farm self-employment) by at least one person in the household. The results are seen in the final two rows of the farmer and non-farmer sections of Tables 2 and 3. For both assistance programs, the percentage of households with wage and salary incomes is about the same for farmers and non-farmers. On average, 75.0 percent of food stamp-eligible farm households and 70.8 percent of food stamp-eligible non-farm households have wage and salary incomes. For Medicaid eligible households, the figures are 74.6 and 74.9 percent.

The story when it comes to non-farm self-employment status is very different, however. Farm households are much more likely to have income from self-employment activities – on average, 33.7 of food stamp-eligible and 33.2 percent of Medicaid eligible

households have self-employment income. Contrast this with non-farm households where the figures are, on average, 8.3 and 8.8 percent. In looking at these employment figures, it should be noted that these farm households also have income from farm sources. The combination of on-farm and off-farm earnings leads to even more time pressures on farm households which may correspond to greater difficulties in finding the time to complete the food stamp application process.

We now consider the influence of being a farmer on the food stamp and Medicaid decisions after controlling for other factors. We do so with the use of multivariate probit model where we control for other factors correlated with food stamp participation and include a categorical variable for whether a household is a farm household.⁶ Our sample is created by combining eligible households with children for each of the years in our sample. Because multiple years are used, our model includes year fixed effects. Along with the coefficients for farm household status, in Table 4, we also display the coefficients for categorical variables reflecting whether a household has a wage or salary earner and whether a household has self-employment income. We have suppressed the other covariates in our model. These other covariates are those found in Tables 2 and 3.

As seen in Table 4, in comparison to non-farm households, farm households are less likely to participate in both food stamps and Medicaid. Other households with earners are also less likely to participate in both programs. As noted above, farmers are about as likely as non-farmers to have income from wage or salaried jobs and are more likely to have income from self-employment. To ascertain the effects of these multiple job sources, we held all other factors constant and took the average farm and non-farm

household's employment status with respect to farming, wage and salary earnings, and self-employment and then simulated the probability of receiving food stamps and Medicaid. These results are in the bottom half of Table 4. As seen, the effect of being a farmer and having the employment characteristics of a farmer leads to much lower probabilities of receiving food stamps or Medicaid in comparison to households with the employment characteristics of non-farm households.

Participation in non-farm safety nets in the absence of farm safety net payments

As seen above, farmers are supported by a sector specific safety net and by a safety net for the entire population. Both the percent of eligible farmers and the participation rates for farmers in the general safety net are substantially lower than for the entire population; a result that holds even after controlling for other factors. We now consider whether this might change if the farm safety net were eliminated. From analyses performed using the ARMS, we now turn to an ascertainment of the effect of losing farm government payments on the food stamp eligibility of farm households (Mishra, *et al.*, 2002; McElroy, *et al.*, 2002 - MaM). These analyses confine themselves to the years 2000 and 2001 and we do as well.

We calculate the effect of losing farm government payments in the following manner. In MaM, the average government payments to farmers are divided into four categories: farmers with incomes and assets higher than the median non-farm household (high income/high assets), high income/low assets, low income/high assets, and low income/low assets. The first two categories would not be eligible for food stamps or

Medicaid, even if these households lost large amounts of farm government payments so we disregard them in the following analysis. The other two categories, however, contain potentially eligible households

In 2000, the average farm safety net payment to farmers in the low income/low asset category was \$3,523 and in the low income/higher wealth category, the average payment was \$6,115. We assume all lower income farmers (i.e. households below the median income for the entire population) will receive some farm support payment between these two values in 2000. In 2001, the corresponding figures are \$2,088 and \$6,023. In our simulations, we use (a) the lowest figures; (b) a figure midway between the two; and (c) the highest figures. For the sake of simplicity, we presume a loss of these payments would entail no loss of assets.⁷ We also presume that the farmers decisions would be the same, even in the absence of farm support programs.⁸ In response to these changes, we then calculate the new food stamp eligibility rates for farm households. (Constraints in sample size preclude the disclosure of the location of farms in the ARMS and this prevents us from making simulations for Medicaid, where there is substantial variation in state-level eligibility criteria.) Our results are found in Table 5 where we also repeat the relevant information from Figure 1.

Concentrating on the results for gross income and asset eligible households with children, in 2001 a loss of farm support payments would lead to a 1.1 percentage point increase in the number of farm households eligible for food stamps (from 10.3 percent to 11.4 percent) if the low-end estimates were used. The figures are 2.0 and 3.0 percentage

points for the midway and high-end estimates. In 2000, the figures are 2.2 percentage points (from 9.8 percent to 12.0 percent), 3.9, and 5.2 percentage points.

