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.*

American Council on Consumer Interests 32nd Annual Conference Proceedings, Karen P. Schnittgrund (ed.), April 9-12, 1986.

CONSUMERS' STAKE IN FOOD AND AGRICULTURAL POLICIES

Jean Kinsey, University of Minnesota[1]

ABSTRACT

Beyond the traditional concerns about an abundant, nutritious, and safe supply of food, consumers are impacted economically by food and agricultural policies. Although the real price of food has fallen, tax costs have risen. How various policies affect food prices and taxes is illustrated; costs of current policies are projected.

INTRODUCTION

The purpose of this paper is to explore the question, "What are consumers' economic interests in food and agricultural policy and how well are they served?" First, various consumer concerns with food and agricultural policies will be outlined. Next the economics of various agricultural subsidy programs will be presented with consumers' benefits and costs identified in each one. The paper will conclude with a brief discussion about the future nature of consumers' concern with the economic outcomes of food and agricultural policy.

CONSUMERS' CONCERNS WITH FOOD AND AGRICULTURAL POLICY

Food Price and Supply

The overall purpose of food and agricultural policies is to assure an adequate, safe supply of food for all consumers at a reasonable price, as long as that price allows a fair return to productive resources, mainly to farmers. This charge, to simultaneously serve the interests of consumers, protect the welfare of producers, and ensure an adequate food supply, has led to a hodge-podge of policies. As a group, they have sent mixed signals to producers, raised some food prices, and lowered others. A delicately balanced political coalition perpetuates a "jerry-built" package of policies that, ostensibly, can serve two masters.

Scholars of agricultural policy -- specifically farm policy -- have been exuding admonitions over the last few years about the need for fundamental changes. In spite of a plethora of research and rhetoric to the contrary, the 1985 Food Security Act made few changes in traditional agricultural programs. Consequently, the tax costs of farm programs will continue to be high. Excess supplies of basic commodities will continue. And, commodity trade groups will increase efforts to increase consumer demand for their particular type of food. Herein lies one of the basic dilemmas in food and agricultural policy. Incentives to increase production and efforts to sell more food domestically continue among a population whose largest dietary problem is obesity and where per capita food consumption is unlikely to increase.

Why do we, as a society, encourage and approve of agricultural policies that foster long-run excess supplies? Five reasons come to mind: (1) Excess supplies put downward pressure on food prices. Except during the 1940s and again in the 1970s, real food prices fell throughout this century. Over that time period, the cost of food relative to the purchasing power of an hour's work fell at an average rate of 1.5 percent per year [2, p. 12]. (2) Maintaining farm prices above the market equilibrium kept farm incomes relatively high and helped preserve a rural-farm lifestyle. (3) Excess supplies of basic food commodities (especially grains) are desirable as a tool of foreign relations. We use food to reward our friends, ensure our allies, or to punish our enemies. (4) The Malthusian hypothesis leads the United States to view itself as the bread basket of the world. Maintaining productive capacity and inventories of food that could be used to forestall an occasional famine somewhere in the world was (and is) considered a decent, humanitarian thing to do. (5) Supplies in excess of domestic demand were believed to be saleable on the export market. Indeed, agricultural commodities comprise about 19 percent of all U.S. exports. There has been a positive trade balance in agricultural products since 1960 and they have helped the United States to have a more favorable balance of payments than would otherwise be the case.

While many government farm programs have encouraged excess supplies of basic commodities (mainly food and feed grains, cotton, sugar, and milk), various other programs limit the quantity of specific foods that can be sold on the market. These policies tend to raise both farm and retail food prices. Restricting supply for the purpose of raising prices is clearly not in consumers' interest.

