



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

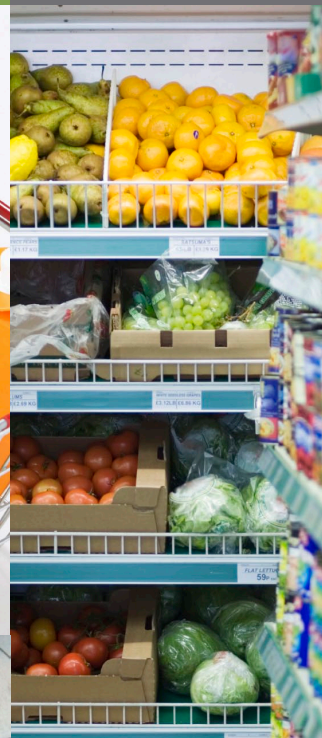
*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

The Economics of Federal Food Programs: Weighing the Costs and Benefits

Economics of Federal Food Programs
with Emphasis on the Supplemental
Nutrition Assistance Program (SNAP)

by Jean Kinsey

January 2013





NOTICE: The project that is the subject of this report was approved by the council on Food, Agricultural and Resource Economics (C-FARE) Board of Directors. The members of the report responsible for the report were chosen for their special competences and with regard to appropriate representation. We would particularly like to thank The McKnight Foundation and The Walton Family Foundation for their support that made this work possible. Additional copies of this report are available from C-FARE (www.cfare.org).

Jean Kinsey is a Professor Emeritus in the Department of Applied Economics at the University of Minnesota, where she has been on the faculty since 1976. She is also the Director Emeritus of The Food Industry Center where she served as Director and Co-director since 1995 and a Fellow of the American Agricultural and Applied Economics Association. Peer review of the report was provided by Helen H. Jensen, a professor of economics and head of CARD's Food and Nutrition Policy Division.

Printed in the United States of America. Copyright 2013 by the C-FARE Board of Directors. All rights reserved.

Suggested citation: The Council on Food, Agricultural & Resource Economics (C-FARE). (2013). The Economics of Federal Food Programs: Weighing the Costs and Benefits. Washington, DC.

Table of Contents

Executive Summary.....	5
SNAP Is Largest Domestic Food Assistance Program for Low-income Americans	8
SNAP and Other Federal Food Assistance Programs Increase Consumption	9
Poverty Often Results in Food Insecurity	9
SNAP Effectively and Measurably Reduces Poverty.....	10
SNAP Generates Additional Employment and Economic Growth	11
Reduced Hunger and Better Nutrition Help Communities Lower Spending on Health Care and Other Public Services	12
Other Federal Feeding Programs Target Specific Populations While Also Generating Economic Activity	12
Food Insecurity Leads to Poor Physical Health and Higher Health Care Costs... ..	13
...As Well as Behavioral Problems That Affect Schools and Communities	13
Food Programs Benefit Individuals and Society	14
Endnotes/References.....	16
Acknowledgements.....	19

Executive Summary

The Economics of Federal Food Programs: Weighing the Costs and Benefits*

The Public Benefits of Federal Food Assistance Programs Far Outweigh their Public Costs

The estimated cost of hunger in the United States is at least \$90 billion, including \$22.5 billion in direct health care costs and \$200 billion in lost productivity, while Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps) payments that prevent and decrease hunger are less than that -- totaling \$75.3 billion in 2011

Every \$1.00 spent on SNAP generates about \$1.84 in additional employment and business.

Benefits of Public Food Assistance Take a Variety of Forms

Dollars spent on food assistance go directly and efficiently into the economy, spurring business, employment and economic growth.

More than 46 million people in the U.S. are living below the poverty line. Domestic food assistance programs help nearly 1 in every 4 Americans.

If the value of SNAP dollars was added to household incomes, the United States' poverty rate would be reduced by 4.4%.

Supplementing food purchases for the poorest households allows those in poverty to pay for other critical services such as health care and transportation to schools and jobs.

Food programs help assure better educational outcomes for low-income children and a more productive labor force.

Food Assistance Program Costs Vary in Concert with Business Cycles

When the U.S. economy is performing poorly, there are more people out of work, and food assistance costs go up because more households are entering poverty. When the general economy is performing well, food assistance costs go down because fewer households are in need.

During the four year period of economic growth (1996-2000) expenditure on all food assistance programs : fell 14% to \$32.6 billion (\$42.6 billion in inflation adjusted dollars). During a period of recession (2007-2011) expenditures rose 90% to \$103.3 billion including structural adjustments to the programs and levels of remuneration. The \$103.3 billion is 142% higher than the inflation adjusted spending in 2000.¹

Every \$1.00
spent on
SNAP
generates
about \$1.84
in additional
employment
and business.

Economics of Federal Food Programs with Emphasis on the Supplemental Nutrition Assistance Program (SNAP)

Jean Kinsey²

Nearly 1 in every 4 Americans participates in at least one of the Federal domestic food assistance programs that provide a nutritional safety net for millions of children and low-income adults. In 2011, Federal food program expenditures were \$103.3 billion, accounting for two-thirds of the U.S. Department of Agriculture's (USDA) budget.³

...food and nutrition assistance programs are an investment in the human capabilities and the economic health of the nation.

The economics of Federal food programs involve weighing the costs and benefits of investing in food availability for low-income households. While some see this as a moral obligation, it is also one with vested community interests. Federal expenditures for feeding

programs reduce hunger, poverty, and health care costs. Furthermore, food and nutrition assistance programs are an investment in the human capabilities and the economic health of the nation.