There are about 1.5 million farm households with children in the U.S. As a consequence, loss of farm support payments would have resulted in up to 45,000 more households eligible in 2001 and 75,000 more households eligible in 2000. The eligibility rates for farmers would still be below those for the population as a whole, even if we assumed the loss of farm safety net payments was over \$6,000. Under the assumption that there is no change in the take-up rates amongst farmers, the increase in the number of farm households receiving food stamps would be very small.

Conclusions

Poverty in farm households is no longer the pervasive problem that it was in Depression-era rural America. The availability of off-farm employment, productivity gains in agriculture and policies to support farm incomes have all to one degree or another, created prosperity for most American farm families. Still, in the last decade in any year, 8 to 12 percent of farm households have incomes below the poverty line. We find that existing farm programs, which distribute benefits based on volume of commodity produced, provide poor farms, whose operations tend to be small, with lower payments than their larger, better-off counterparts. However, as a portion of total household income, these payments are relatively (slightly) more important to poor farmers.

If the farm safety net did not exist, more farm households would be eligible to receive benefits from other safety net programs. However, it is the case that, compared to the general population, a relatively smaller portion of farm households already eligible for these programs actually participate. This leads to some questions about the reasons for this lower participation that might be unique to agriculture, but also suggests that the current farm safety net still provides a measure of support to poor farm families that is not redundant with general social safety net programs such as food stamps and Medicaid.

A better understanding of the choices made by poor farm families with respect to both farm and general social safety nets could illuminate several interesting policy questions. Are poor farm families different from other poor rural households? That is, does the presence of farming activity in a household's portfolio make a difference, perhaps by meeting household food or other material needs outside markets? If reduced farm programs were eliminated or, more likely, changed in form how might poor farmers be affected? For example, if the focus were more heavily on income stabilization rather than augmentation, how would alternative program designs affect poor, small farms versus larger, better-off farm households? Are the incomes of poor households persistently low or is there a significant transitory component, as is the case for households with large farm operations? Ultimately, do poor farm households have special needs attributable to the presence of agriculture? In the 1930s, the poor lived on farms and therefore, supporting agriculture was a means to an end of improving their lot. Today, if the goal is the same, are the same means, commodity support programs, still the most effective way of addressing it?

References

- Adelaja, A., T. Miller, and M. Taslim. "Land Values, Market Forces, and Declining Dairy Herd Size: Evidence from an Urban-Influenced Region." *Agr. Resour. Econ. Rev.* 27 (1998): 61-71.
- Blank, R. and P. Ruggles. "When Do Women Use Aid to Families with Dependent Children and Food Stamps? The Dynamics of Eligibility versus Participation." *J. Human Resour.* 31(1996): 57-89.
- Corsi, A. and J. Findeis. "True State Dependence and Heterogeneity in Off-Farm Labour Participation." *European Rev. Agr. Econ.* 27(2000): 127-151.
- Gardner, B. *American Agriculture in the Twentieth Century: How it Flourished and What It Cost*. Cambridge, Massachusetts: Harvard University Press, 2002.
- Gardner, B. "Changing Economic Perspectives on the Farm Problem." *Journal of Economic Literature* 30(1992): 62-101.
- Gundersen, C. and J. Ziliak. "Poverty and Macroeconomic Performance: A View from the States in the Welfare Reform Era." *Demography* (2004, Forthcoming).
- Gundersen, C. and V. Oliveira. "The Food Stamp Program and Food Insufficiency." *Amer. J Agr. Econ.* 84(2001): 875-887.
- Gundersen, C., M. Morehart, L. Whitener, L. Ghelfi, J. Johnson, K. Kassel, B. Kuhn, A. Mishra, S. Offutt and L. Tiehen. *A Safety Net for Farm Households*. Washington, DC: U.S. Department of Agriculture, Economic Research Service, Agricultural Economic Report 877, 2000.

- Hoppe, R., J. Perry, and D. Banker, "The ERS Farm Typology: Classifying a Diverse Ag Sector." *Agr. Outlook* (November 1999): 11-13.
- Huffman, W. "Farm and Off-Farm Work Decisions: The Role of Human Capital." *Rev. Econ. Stat.* 62(1980): 14-23.
- Keane, M. and R. Moffitt. "A Structural Model of Multiple Welfare Program Participation and Labor Supply." *International Econ. Rev.* v39(1998), 553-589.
- Lockeretz, W. "Secondary Effects on Midwestern Agriculture of Metropolitan Development and Decreases in Farmland." *Land Econ.* 65(1989): 204-216.
- McElroy, R., R. Strickland, J. Ryan, C. McGath, R. Green, K. Erickson, and W. McBride. *Agricultural Income and Finance Outlook*. Washington, DC: U.S. Department of Agriculture, Economic Research Service, AIS-79, 2002.
- Mishra, A., H. El-Osta, M. Morehart, J. Johnson, and J. Hopkins. *Income, Wealth, and the Economic Well-Being of Farm Households*. Washington, DC: U.S. Department of Agriculture, Economic Research Service, Agricultural Economic Report 812, 2002.
- Moffitt, R. "An Economic Model of Welfare Stigma." *Amer. Econ. Rev.* 73(1983): 1023-35.
- Ranney, C. and J. Kushman. "Cash Equivalence, Welfare Stigma, and Food Stamps." *S. Econ. J.* 53(1987): 1011-1027.
- Wanlass, W. "The United States Department of Agriculture." *Johns Hopkins University Studies in Historical and Political Science* 38(1920): 12-31.