Tax Costs

Beyond the concern for low retail food prices consumers' have a stake in the tax costs of farm subsidies. Between 1981 and 1983 these costs quadrupled from $5.6 billion to $22.9 billion. They comprised about 2 percent of total federal expenditures, costing U.S. households an average of $178 each in 1982. They are estimated to average about $20 billion per year through 1989 and will comprise over 60 percent of net farm income by 1988 [16, pp. 23 and 30]. Not surprisingly, public concern about these costs is rising. Further questions are raised about the income distribution effects of farm subsidy payments since they are transferred from largely middle income house-

[1] Associate Professor, Department of Agricultural and Applied Economics.

holds to upper income farmers. In 1985, 57 percent of the farm subsidies were distributed to the 17 percent of the farmers who had annual gross sales of over $100,000 and who earned 85 percent of all farm income [1].

Other Food Policy Concerns

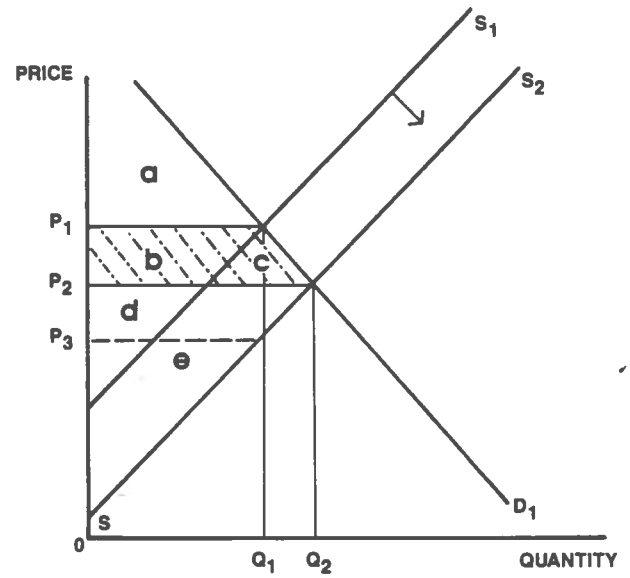
Consumers' concerns with food and agricultural policies that are largely independent of farm programs include quality, safety, variety, convenience, and information. Part of food quality and safety characteristics are nutritional and health standards which continue to change as new information becomes available. "Food policy," as it is known in this country, has focused primarily on ensuring a safe and nutritious food supply and on ensuring adequate nutrition to the poor. The latter emphasis may be more accurately identified as a "poverty policy" even though it was initiated and is administered by the U.S. Department of Agriculture. The tax cost of these programs ($18.1 billion in 1983 and 1984) is roughly equal to the costs of subsidizing farm production ($18.2 billion averaged over 1983 and 1984). They can be justified (or not) on the same basis as other poverty programs but they should not be construed as food policies that impact heavily on the well-being of the majority of consumers. Consumers, as consumers, are concerned with a steady supply of high quality, safe food at the lowest possible cost.

ECONOMIC OUTCOMES OF AGRICULTURAL POLICIES

In order to trace the predicted changes in consumers' welfare that emanate from government policies to support agricultural production and provide income security to farmers, one needs to begin with the Hatch Act of 1887 that set up a series of federally funded, agricultural experiment stations to conduct agricultural research in Land Grant Colleges and Universities across the country. Extension programs were added by the Smith-Lever Act of 1914. Publicly funded agricultural research and extension resulted in technological innovations and management skills that lowered the production costs and improved the efficiency of agriculture. In addition to a more abundant food supply at lower real costs to consumers, these productivity gains released resources from agriculture so they could be used to produce other consumer goods and services. The return on public dollars invested in agricultural research in the United States is estimated to be between 36 and 42 percent or about three times the before tax rate of return obtained from investments in manufacturing [11].