Some of the benefits are not easy to measure in current dollar terms. Future savings on health care costs, better educational outcomes for children and more productive labor force participation for adults are tangible personal and social benefits. However, a dollar value cannot be assigned to alleviating individuals' physical suffering, emotional trauma and embarrassment that may accompany food insecurity and hunger. The societal and economic gains, however, are far-reaching.

Economic benefits extend to the community in terms of increased consumer spending by low-income households and the subsequent economic activity. In addition, there is now evidence that reducing income inequality and putting spending power in the hands of the low-income and unemployed will help to sustain overall economic growth.⁴ Thinking about expenditures on reducing hunger as an investment in human capital and long-run economic productivity, therefore, expands the priorities for spending on food assistance programs.

²Jean Kinsey is a Professor Emeritus in the Department of Applied Economics at the University of Minnesota.

SNAP Is Largest Domestic Food Assistance Program for Low-income Americans

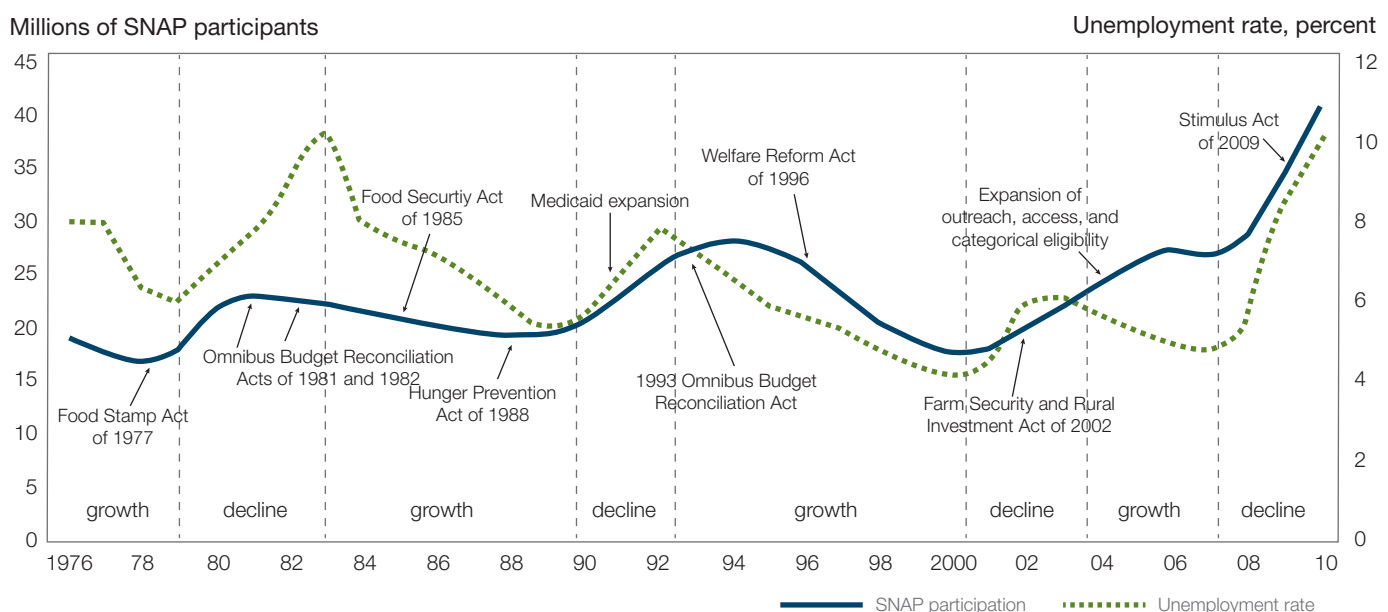
Unemployment insurance and the Supplemental Nutrition Assistance Program (SNAP, formerly known as food stamps) are the primary income safety nets for the poor and unemployed. SNAP expenditures grew from \$56.6 billion in 2009 to \$75.3 billion in 2011, comprising 73% of total food assistance program expenditures. Other food assistance programs are the Special Supplemental Nutrition Program for Women, Infants and Children (more commonly known as WIC), the National School Lunch and School Breakfast programs, and children and adult feeding programs in various care centers.⁵ Annual federal expenditures for supplemental food programs for the poor increased 125% since 2004, largely due to the extended recession, high unemployment, and loss

of household income and net worth during and after the housing and financial crises of 2007-2008.⁶

Participation in SNAP traditionally rises with unemployment (figure 1). Expenditures on SNAP rise due to higher participation and increases in benefit levels. SNAP allotments to participants are based on the cost of a diet as specified in USDA's Thrifty Food Plan (TFP), a market basket of foods, which if prepared and consumed at home, would provide a complete, nutritious diet at minimal cost. The TFP is designed and updated by the USDA's Center for Nutrition Policy and Promotion (CNPP).

The cost of the TFP is updated annually based on changes in the Consumer Price Index. Because the maximum benefit (for participants in the lowest income categories with the largest households) falls short of the cost of the TFP when the cost of these food rise

Figure 1. Policies and legislative acts affect Supplemental Nutrition Assistance Program (SNAP) participation, fiscal years 1976-2010



Source: Based on USDA Food and Nutrition Service information.

Reference #17: Hanson and Oliveira 2012

faster than the general food inflation, the allotment for purchasing the Thrifty Food Plan is adjusted annually.⁷ In addition, the American Recovery and Reinvestment Act of 2009 increased benefit levels for SNAP and expanded eligibility for jobless adults without children. The results were that SNAP benefits for median participating households increased 16%, food expenditures for the lowest income households rose 5.4%, food insecurity declined by 2.2 percentage points, and SNAP participation rates rose 3 percentage points.⁸

SNAP and Other Federal Food Assistance Programs Increase Consumption

The poorest 20 percent of households spent an annual average of \$3,501 on food at home and away from home in 2009, about 36% of their earned income. In contrast, food spending by the 20 percent of households at the top income range averaged \$10,780 or 7% of their income.⁹

SNAP and other programs help food-insecure households acquire an adequate diet.