Figure 1: Percent of Families with Children Eligible for Food Stamps, Farmers and Non-Farmers, 1991-2001

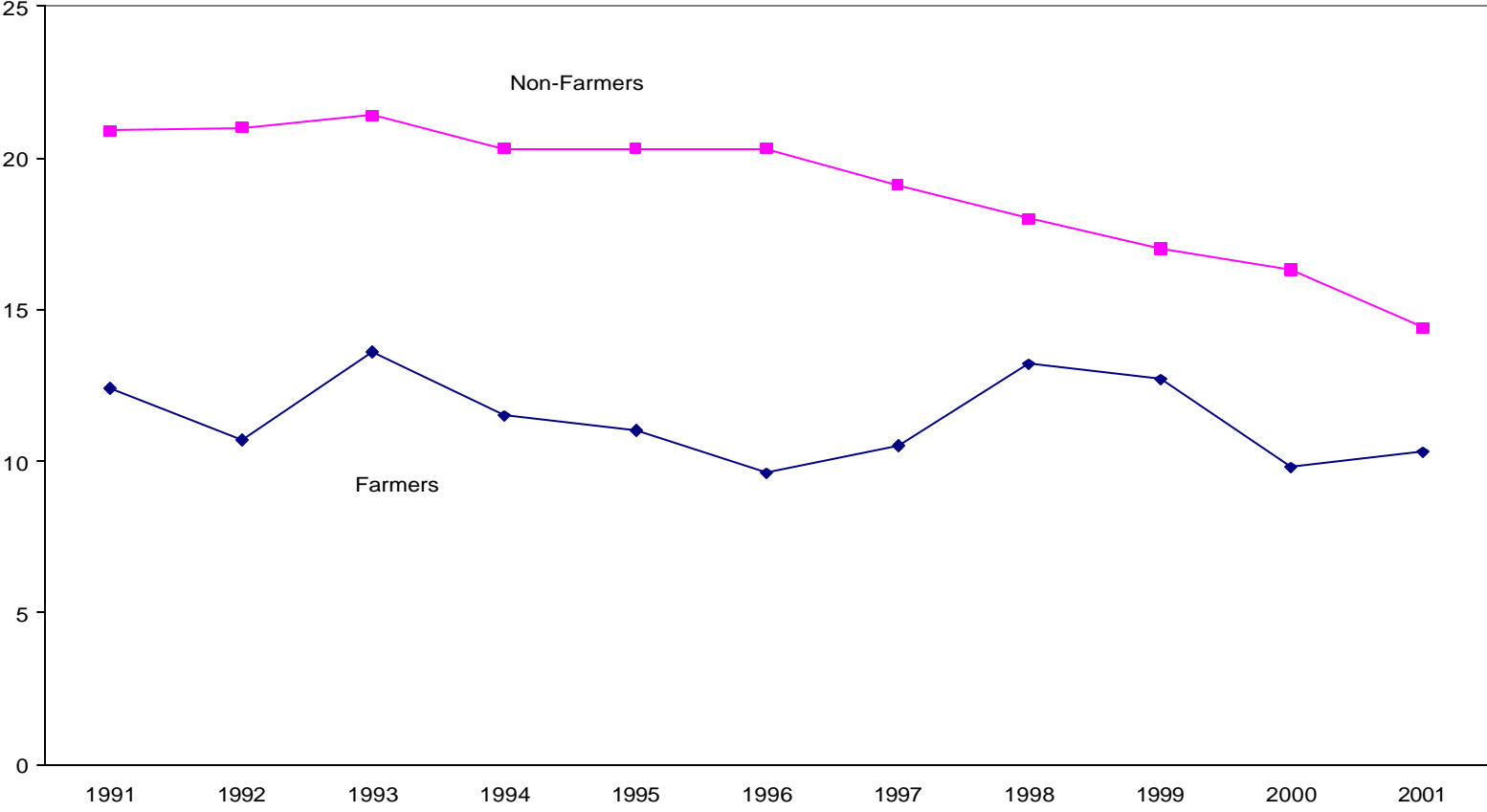


Figure 2: Percent of Families with Children Eligible for Medicaid, Farmers and Non-Farmers, 1991-2001