Assuming a fully informed, competitive market, the economic impact of <u>improved technology</u> can be illustrated most simply by an outward shift of the supply curve. In Figure 1, the supply curve S_1 shifts to S_2 when the costs (P_1) of producing the original quantity, (Q_1), are lowered to (P_3). The equilibrium (or market clearing) price falls to P_2 and the quantity bought and sold increases to Q_2. Consumers gain by being able to buy more food at a lower price. Consumer welfare (as measured

FIGURE 1. Technology Increased Supply



by changes in consumer surplus)[2] increases by the crosshatched areas b + c. Area b is transferred from producers to consumers but producers enjoy a net gain in producer surplus equivalent to area e - b. The net gain to society from lower prices induced by higher productivity is equivalent to area c + e where c goes to consumers and e to producers. Improved technology in the form of hybrid seeds, pesticides, feed supplements, and new genetic discoveries yet to come, continue to put this type of downward pressure on the market clearing price of food. The best evidence of this phenomenon in the United States is the declining average portion of income necessary to purchase food -- from about 35 percent in 1940 to 14.5 percent in 1985. This is even more impressive if one realizes that over that time the portion of food expenditures going for marketing and convenient services rose from 50 percent to 73 percent.

In the case of some food commodities, Figure 1 would be more realistically illustrated by Figure 2 where demand is not very price elastic (about .32) and short-run supply is perfectly inelastic. As S_1 goes to S_2, the price drops rapidly. If S_2 were to move out to S_3, supply would move beyond demand at any reasonable price. This extreme case is a conceivable scenario if consumers' demand for some foods becomes satiated and productivity increases continue.

The next step in agricultural policy came when the depressed market price (P_2 in Figure 1 and 2) was found to be inadequate to cover production and marketing costs. One of the government programs designed to raise the price received by farmers

[2] Consumer surplus is the area above the price and below the demand curve. It represents the monetary value of utility received above that which is paid for in the marketplace.

FIGURE 2. Short-Run Supply and Demand For Agricultural Commodities

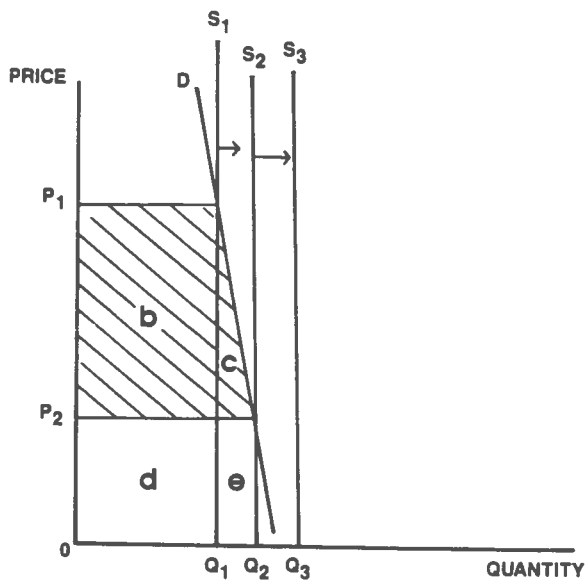
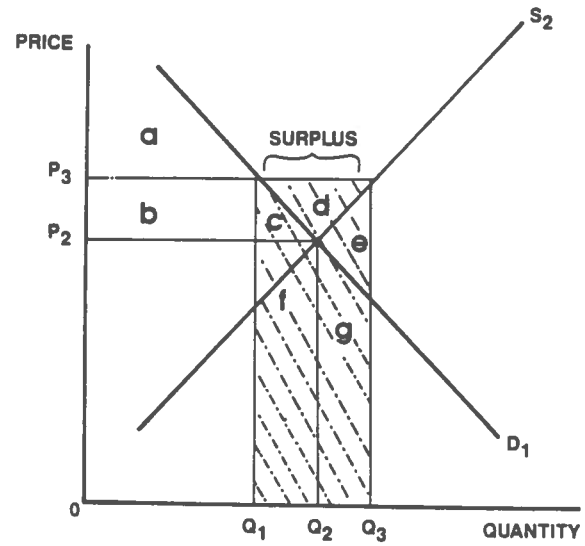