Research points to a growing inequality in the distribution of incomes, increasing the disparity in food spending as a share of income by U.S. households.

- The top 20 percent of U.S. households (arrayed from lowest to highest income) earned over half of all income in 2009; their incomes rose 55% between 1980 and 2009.

- The lowest 40 percent of households earned only 11% of total U.S. income and their incomes increased an average 3% in 1980-2009.
- The top *one* percent of households earned 8.3% of U.S. income in 1970 and 18.9% in 2009.¹⁰
- In real (adjusted for inflation) terms the median household income fell from the 1999 high of \$54,932 to \$50,054 in 2011—nearly equal to median household income in 1997.¹¹
- More than 46 million people in the U.S. are living below the poverty line; one-third are children under the age of 18.¹² Households with incomes less than 130% of the poverty-level (\$11,170 for one person, \$23,050 for a four-person household in 2012) are potentially eligible for SNAP.

Poverty Often Results in Food Insecurity

Food insecurity is defined as “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways.”¹³ USDA defines household food security along a continuum consisting of four categories extending from high to very low food security.

Very low food security households have one or more members whose eating patterns are disrupted and food intake reduced because of insufficient money and other resources for food at some times during the year.¹⁴ This group is more commonly described as being hungry. In 2010, almost 6% of the population experienced very low food security (hunger). More than 14.5% of the population was food insecure at some level,¹⁵ approximately equal to the 15.1% of households living in poverty.

SNAP and other programs help food-insecure households acquire an adequate diet. SNAP provides funds to qualifying households to purchase food at local food stores and farmers markets. Research has shown

that households that receive SNAP dollars spend more on food even though their original food expenditures might have been enough to purchase a minimally healthy diet.^{16,17} Recent estimates show that SNAP recipients spend about \$25 more per person per month on food than they would without SNAP benefits.¹⁸ In 2011, a four-person household with an income of \$29,008 and meeting the asset criteria, would qualify for SNAP. In 2009, 72% of SNAP-eligible households participated in the program, compared with the historical average rate of 56.5%.

SNAP participation by low-income households increases 2-3 million people or 5-6% for every 1% increase in the unemployment rate.¹⁹ An eligible two-person household with an annual income below \$18,947 could receive \$367 per month to purchase food. A four-person

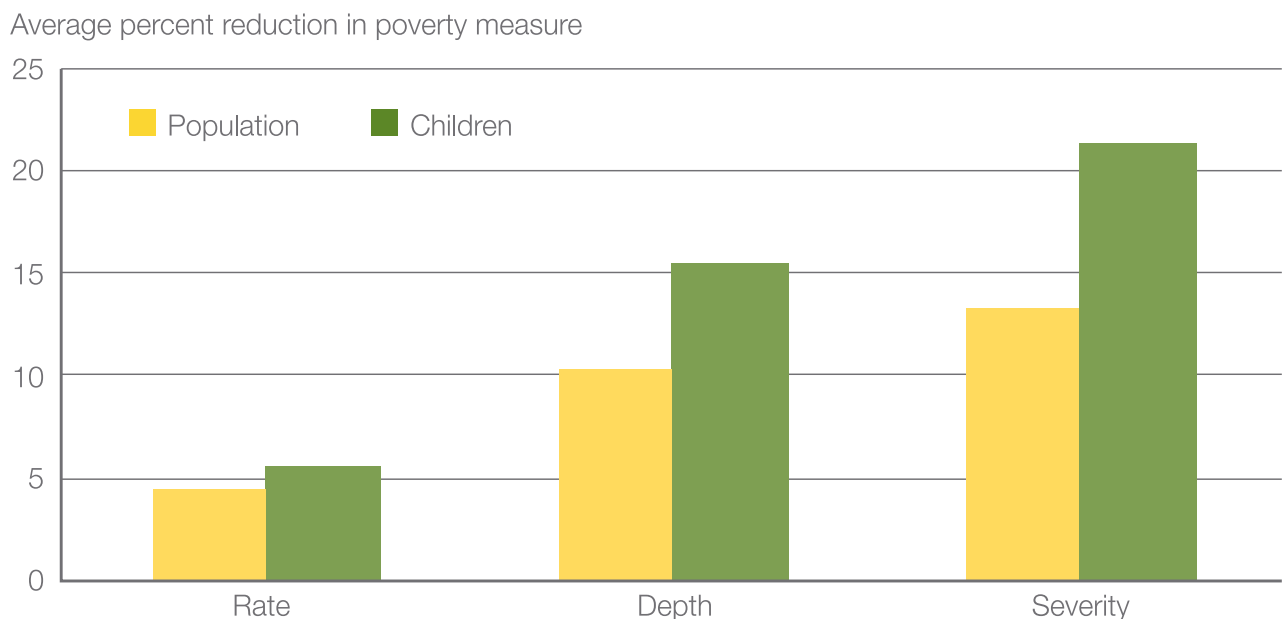
household could receive \$668 per month. The average per-person allotment was \$134 per month in 2011.²⁰

SNAP Effectively and Measurably Reduces Poverty

Unemployment contributes to the number of households in poverty. Figure 1 shows the historical impact of changes in unemployment, the economy and public policy on the number of SNAP participants.²¹