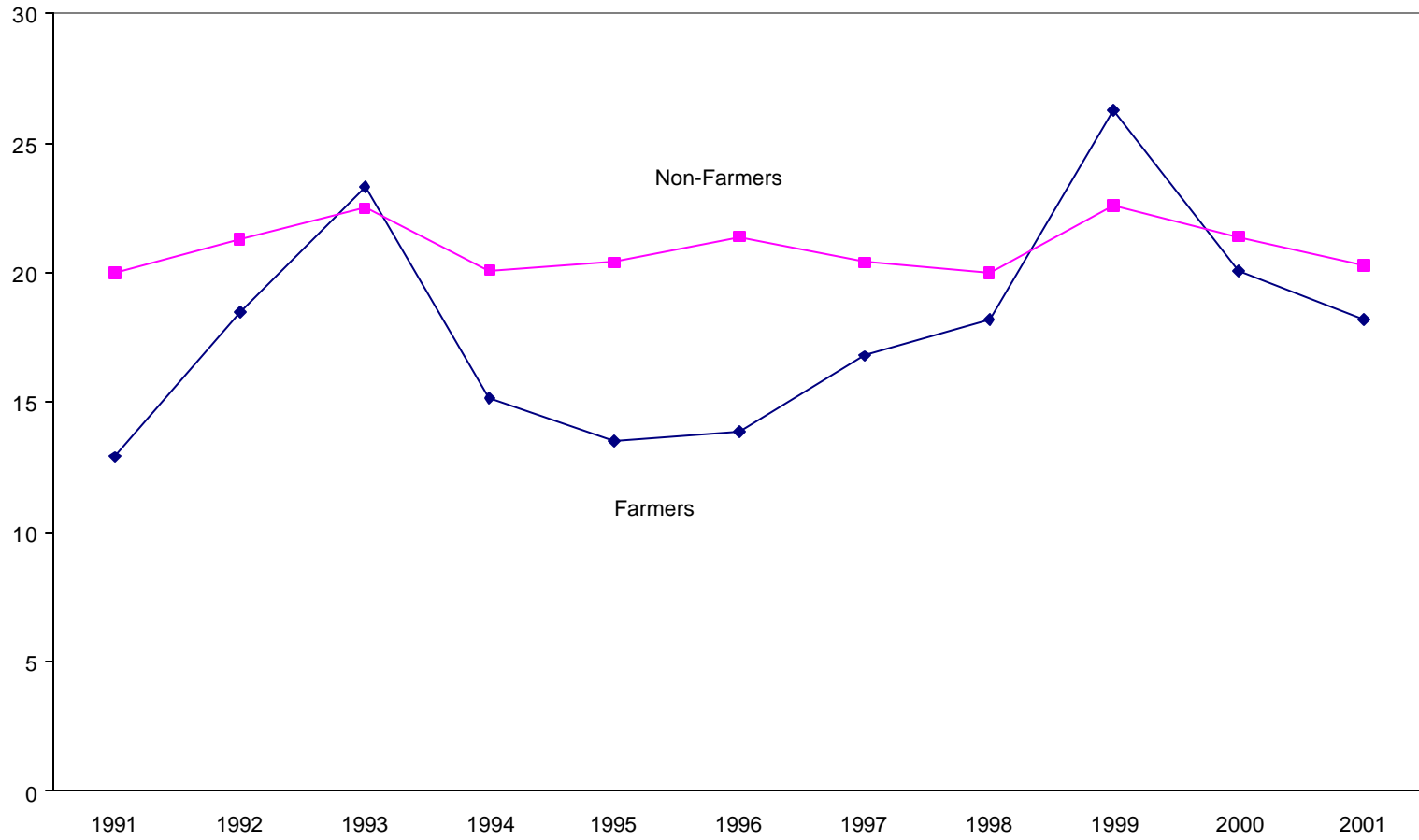


Figure 3: Food Stamp Participation Rates among Eligible Families with Children, Farmers and Non-Farmers, 1991-2001