FIGURE 3. Commodity Price Supports



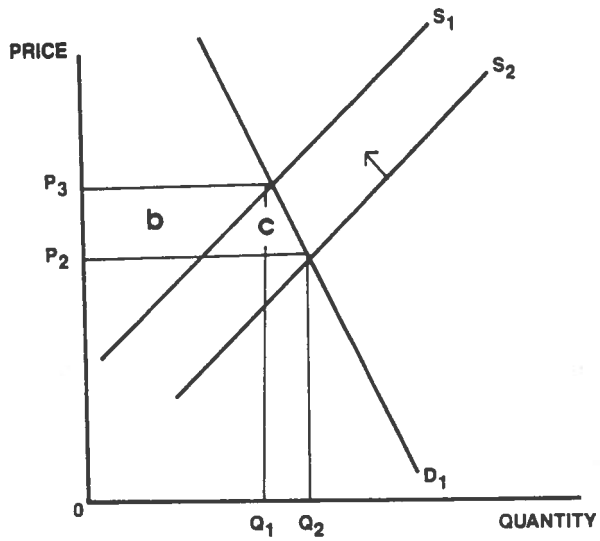
was support prices, illustrated by Figure 3. Assume price P_2 is unacceptably low for farmers. The government raises the market price to P_3. Farmers respond by producing more (Q_3) and consumers respond by buying less (Q_1). A surplus equal to Q_3-Q_1 now exists and the government must decide what to do with it. Typically, the government purchases the excess, stores it, and eventually distributes it through nonmarket channels. Domestically, it could be distributed through commodity distribution or school lunch programs. Internationally, it could be donated to hungry people in developing nations principally through PL480 programs.[3] The commodity support price, (P_3), reduces consumers' well-being by decreasing consumer surplus equal to areas (b+c). Producers' surplus increases by areas (b+c+d); there is a net gain to producers equal to area d. The tax costs of this type of price support equals areas (c+d+e+f+g). Subtracting out area d (the net gain to producers) leaves area (c+e+f+g) as a net tax cost (welfare loss) not counting the costs of storage, handling, and distribution. If the government could sell the surplus commodities it had purchased at, for example price P_2, it could recapture areas (f+g+1/2e) and the net welfare loss would be areas (c+1/2e). Occasionally, government sales of surplus food are a self-defeating activity. If the buyers of government surplus commodities are reflected in the original demand curve (D_1) government sales compete with the private suppliers and the market price falls back towards P_2. Therefore, the government must seek "new markets" in which to sell surplus foods. Foreign countries with unexpected, but temporary, food shortages provide an opportunity for selling the excess supply from time to time. One such opportunity was largely responsible for this price policy falling into political disfavor, namely the 1972 Russian grain deal. Russia unexpectedly purchased 400 million bushels of wheat. In Figure 3, assume the sale of that wheat equaled Q_3-Q_1 and that the world price equaled P_2. The U.S. government ended up subsidizing the sale of that wheat by the equivalent of areas (c+d+1/2e), which equaled about $150 million. This means that U.S. taxpayers/consumers subsidized the Russian consumers by $150 million through the sale of grain at a price below the domestic price (P_3) [8, p. 221].

Although support price mechanisms like this have been largely replaced by other pricing schemes, current political pressures to institute export subsidies would have a similar effect. Other countries would purchase our food at world prices which are below our domestic prices and the government would pay the difference to the producer. Local consumers would transfer income to farmers and subsidize foreign consumers through lower priced food in foreign countries.

Government policies that hold farm prices above a market clearing price tend to increase supplies, reduce consumers' welfare, and increase government costs. Counter measures have been instituted to control the quantities of food produced or marketed. The economics of these measures are simple; the implementation has proven inordinately compli-

[3] PL480 refers to a U.S. subsidized sale of food to a developing country under one of three titles of the Agricultural Trade, Development, and Assistance Act of 1954. It is sometimes referred to as the "Food for Peace Program." (i) These sales extend long-term, low interest credit to the buying nation to be used to buy food from private U.S. suppliers and resell it to their consumers. (ii) The United States donates food for emergency needs and specific nutritional problems. (iii) Food is donated over several years to very poor countries who are undertaking specified development projects.