The rate of poverty increased from 12.5% of households in 2007 to 15.1% in 2010. SNAP, as an income support program, helps raise households' standard of living as well as their access to food. If the value of SNAP dollars were added to household incomes, the poverty rate would be reduced by 4.4%.²² USDA's Economic Research Service estimates that SNAP reduces the

Figure 2. **Snap benefits did more to reduce the depth and severity of poverty than the rate of poverty from 2000 to 2009**



The depth of poverty is measured by the "poverty gap," an index reflecting the average distance of poor households' incomes below the poverty threshold. Severity of poverty is measured by an index reflecting the square of the poverty gap. SNAP = Supplemental Nutrition Assistance Program. Source: USDA, Economic Research Service using data from the Current Population Survey Annual Social and Economic Supplement. www.ers.usda.gov/data-products/chart-gallery/detail.aspx?chartId=28685

depth and severity of poverty (the gap between the poor household's income and the poverty line) even more than it decreases the poverty rate (figure 2).

SNAP Generates Additional Employment and Economic Growth

SNAP distributes cash (as an electronic benefits transfer) that can be used to purchase food. The multiplier effect of these food purchases in the community is 1.84. In other words, for every \$5.00 spent in SNAP money, about \$9.00 in community spending is generated through additional employment and business.²³ In 2007, SNAP accounted for \$30 billion (5.3%) of the \$588 billion spent on food for at home consumption.²⁴

The rate of poverty increased from 12.5% of households in 2007 to 15.1% in 2010.

A \$1 billion increase in SNAP benefits is estimated to generate \$92.6 million of agricultural production, \$32.3 million in agricultural value added and close to 1000 agricultural jobs.²⁵

The \$4.6 billion food purchased by WIC participants increased farm revenue by an estimated \$1.3 billion in 2008.²⁶

The American Recovery and Reinvestment Act (ARRA) of 2009 increased benefit levels for SNAP and expanded SNAP eligibility for jobless adults without children. The changes were intended to assist those most impacted by the recession, to create and save jobs, and to stimulate the economy.

USDA Researchers estimated that in the five years following ARRA, higher SNAP benefit levels would create \$36.8 billion of economic activity; 100,000 jobs would be saved or created in the first two years.²⁷ According to the ERS, food expenditures by the typical (median) low-income household increased by 5.4 percent from late 2008 (pre-ARRA) to late 2009 (post-ARRA).²⁸ Among households with incomes just above the SNAP income-eligibility range, food expenditures (adjusted for changes in food prices) increased by a smaller percentage than among low-income households, and the prevalence of food insecurity among such households did not decline.

Food spending increased more among SNAP participants than among low-income non-SNAP households, closing a gap in food spending that had persisted since at least 2001. The combination observed in 2009 of a simultaneous increase in SNAP participation and an improvement in food security from the previous year had not occurred in any other recent year.

Supplementing the ability to purchase food for the poorest households not only increases their access to food, but also allows them to boost spending on other goods and services such as health care and transportation. Recent studies have documented the relationship between income distribution and sustained economic growth in both high- and low-income counties.

Unequal distribution of earned income is acknowledged to be an important spur to innovation and incentive for economic growth. However, narrowing the gap in income distribution is important for sustaining long-run economic growth.²⁹ To the extent that SNAP helps to diminish income inequality (boosts spending power among low-income consumers), it contributes to more sustained U.S. economic growth.

Reduced Hunger and Better Nutrition Help Communities Lower Spending on Health Care and Other Public Services

A study conducted for Second Harvest Heartland in Minnesota found that hunger costs Minnesota an estimated \$1.62 billion a year, or between \$800 and \$1,131 per taxpayer.³⁰ A study by Second Harvest Heartland³¹ (a member of Feeding America) estimated that Minnesota residents in need are missing 125 million meals every year due to insufficient income. Purchasing food for those missing meals would cost \$243.25 million.

Charitable organizations such as Feeding America provide food to community soup kitchens, food banks, and other charitable organizations. Demand for these programs increases with the number of people living in poverty. Feeding America, one of several charitable feeding programs, provided about \$678.8 million of food to low-income people in 2010.³² The direct economic return to these programs is similar to the \$1.85 estimated for SNAP dollars.³²³ Research on the differences in nutritional quality of diets between those who received food stamp benefits in the 1990s and those who were eligible, but did not participate in the program, reveals only small differences on most measures.³⁴ For example, males who participated in food stamps consumed more Vitamin C than others. On the Healthy Eating Index (HEI), a measure of diet quality that assesses conformance to federal dietary guidance³²⁵, food stamp participants had better scores for sodium and meat consumption. Otherwise, their nutritional scores were about the same or lower than eligible nonparticipating persons.

Participants ate more high-energy foods and had higher obesity scores.³⁶ The co-existence of hunger and obesity, especially among SNAP participants, has led some to question the need for SNAP. The explanation, however, involves eating patterns that are similar

across all lower-income households. Limited resource households spend about 30% of their income on food and procuring the most food for limited dollars leads to purchasing low-cost, high-energy foods that are often high in calories. These foods suppress hunger and provide physical energy but do not necessarily have the balanced nutritional value.

Other Federal Feeding Programs Target Specific Populations While Also Generating Economic Activity

In 2010, the Supplemental Nutrition Program for Women, Infants, and Children (WIC) served 9.2 million people. Over half of all infants in the U.S. and one-quarter of children up to age five receive WIC benefits. WIC is the third largest Federal food and nutrition program, comprising about 10% of the Federal food and nutrition budget. By providing healthy foods to low-income infants and children, WIC is an investment in the future health and welfare of the Nation's children. Like SNAP, WIC participation increases as unemployment rises.