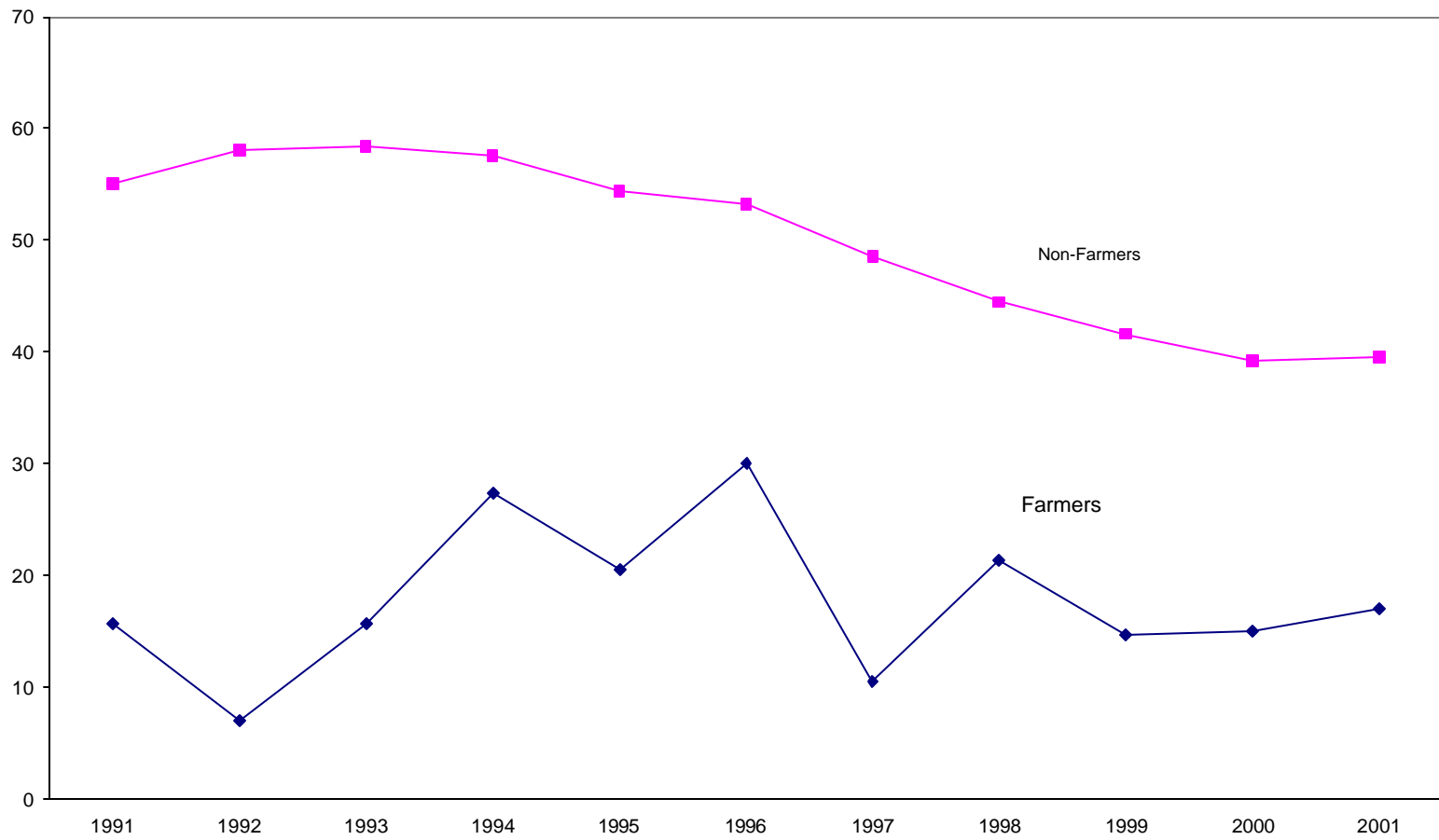


Figure 4: Medicaid Participation Rates among Eligible Families with Children, Farmers and Non-Farmers, 1991-2001