FIGURE 4. Production or Marketing Controls



cated and costly. The economics is illustrated in Figure 4. The idea is to shift the supply curve back to S_1 so that the market clearing price will rise to P_3 -- a price that would provide a fair return to farmers. The loss of consumer surplus under this scheme is the same as in Figure 3 (area b+c) but the gain in producer surplus is limited to area b. Area c represents the net welfare loss to society. If S_1 could be insured by fiat or by voluntary action there would be no tax costs. Schemes to move S_2 back towards S_1 have, in fact, cost billions of public tax dollars and billions more in private assessments that producers impose on themselves.

The major schemes to reduce the excess supply of agricultural products have been acreage controls and marketing orders or agreements. Acreage controls involve direct payments to farmers for not planting crops on part of their land, such as the soil bank program of the 1950s and 1960s. In 1986 similar programs are called acreage reduction and conservation acreage reserve. Acreage reduction schemes have been largely unsuccessful for decreasing supply. Typically the least productive land is idled and farmers increase the yields on their remaining land through a greater use of fertilizer, water, and other technology. To the extent that acreage controls are successful they reduce consumers' welfare, lead to decreased agricultural wages, labor supply, and output but increase returns on land in both the agricultural and manufacturing sectors [12].

Marketing orders or agreements are individually designed for specific food commodities and usually restrict the quantity of that food that can be sold in the market. The costs of enforcing marketing orders are borne largely by the producers but their self-imposed taxes, quotas, and standards receive the force of law. It amounts to a government sanctioned and enforced cartel of producers of specific agricultural commodities. Marketing orders have been a relatively effective tool for increasing prices and for controlling supply -- an explicit feature of about one-fifth of the federally operated marketing orders.[4] Consumers benefit from marketing orders, it is argued, because they enforce consistently high quality standards on the products sold. In some cases they help to ensure a year-round supply of otherwise seasonal foods. In an affluent society consumers may be willing to pay more for higher quality food but it does not negate the fact that, in most cases, more of these foods could be marketed at lower prices.

A more "market-oriented" agricultural policy was called for in the 1973 Agricultural and Consumer Protection Act. It is still the buzz word for policy reform. The pricing scheme to come out of the 1973 Act allowed lower market prices for consumers while guaranteeing a higher (fair) price to farmers. In Figure 5, P_3 (the old support price) is now called a target price. It is the price farmers will receive for their products as long as they sign up for the program.[5] This scheme as adopted for food and feed grains, cotton, and wool covered about 36 percent of the total value of all domestic agricultural production in 1983. If the market price rose above the target price, then the target price would become irrelevant. The market price is usually determined as the price consumers are willing to pay for the quantity supplied (Q_M in Figure 5). The difference between what consumers pay (P_M) and the price participating farmers were guaranteed (P_3) is made up by the government through a "deficiency payment" equal to the crosshatched area of Figure 5. Under this program, consumers' welfare is increased in the marketplace by areas (b+c) and producers' welfare is increased by areas (a+d). The tax costs equal the areas (a+b+c+d+e) with area e representing the net social cost of this scheme.

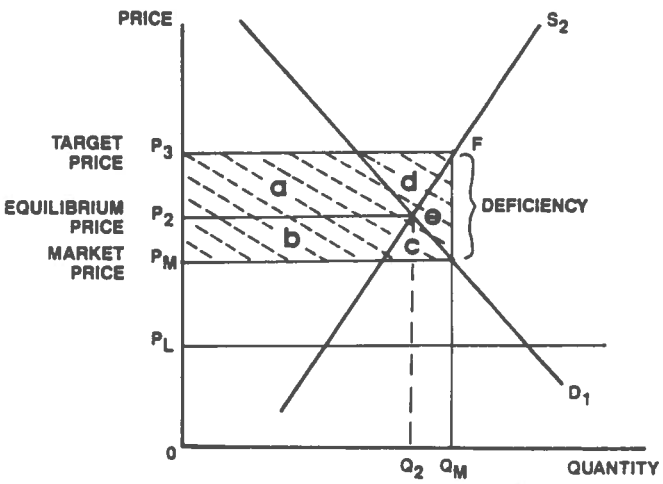
Direct cash payments to farms, most of which were for deficiency payments, amounted to $9.3 billion and $8.4 billion in 1983 and 1984, respectively. In those years, deficiency payments comprised 62 and 24 percent of all net farm income, respectively. It is politically very difficult to lower target prices. The 1985 Food Security Act froze them at their 1985 levels for two years. Direct farm payments for crops are therefore projected to be $10.7, $14.2, and $15 billion in 1986, 1987, and 1988, respectively [16, p. 21]. As long as the target price is above the equilibrium price (P_2) it encourages excess production which pushes