WIC recipients receive vouchers for specific supplemental foods that meet the nutritional needs of individual low-income pregnant, breastfeeding, non-breastfeeding postpartum women, infants and children up to five years of age who are at nutritional risk. The program also provides health care referrals and nutrition education, with measurable results for mothers and children. Substantial program changes in recent years allow participants to purchase more whole grains and fresh fruits and vegetables.³⁷ The WIC program highly encourages breast-feeding, but since many mothers cannot breast feed the recommended amount, WIC provides vouchers of infant formula. A substantial percent of the infant formula sold in the U.S. (57% to 68% is purchased with WIC vouchers.³⁸ Federal WIC expenditures in 2010 were \$6.7 billion, up from \$5.5 billion in 2007.³⁹

The National School Lunch Program (NSLP) and the School Breakfast Program served an average of 42.7 million children per day in 2010 at a cost of \$12.6 billion. Children from families whose income is below 130 percent of the poverty level are eligible for free school lunches, while those from families with incomes between 130 and 185 percent of the poverty level can receive reduced-price lunches. More than half of school lunches (55.7%) and 74.6% of breakfasts are served free.⁴⁰

With only about 35% of children paying the full price for their lunches, schools are dependent on Federal allotments to prepare and serve food. Researchers and health advocates, however, criticize the NSLP allotment for being insufficient to provide healthy school meals. School breakfast and lunch is sometimes the only food children from very poor families have on a school day, and thus, extremely helpful in reducing hunger.

Hunger can affect the mental health of both children and adults, resulting in long run cost implications for society.

Food Insecurity Leads to Poor Physical Health and Higher Health Care Costs...⁴¹

Food insecure individuals are more likely to experience colds, stomach aches, and migraines and suffer from generally poorer health than food secure individuals.⁴² Martin and Ferris⁴³ found that food-insecure adults are

two and one-half times more likely to be obese, which can cause diabetes, hypertension, cardiovascular disease and other chronic health issues. Individuals with very low food security have been found to be twice as likely to be diabetic and adults are three times more likely to be hospitalized. These add significant costs to health care for individuals and society.^{44, 45}

Children often are the greatest victims of food insecurity. Alaimo et al.⁴⁶ found that infants and young children in food insecure homes often suffer from iron deficiency, affecting their cognitive and physical development. Moreover, food insecure pregnant women are at a higher risk of giving birth to an underweight baby or a baby with severe birth defects such as Spina Bifida. Food insecure children also suffer from higher rates of headaches, stomach aches, ear infections and colds than their well-nourished counterparts.

In 2007, researchers estimated the cost burden of hunger in the United State at a minimum of \$90 billion annually including \$22.5 billion in direct health care costs.⁴⁷

Indirect costs due to lost productivity in the labor market when food insecure people are ill or under-trained could run as high as \$200 billion annually. These costs are difficult to calculate with precision, but they nonetheless exist and need to be considered in the benefit/cost ratio of Federal programs designed to feed the poor and give families with children access to more and better food.

...As Well as Behavioral Problems That Affect Schools and Communities

Hunger can affect the mental health of both children and adults, resulting in long run cost implications for society. Alaimo et al.⁴⁸ found that hunger affects educational outcomes in children. According to their 2001 study published in *Pediatrics*, a food-insecure child is twice as likely to repeat a grade and three times as likely to be suspended. Moreover, math scores tend to be lower in hungry children.

Children's emotional development can also be affected by hunger. Children from food insecure families are nearly twice as likely to see a psychologist and these children tend to have social and behavioral difficulties. Alaimo et al. also found that teens experiencing chronic hunger are nearly twice as likely to suffer from depression and have thoughts of death. Likewise, a food-insecure teen is five times more likely to commit suicide.

Many studies also document that food-insecure adults are more likely to suffer from mental health problems. For example, Whitaker and colleagues⁴⁹ studied a sample of 2,800 food-insecure mothers and found that they were more likely to suffer from stress and anxiety, even after holding constant income, socio-demographic characteristics, family mental health history, incidence of

domestic violence, as well as alcohol, drug and tobacco use. In fact, mothers with very low food-security were twice as likely to have anxiety episodes.

The study also found that food insecurity affects child psychological problems, directly and indirectly, through parental depression. These conditions contribute to multi-generational cycles of hunger, poverty and emotional issues (table 1).

Food Programs Benefit Individuals and Society

Thinking about expenditures on reducing hunger as an investment in human capital and long-run economic productivity expands the priorities for spending on food assistance programs. SNAP, WIC and other food

Table 1. **Hunger increases the likelihood of negative health outcomes**

Condition	Times more likely if food insecure	Population affected
Poor health	2.9	Everyone
Migraine	1.95	Everyone
Stomach aches	2.61	Everyone
Colds	1.33	Everyone
Hospitalizations	1.3	Everyone
Iron deficiency	1.44	Everyone
Obesity	2.45	Women
Diabetes*	2.1	Everyone
Depression	1.87	Adults
Anxiety	2.14	Adults
Underweight births	1.81	Newborns
Need to see a psychologist	2.0	Children
Need of some kind of counseling	4.0	Children
ADHD	1.9	Children
Repeat a grade	2.0	Children
School suspension	3.0	Children
Suicide	5.0	Teens

* For very low food insecurity only.