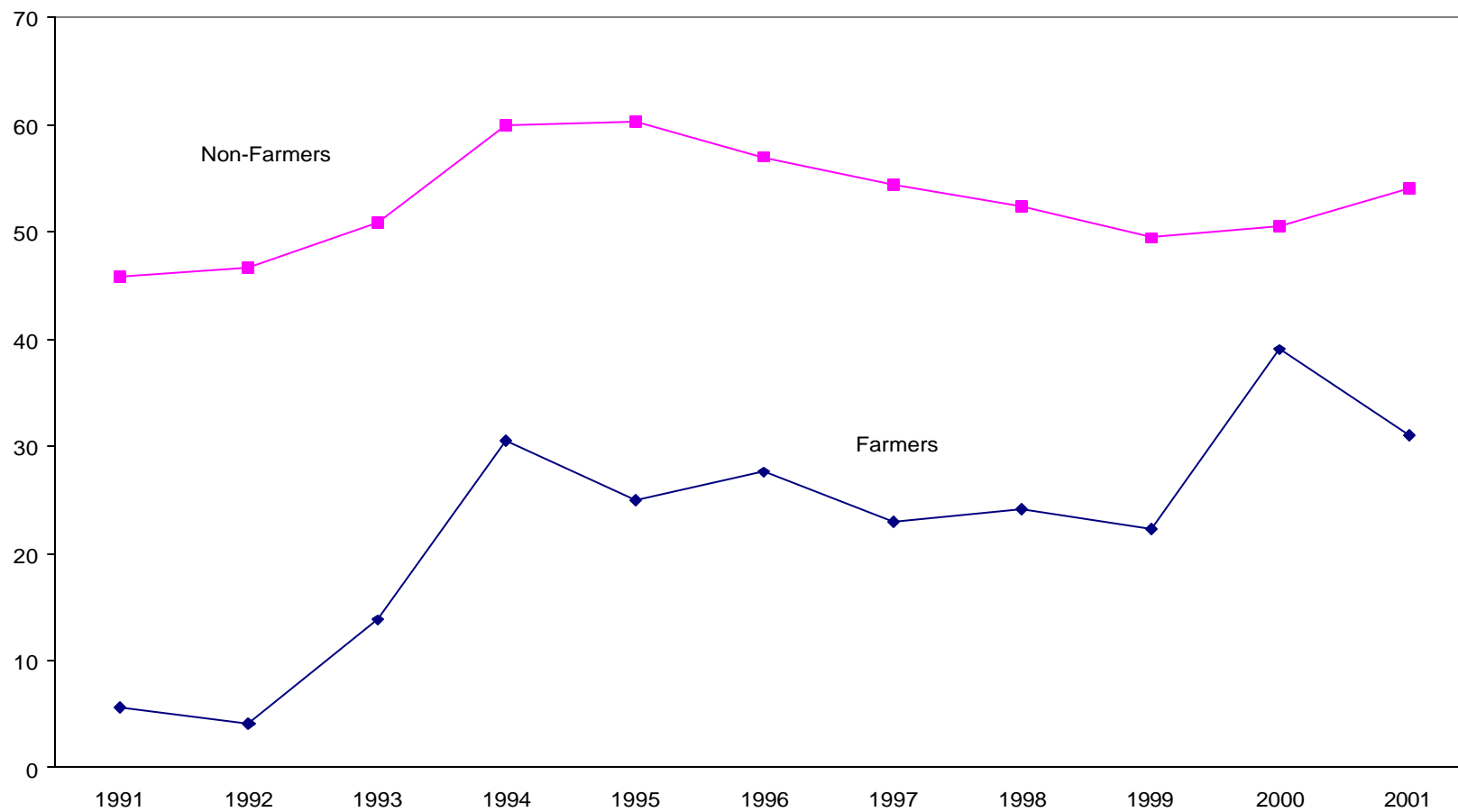


Table 1: Distribution of farm program payments by farm typology, 1997									
	Limited resource	Retirement	Residential lifestyle	Farming, low sales	Farming, high sales	Large family	Very large family	Agribusiness	Total
Average direct government payment (\$)	424	1,906	941	2,307	7,987	13,483	19,411	5,975	2,903
Payment per recipient (\$)	2,183	6,395	3,844	4,948	10,889	17,766	32,087	16,401	7,987
Farms receiving payments (%)	19.4	29.8	24.5	46.6	73.4	75.9	60.5	36.4	36.4
AMTA (%)	11.9	17.5	17.1	40.7	69.1	72.3	55.9	22.8	28.8
CRP and WRP (%)	5.4	17.3	9.3	9.1	13.0	10.7	10.4	18.7	10.6

Notes: AMTA denotes Agricultural Market Transition Act, CRP denotes Conservation Reserve Program, and WRP denotes Wetlands Reserve Program. This table is from Table 9 of Gundersen, *et al.*, 2000.

Table 2: Summary Statistics: A Comparison of Farmers and Non-Farmers with Incomes Below 130 Percent of the Poverty Line, 1991-2001