---

[4] In 1981 there were 47 federal marketing orders for fruits, vegetables, and specialty crops. These accounted for about 8 percent of total farm receipts for crops. In addition, there are marketing agreements for peanuts, both federal and state milk marketing orders, and miscellaneous other state operated marketing orders [14].

[5] Signing up for the program entails a promise to idle a specified portion of land. Participants become eligible for government production loans but are not obligated to take them.

FIGURE 5. Target Price/Deficiency Payments



down the market price and increases deficiency payments. The major difference between this target price program and the support price program in Figure 3 is that, with target prices, the market price can fall encouraging consumers (both foreign and domestic) to buy up the excess supply rather than the government having to purchase it. Consumers' market price of food is lower than with support prices, but the tax costs can be very high. Other consequences of the target price/deficiency payment program include a tendency for wages and the labor supply to be relatively high in agriculture compared to other sectors and for the returns to agricultural land to increase. The results increase agricultural production at the expense of other consumer goods and services [12].

There is a limit to how far the market price can fall in the target price/deficiency payment scheme. The floor on the price is known as the "loan rate" (P_L in Figure 5). The loan rate is the amount of money per unit of production that a participating farmer can borrow to cover annual production costs using future crops as collateral for the loan. If the market price of the crops falls below P_L, the farmer turns the crops over to the government and does not have to repay the loan. The farmer also receives a deficiency payment of $(P_3-P_L)Q_M$ for the quantity of crops turned over to the government. In this case consumers loose all the consumer surplus because nothing is purchased in the market and the tax costs would equal the rectangle (OP_3fQ_M) in Figure 5. In reality P_M rarely falls below P_L, but the closer together they are, the higher are the deficiency payments and, therefore, the tax costs. Recently the price of at least two major crops covered by this type program, corn and wheat, are riding on the loan rate.

As illustrated above, consumers' benefits and costs of government schemes to juggle prices and quantities of agricultural supplies are mixed. Different foods are subject to different programs and quantities supplied and market prices vary from year to year. It has been estimated that consumers pay about $9 billion per year more for food in the market place due to various government programs that restrict supply and/or raise the market price [4]. This is a number subject to much variation over time and over estimating techniques and model assumptions. The bulk of the tax costs go for deficiency payments to farmers of grains (corn, sorghum, barley, wheat, and rice), cotton, and wool. In 1985, $8 billion was spent for these payments. Without target prices and deficiency payments, the supply of these products would eventually fall and the market clearing price should be restored at P_2 in Figure 5. Estimates show that if this were to happen, the prices of basic agricultural commodities would fall 15 to 20 percent while consumers' price of meats (beef, pork, and poultry) would decrease only slightly, about 3 percent [7, pp. 54-55]. Estimates of future retail prices of meat under different policy scenarios show that for beef and pork there is little difference between the current program with target prices and a more "market oriented" option without target prices but retaining loan rates and acreage controls that would set a price floor.