Mykerezi, Elton, Kinsey, Jean, and Tuttle, Charlotte. 2010. Ending Hunger in Minnesota: Investing in Food Security. White paper, Department of Applied Economics, University of Second Harvest Heartland of Minnesota. A public version of this white paper can be found at http://www.2harvest.org/shh/press_releases/2009/Missing%20-%20125%20Million%20Meals%20for%20Low-Income%20Minnesotans.pdf

assistance programs provide an income safety net targeted toward food purchases. These programs play a critical role in reducing poverty and food insecurity in the U.S. In addition, food programs enable recipients to increase their spending. Participants buy more food with program benefits but also use some income that might have been spent on food to purchase health care, transportation or other goods and services. This increased spending “multiplies” in the food industry and in the community, supporting economic growth.

The Federal food programs are a long-term investment in the nutritional health and education of poor children and productive citizens. There are a myriad of negative health impacts of hunger for children and adults. Ensuring that low-income individuals and families can obtain an adequate diet helps prevent the health and behavioral problems resulting from hunger and malnourishment.

Note: The Economic Research Service of the USDA publishes many studies about the cost and effectiveness of food programs. These can be found on their web site: www.ers.usda.gov/data-products/food-and-nutrition-assistance-research-database/research-reports-articles-database.aspx

Supplemental Nutrition Assistance Program (SNAP) Linkages with the General Economy (2011) USDA, ERS. Available online: [http://www.ers.usda.gov/topics/food-nutrition-assistance/supplemental-nutrition-assistance-program-\(snap\)/economic-linkages.aspx](http://www.ers.usda.gov/topics/food-nutrition-assistance/supplemental-nutrition-assistance-program-(snap)/economic-linkages.aspx)

Endnotes/References

1. United States Department of Agriculture Economic Research Service. (June 04, 2012). "USDA Expenditures on food assistance programs, fiscal 1980-2011." Available online: <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-nutrition-assistance-research/charts/expenditures.aspx>
2. Jean Kinsey is a Professor Emeritus in the Department of Applied Economics at the University of Minnesota, where she has been on the faculty since 1976. She is also the Director Emeritus of The Food Industry Center where she served as Director and Co-director since 1995 and a Fellow of the American Agricultural and Applied Economics Association. Peer review of the report was provided by Helen H. Jensen, a professor of economics and head of CARD's Food and Nutrition Policy Division.
3. Young, Edwin, Oliveira, Victor and Claasen, Roger. (2008) 2008 Farm Act: Where Will the Money Go? Amber Waves. USDA, ERS, Nov. 2008. http://webarchives.cdlib.org/wayback.public/UERS_ag_1/20110902224613/http://www.ers.usda.gov/AmberWaves/November08/DataFeature/
4. Berg, Andrew G. and Ostry, Jonathan D. (2011) "Inequity and Unsustainable Growth: Two Sides of the Same Coin?" International Monetary Fund Staff discussion Note. SDN 11/08, 20 p. <http://www.imf.org/external/>
5. Oliveira, Victor. (2011) "The Food Landscape 2011: Fiscal Year 2011 Annual Report." USDA, ERS <http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib93.aspx>
6. LeBlanc, Michael, Lin, Biing-Hwan, and Smallwood, David. (September 2006). "Food Assistance: How Strong Is the Safety Net?" USDA, ERS Amber Waves. Available online: http://webarchives.cdlib.org/wayback.public/UERS_ag_1/20120403222048/http://www.ers.usda.gov/AmberWaves/September06/Features/FoodAssistance.htm
7. Hanson, Kenneth and Andrews, Margaret. (2008) "Rising Food Prices Take a Bite Out of Food Stamp Benefits," USDA, ERS Economic Information Bulletin no. (EIB-41) 21 p. <http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib41.aspx>
8. Nord, Mark and Prell, Mark . (2011) "Food Security Improved Following the 2009 ARRA Increase in SNAP Benefits." USDA, ERS, Economic Research Report (ERR-116) 52 p. <http://www.ers.usda.gov/publications/err-economic-research-report/err116.aspx>
9. Henderson J (2011) "Will U.S. Food Prices Follow Global Trends? The Main Street Economist: Agricultural and Rural Analysis." Federal Reserve Bank of Kansas City 3 (www.KansasCityFed.org) Accessed 10 Dec 2011
10. Weinberg, Daniel H. (2010) "US Neighborhood Income Inequality in the 2005-2009 Period," American Community Survey Reports, US Census Bureau. Available online: <http://www.census.gov/prod/2011pubs/acs-16.pdf>
11. DeNavas-Walt, Carmen, Bernadette D. Proctor, Jessica C. Smith. (2012). "Income, Poverty, and Health Insurance Coverage in the United States: 2011 Current Population Reports," Sept. 2012. Available online: <https://www.census.gov/hhes/www/poverty/data/index.html>
12. DeNavas-Walt, Carmen, Bernadette D. Proctor, Jessica C. Smith. (2012). "Income, Poverty, and Health Insurance Coverage in the United States: 2011 Current Population Reports," Sept. 2012. Available online: <https://www.census.gov/hhes/www/poverty/data/index.html>
13. Anderson, Sue Ann, R.D., Ph.D. "Core Indicators of Nutritional State for Difficult to Sample Populations," The Journal of Nutrition 120:1557S-1600S. (1990).
14. Food Security in the United States. (2012) USDA,ERS. Available online: <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement.aspx#insecurity>
15. Food Security in the United States. (2012) USDA,ERS. Available online: <http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/measurement.aspx#insecurity>
16. Senauer, Ben, and Young, Nathan. 1986. "The Impact of Food Stamps on Food Expenditures: Rejection of the Traditional Model." American Journal of Agricultural Economics. 66 :37-43.
17. Wilde, Parke and Ranney, Christine. 1996. "The Distinct Impact of Food Stamps on Food Spending." Journal of Agricultural and Resource Economics, 21(1):174-185.
18. Jensen, Helen and Wilde, Parke, "More Than Just Food: the Diverse Effects of Food Assistance Programs." Choices Magazine. 3rd Quarter 2012. 25(3).Available online: <http://www.choicesmagazine.org/magazine/article.php?article=139>
19. Tiehen, Laura, Jolliffe, Dean, and Gundersen, Craig. (2012) "Alleviating Poverty in the United States: The Critical Role of SNAP Benefits", USDA, ERS, Economic Research Report No. (ERR-132) 30 pp. Available online: <http://www.ers.usda.gov/publications/err-economic-research-report/err132.aspx>.
20. Oliveira, Victor. (2011) "The Food Landscape 2011: Fiscal Year 2011 Annual Report." USDA, ERS Available online: <http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib93.aspx>.
21. Hanson, Kenneth and Oliveira, Victor. (2012) "How Economic Conditions Affect Participation in USDA Nutrition Assistant Programs," USDA, ERS, Economic Information Bulletin # EIB-100. 62p. Available online: <http://www.ers.usda.gov/publications/eib-economic-information-bulletin/eib100.aspx>