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	Farmers										
Total Income/1000	10252.3 (5958.8)	13280.1 (5980.5)	12582.2 (6001.6)	12547.3 (7104.3)	15286.8 (7257.9)	16005.6 (7202.4)	13029.1 (7025.1)	11974.1 (6362.4)	14063.0 (7565.1)	14595.9 (6340.9)	14860.7 (7791.6)
Homeowners	0.868	0.761	0.666	0.684	0.654	0.823	0.673	0.709	0.719	0.696	0.648
Number of Children	2.289 (0.990)	2.630 (1.220)	2.471 (1.404)	2.473 (1.390)	2.672 (1.516)	2.941 (1.739)	2.269 (1.206)	2.200 (1.352)	2.210 (1.264)	2.214 (1.534)	2.518 (1.430)
Married	0.907	0.964	0.919	0.789	0.854	0.823	0.846	0.727	0.877	0.821	0.805
High School Graduate	0.921	0.952	0.919	0.894	0.854	0.911	0.846	0.909	0.947	0.910	0.907
White, Non-Hispanic	0.881	0.892	0.873	0.757	0.745	0.911	0.788	0.763	0.789	0.785	0.861
Age of Household Head	38.973 (9.211)	36.976 (6.810)	37.471 (8.630)	38.810 (8.862)	39.090 (6.150)	37.264 (7.333)	38.000 (8.522)	38.672 (6.652)	40.193 (9.305)	40.357 (8.842)	40.009 (9.732)
Wages or Salary Income	0.723	0.630	0.701	0.747	0.836	0.588	0.673	0.872	0.842	0.892	0.750
Self-Employment Income	0.131	0.250	0.287	0.326	0.436	0.235	0.365	0.490	0.350	0.410	0.435
	Non-Farmers										
Total Income/1000	9588.5 (5560.7)	9728.5 (5621.1)	10214.1 (5802.2)	10507.3 (5927.6)	11195.1 (6213.6)	11438.5 (6430.8)	11661.8 (6534.7)	11957.0 (6664.9)	12611.4 (7062.9)	13319.0 (7245.5)	13151.1 (7576.2)
Homeowners	0.277	0.297	0.299	0.293	0.293	0.289	0.305	0.307	0.320	0.336	0.346
Number of Children	2.254 (1.221)	2.225 (1.220)	2.250 (1.225)	2.263 (1.234)	2.283 (1.245)	2.236 (1.209)	2.275 (1.235)	2.269 (1.204)	2.288 (1.230)	2.306 (1.276)	2.207 (1.197)
Married	0.459	0.450	0.449	0.451	0.452	0.446	0.453	0.448	0.460	0.463	0.423
High School Graduate	0.651	0.681	0.690	0.688	0.670	0.677	0.689	0.682	0.690	0.685	0.732
White, Non-Hispanic	0.444	0.448	0.440	0.418	0.400	0.400	0.392	0.383	0.365	0.371	0.427
Age of Household Head	35.188 (10.229)	35.316 (10.237)	35.685 (10.541)	35.532 (10.380)	35.777 (10.354)	36.030 (10.446)	36.350 (10.570)	36.135 (10.488)	36.066 (10.579)	36.338 (10.684)	36.745 (11.044)
Wages or Salary Income	0.653	0.662	0.652	0.662	0.691	0.719	0.721	0.747	0.773	0.775	0.737
Self-Employment Income	0.090	0.090	0.086	0.082	0.079	0.077	0.078	0.089	0.090	0.076	0.082

Notes: Data is from the respective years of the Current Population Survey (CPS). Standard deviations are in parentheses.

Table 3: Summary Statistics: A Comparison of Farmers and Non-Farmers With Incomes Below Medicaid Eligibility Criteria, 1991-2001

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	Farmers										
Total Income/1000	13108.6 (8062.2)	14853.3 (6875.4)	16251.3 (8721.9)	12886.7 (7868.7)	16896.4 (7798.1)	18076.1 (9906.1)	17165.1 (10612.1)	15477.2 (10232.7)	23323.5 (15892.7)	21328.3 (13976.6)	20869.5 (12785.1)
Homeowners	0.849	0.729	0.735	0.670	0.645	0.793	0.655	0.741	0.764	0.707	0.641
Number of Children	2.584 (1.027)	2.581 (1.134)	2.632 (1.373)	2.500 (1.442)	2.875 (1.565)	3.000 (1.889)	2.229 (1.371)	2.379 (1.335)	2.258 (1.319)	2.170 (1.377)	2.517 (1.399)
Married	0.924	0.945	0.942	0.792	0.854	0.862	0.852	0.810	0.917	0.829	0.834
High School Graduate	0.943	0.918	0.919	0.890	0.833	0.931	0.868	0.913	0.952	0.914	0.917
White, Non-Hispanic	0.867	0.878	0.873	0.792	0.770	0.931	0.803	0.810	0.847	0.792	0.882
Age of Household Head	36.000 (7.295)	35.310 (6.526)	36.597 (8.103)	36.780 (7.678)	36.583 (6.143)	37.413 (7.341)	37.311 (8.772)	38.310 (6.283)	39.611 (9.640)	39.560 (9.424)	40.179 (8.980)
Wages or Salary Income	0.679	0.540	0.643	0.707	0.812	0.620	0.754	0.879	0.894	0.914	0.772
Self-Employment Income	0.132	0.229	0.298	0.365	0.437	0.310	0.360	0.413	0.282	0.414	0.420
	Non-Farmers										
Total Income/1000	12312.0 (7625.9)	12481.9 (7748.5)	12914.1 (7842.5)	11877.2 (7729.3)	12667.6 (8070.8)	13922.1 (9684.4)	14285.6 (10176.4)	14417.3 (10150.0)	16602.2 (10972.3)	17557.8 (11603.1)	18122.0 (12333.2)
Homeowners	0.277	0.302	0.301	0.291	0.291	0.313	0.328	0.328	0.358	0.385	0.407
Number of Children	2.435 (1.218)	2.372 (1.225)	2.368 (1.220)	2.377 (1.247)	2.409 (1.270)	2.318 (1.215)	2.327 (1.225)	2.308 (1.201)	2.262 (1.195)	2.285 (1.246)	2.195 (1.171)
Married	0.554	0.540	0.527	0.496	0.501	0.499	0.509	0.500	0.522	0.525	0.492
High School Graduate	0.697	0.718	0.732	0.708	0.684	0.703	0.720	0.710	0.736	0.734	0.780
White, Non-Hispanic	0.454	0.455	0.448	0.431	0.418	0.430	0.417	0.412	0.423	0.427	0.487
Age of Household Head	32.497 (8.287)	33.061 (8.695)	33.534 (9.073)	33.763 (9.446)	34.032 (9.513)	34.819 (9.822)	35.152 (9.895)	35.043 (10.005)	35.527 (10.226)	35.759 (10.365)	36.241 (10.523)
Wages or Salary Income	0.710	0.719	0.708	0.686	0.716	0.752	0.753	0.778	0.816	0.818	0.790
Self-Employment Income	0.092	0.094	0.088	0.082	0.085	0.084	0.090	0.095	0.091	0.083	0.092

Notes: Data is from the respective years of the Current Population Survey (CPS). Standard deviations are in parentheses.

Table 4: Effect of Work Status on the Participation of Eligible Households

	Food Stamp Participation		Medicaid
	Gross Income Test	Gross Income and Asset Test	
Farmer	-0.669 (0.061)	-0.580 (0.069)	-0.421 (0.052)
Earnings from Wages or Salary	-0.409 (0.017)	-0.432 (0.017)	-0.573 (0.018)
Self-Employed	-0.544 (0.026)	-0.533 (0.028)	-0.410 (0.024)
Probability of Receipt			
For a household with employment characteristics of the average farm household	4.06	6.36	12.38
For a household with employment characteristics of the average non-farm household	49.95	51.77	53.94

Notes: Data is from a combined sample of eligible households in the years 1991 to 2001 of the Current Population Survey (CPS). The other covariates in this model are income, family structure, race/ethnicity, high school graduation status, homeownership status, and year fixed effects.

Table 5: Eligibility Rates for Safety Net Programs for
Farm Households with and without Farm Safety Net Payments

	2000	2001
	Food Stamp Program	
	With Farm Safety Net Payments	
Passing Gross Income Test	13.3	13.5
Passing Gross Income and Asset Tests	9.8	10.3
	Without Farm Safety Net Payments – Low End Estimates	
Passing Gross Income Test	16.2	15.2
Passing Gross Income and Asset Tests	12.0	11.4
	Without Farm Safety Net Payments – Midway Estimates	
Passing Gross Income Test	18.4	16.5
Passing Gross Income and Asset Tests	13.7	12.3
	Without Farm Safety Net Payments – High End Estimates	
Passing Gross Income Test	20.1	18.2
Passing Gross Income and Asset Tests	15.0	13.3

Notes: Simulations are based on data from the Current Population Survey. The amount of safety net payments received by farmers in the three categories is derived from the work in Mishra, *et al.*, 2002 and McElroy, *et al.*, 2002.

Endnotes

¹ This section, and references therein, rely heavily on Gardner, 2002.

² Net income is calculated by subtracting a standard deduction from a households' gross income. In addition to this standard deduction, households with earnings from the labor market deduct 20 percent of these earnings from their gross income. Deductions are also taken for child care and/or care for disabled dependents, medical expenses, and excessive shelter expenses.

³ The income from safety net payments is included in the CPS income figures so the lack of a breakdown for these specific payments does not affect our results.

⁴ We do not directly observe asset levels in the CPS. We do, however, observe the amount of dividend and interest income received by households in the past year. We assume a 5 percent return to these assets and therefore multiply the dividend plus interest income by 20. Three assets which may be particularly relevant for farmers – the value of farmland, the value of a house, and the value of assets used for one's job – are not considered "assets" for the food stamp asset test. We do not include the net income test. However, virtually all families meeting the gross income test also meet the net income test.

⁵ These participation rates are lower than the "official" participation rates calculated by the Food and Nutrition Service of the U.S. Department of Agriculture. This difference is primarily due to the different method used to calculate the "official" rate, which is calculated using administrative records in the numerator and survey data in the denominator. It is also due to the method of calculating eligibility - we use annual income for our measure of food stamp eligibility (the only unit of analyses available in the March CPS), but the Food Stamp Program uses income from the previous month as the eligibility criteria.

⁶ We use this model solely to help us understand the influence of being in a farm household on the probability of food stamp participation. For models where the food stamp participation decision is explicitly being modeled see, e.g., Blank and Ruggles, 1996; Keane and Moffitt, 1998. For several reasons, the CPS is not an ideal data set to explicitly model the food stamp participation decision. However, other data sets do not have enough farmers.

⁷ In reality, this is unlikely to be the case insofar as farm support payments are an important factor in the calculation of land values. As land values decrease, this may also lead to a decline in liquid assets. The extent of such a decline is difficult to predict so we presume there is no change.

⁸ There are distortions due to these programs which may make farmers' decisions very different in their absence. The manifestations of these distortions are not clear.