22. Tiehen, Laura, Jolliffe, Dean, and Gundersen, Craig. (2012) "Alleviating Poverty in the United States: The Critical Role of SNAP Benefits," USDA, ERS, Economic Research Report No. (ERR-132) 30 pp. Available online: <http://www.ers.usda.gov/publications/err-economic-research-report/err132.aspx>
23. Hanson, Kenneth. (2010) "The Food Assistance National Input-Output Multiplier (FANIOM) and Stimulus Effects of SNAP." Economic Research Report No. (ERR-103) 50 pp. October 2010. Available online: <http://www.ers.usda.gov/publications/err103/>
24. Hanson, Kenneth and Oliveira, Victor. (2009) "Economic Linkages Between the WIC Program and the Farm Sector." USDA, ERS, Economic Brief No. (EB-12) 6 pp. Available online: <http://www.ers.usda.gov/publications/eb-economic-brief/eb12.aspx>
25. Hanson, Kenneth and Oliveira, Victor. (2009) "Economic Linkages Between the WIC Program and the Farm Sector." USDA, ERS, Economic Brief No. (EB-12) 6 pp. Available online: <http://www.ers.usda.gov/publications/eb-economic-brief/eb12.aspx>
26. Hanson, Kenneth and Oliveira, Victor. (2009) "Economic Linkages Between the WIC Program and the Farm Sector." USDA, ERS, Economic Brief No. (EB-12) 6 pp. Available online: <http://www.ers.usda.gov/publications/eb-economic-brief/eb12.aspx>
27. Nord, Mark and Prell, Mark (2011) "Food Security Improved Following the 2009 ARRA Increase in SNAP Benefits." USDA, ERS, Economic Research Report (ERR-116) 52 p. Available online: <http://www.ers.usda.gov/publications/err-economic-research-report/err116.aspx>
28. Nord, Mark and Prell, Mark. (2011) "Food Security Improved Following the 2009 ARRA Increase in SNAP Benefits." USDA, ERS, Economic Research Report (ERR-116) 52 p. <http://www.ers.usda.gov/publications/err-economic-research-report/err116.aspx>
29. Berg, Andrew G. and Ostry, Jonathan D. (2011) "Inequity and Unsustainable Growth: Two Sides of the Same Coin?" International Monetary Fund Staff discussion Note. SDN 11/08, 20 p. Available online: <http://www.imf.org/external/ns/search.aspx?NewQuery=Discussion+Notes&submit.x=12&submit.y=13&col=>
30. Mykerezi, Elton, Kinsey, Jean, and Tuttle, Charlotte. (2010) "Ending Hunger in Minnesota: Investing in Food Security." White paper, Department of Applied Economics, University of Second Harvest Heartland of Minnesota. A public version of this white paper available online: http://www.2harvest.org/shh/press_releases/2009/Missing%20-%20125%20Million%20Meals%20for%20Low-Income%20Minnesotans.pdf
31. Second Harvest Heartland. (2009) Available online: http://www.2harvest.org/shh/press_releases/2009/Missing%20-%20125%20Million%20Meals%20for%20Low-Income%20Minnesotans.pdf
32. "Feeding America Annual Report and Audited Financial Statements" (2010) Available online: <http://feedingamerica.org/about-us/~media/Files/financial/2010-auditors-report.ashx?.pdf>
33. Mykerezi, Elton, Kinsey, Jean, and Tuttle, Charlotte. (2010) "Ending Hunger in Minnesota: Investing in Food Security." White paper, Department of Applied Economics, University of Second Harvest Heartland of Minnesota. A public version of this white paper available online: http://www.2harvest.org/shh/press_releases/2009/Missing%20-%20125%20Million%20Meals%20for%20Low-Income%20Minnesotans.pdf
34. Fox, Mary Kay, Cole, Nancy. (2004) "Nutrition and Health Characteristics of Low-Income Populations: Volume I, Food Stamp Program Participants and Nonparticipants." USDA, ERS, E-FAN-04-014-1. Available online: http://www.ers.usda.gov/media/331398/efan04014-1_1_.pdf
35. USDA Center for Nutrition and Policy Promotion - <http://www.cnpp.usda.gov/HealthyEatingIndex.htm>, accessed 11/19/2012.
36. Lin, Bing-Hwan. (2004) "Nutrition and Health Characteristics of Low-Income Populations: Volume 1, Food Stamp Program Participants and Nonparticipants." USDA, ERS, E-FAN-04014-1. Available online: <http://www.ers.usda.gov/publications/efan-electronic-publications-from-the-food-assistance-nutrition-research-program/efan04014-1.aspx>
37. Institute of Medicine of the National Academies, (2005) "WIC Food Packages: Time for Change." Available online: <http://www.iom.edu/Reports/2005/WIC-Food-Packages-Time-for-a-Change.aspx>
38. Institute of Medicine of the National Academies, (2005) WIC Food Packages: Time for Change. <http://www.iom.edu/Reports/2005/WIC-Food-Packages-Time-for-a-Change.aspx>
39. Oliveira, Victor, and Frazao, Elizabeth (2009) "The WIC Program: Background, Trends, and Economic Issues." USDA, ERS, Economic Research Report No. 72 : Available online: <http://www.ers.usda.gov/Publications/ERR73/>.
40. Gunderson, Gordon W. (2009) "The National School Lunch Program: Background and Development." USDA, FNS, 5 May. Available online: http://www.fns.usda.gov/cnd/Lunch/AboutLunch/ProgramHistory_6.htm#Centralized.
41. This section relies heavily on research conducted by Elton Mykerezi, Assistant Professor; Jean Kinsey, Professor and Director of The Food Industry Center; Charlotte Tuttle, Ph.D. graduate student, Department of Applied Economics, University of Minnesota in the writing of a white paper titled Ending Hunger in Minnesota: Investing in Food Security, in 2010 for Second Harvest Heartland of Minnesota. A public version of this white paper can be found at http://www.2harvest.org/shh/press_releases/2009/Missing%20-%20125%20Million%20Meals%20for%20Low-Income%20Minnesotans.pdf

42. Slack, Kristen Shook, and Yoo, Joan. "Food Hardships and Child Behavior Problems among Low-Income Children" Institute for Research on Poverty (2004) 1290-04, 1-41 Available online: <http://www.irp.wisc.edu/publications/dps/pdfs/dp129004.pdf>
43. Martin, K.S. and Ferris, A.M. (Jan-Feb 2007). "Food insecurity and gender are risk factors for obesity." *Journal of Nutrition Education and Behavior*, Vol. 39, No. 1:31-6
44. Seligman, Hilary K., Bindman, Andrew B., Vittinghoff, Eric, Kanaya, Alka M., and Kushel, Margot B. (July 2007). "Food Insecurity is Associated with Diabetes Mellitus: Results from the National Health Examination and Nutrition Examination Survey." *Journal of General Internal Medicine*, Vol. 22, No. 7: 1018-1023.
45. Vozoris, Nicholas T. and Tarasuk, Valerie S.(January 2003). "Household Food Insufficiency Is Associated with Poorer Health." *Journal of Nutrition*, Vol. 133:120-126.
46. Alaimo, Katherine, Olson, Christine M. and Frongillo, Edward A. Jr. (July 2001). "Food Insufficiency and American School-Aged Children's Cognitive, Academic, and Psychosocial Development." *Pediatrics*, Vol. 108 No. 1: 44-53.
47. Brown, J.L., Shepard, D., Martin, T., Orwat, J. (2007) "The Economic Cost of Domestic Hunger." Harvard School of Public Health. Available online: http://www.sodexoofoundation.org/hunger_us/Images/Cost%20of%20Domestic%20Hunger%20Report%20_tcm150-155150.pdf
48. Alaimo, Katherine, Olson, Christine M. and Frongillo, Edward A. Jr. (July 2001). "Food Insufficiency and American School-Aged Children's Cognitive, Academic, and Psychosocial Development." *Pediatrics*, Vol. 108 No. 1: 44-53.
49. Whitaker, Robert C., Phillips, Shannon M., Orzol, Sean M. MPH (Sept. 2006). "Food Insecurity and the Risks of Depression and Anxiety in Mothers and Behavior Problems of their Pre-school aged Children." *Pediatrics*, Vol. 118 No. 3: e859-e868.

Acknowledgments

Membership

C-FARE aims to represent the interests of all professional agricultural economists in the United States. The Council consists of at least 15 members representing major groups within the profession. Three members are appointed by the Agricultural and Applied Economics Association, and by the National Association of Agricultural Economics Administrators. One member is appointed by the Southern Agricultural Economics Association. These seven directors elect at least six at-large representatives. C-FARE is a tax exempt organization under Section 501(c)(3) of the IRS code.

2012 Leadership

Damona Doye

Chair
Oklahoma State University

Roger Coupal

Vice Chair
University of Wyoming

Steven Kraft

Secretary/Treasurer
Southern Illinois University

2012 Board of Directors

Soji Adelaja

Michigan State University

John Anderson

American Farm Bureau Federation

Walter Armbruster

Retired – Farm Foundation

Jon Brandt

North Carolina State University

Duncan M. Chembezi

Alabama A&M University

Roger H. Coupal

University of Wyoming

Gail Cramer

Louisiana State University

Damona Doye

Oklahoma State University

Jerry Fletcher

West Virginia University

Paul Gottlieb

Rutgers University

Steven Kraft

Southern Illinois University

David Lambert

Kansas State University

Lori Lynch

University of Maryland

Gene Nelson

Texas A&M University

J.B. Penn

John Deere Corporation

Steve Turner

Mississippi State University

Parke Wilde

Friedman School of Nutrition
Science and Policy
Tufts University

Hector Zapata

Louisiana State University



Office Address

900 Second Street, NE | Suite 205

Washington, DC 20002

202-408-8522 | www.cfare.org