Under the 1985 law, retail beef prices are projected to rise about 8 percent in 1987 and fall back 8 percent in 1988. Chicken and pork prices are projected to fall about 18 percent by 1988 [16, p. 16]. Similar estimates are not currently available for other types of food but meat comprises about 19 percent of expenditures for food eaten at home. In 1985, United States consumers spent an average of $326 per capita for meat and poultry. An 18 percent decrease in chicken and pork prices would lead to a per capita expenditure of $302 by 1988. However, if consumption patterns continue to shift away from beef and towards chicken and pork, the total per capita expenditure on meats are estimated to increase by about 1.5 percent to $331 in 1988 [16, p. 16]. Declining prices of grains tend to hold down consumers' food costs even though their tax costs may remain high.

POLITICS OF FOOD AND AGRICULTURAL POLICY

Producers of individual commodities such as milk, grain, or beef have been able to organize and to effectively use political pressure to ensure government support for the price of their products. Consequently, farm prices have been supported at levels that yield a fair return on investment for the efficient farmer. As long as supporting farm prices and incomes did not result in excessive government costs or objectionably high food prices, consumers were not politically concerned with these programs. However, in 1972 when meat prices rose 25 percent in one year, consumers began to pay more attention to farm policies and their expected effects on food prices.

The direct (tax) costs are likely to dominate the political rhetoric and may well turn out to be both the larger of the costs and the greater of concerns to consumers. The current financial crisis in much of the agricultural sector will hasten the trend towards fewer and larger farms. Continuing to transfer income from middle-income consumers to relatively wealthy farmers will not

make political or economic sense in the long run. Whereas, changes in the price of farm commodities impacts on less than 5 percent of the average consumer's expenditures in the market, higher food prices leads to higher tax payments.[6] As food costs rise, the tax costs of all poverty and welfare programs rise because the definition of poverty and, therefore, the eligibility for most transfer payments is based on the cost of USDA's "low cost diet". As food prices rise the cost of this diet rises, and the tax cost of poverty programs goes up.

Economists have long been writing about and analyzing the impacts of agricultural policies on consumer food prices and consumer welfare. A mere sampling of these studies are included in the reference list [3,4,5,6,9,10,15]. Consumer activists, on the other hand, have only recently become interested. The need for specific calculations of consumers' economic costs and benefits to food and agricultural policies is growing.

REFERENCES

1. Ahearn, Mary, Johnson, James D., and Strickland, Roger. "Farm Income and the Magnitude of Income from Commodity and Non-Commodity Sources." American Journal of Agricultural Economics 67(1985):1087-1094.

2. Edwards, Clark. U.S. Agriculture's Potential to Supply World Food Markets. USDA, ERS, Agricultural Economic Report No. 539, 1985.

3. Heien, D. "The Cost of the U.S. Dairy Price Support Program." The Review of Economics and Statistics 59(1977):1-8.

4. Heien, D. "Food and Consumer Dimensions of Agricultural Policy." In Consumer Demand and Welfare: Implications for Food and Agricultural Policy, (ed.) Jean Kinsey, University of Minnesota Experiment Station Item No. AD-SB-2718, North Central Regional Publication No. 311 (March 1986):9-14.

5. Houck, James P. "Some Economic Aspects of Agricultural Regulation and Stability." American Journal of Agricultural Economics (December 1974):1113-1124.

6. Houthakker, H. "Do We Need a National Food Policy." American Journal of Agricultural Economics 58(1976):259-269.

7. Johnson, S.R., Womack, Abner W., Meyers, Wm.H., Young II, Robert E., and Brandt, Jon. "Options for the 1985 Farm Bill: An Analysis and Evaluation." Food and Agricultural Policy Research Institute, University of Missouri-Columbia and Iowa State University, FAPRI Report No. 1-85.

8. Knutson, Ronald D., Penn, J.B., and Boehm, Wm.T. Agricultural and Food Policy. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1983.

9. Paarlberg, D. "Tarnished Gold: U.S. Farm Commodity Programs After 50 Years." Food Policy (February 1984):6-10.

10. Padberg, D.I. "Consumer Protection in Modern Industrialized Food Systems." American Journal of Agricultural Economics 52(1970):821-830.

11. Peterson, Willis. "Returns to Investment in Agricultural Research." Staff Paper P78-2, Department of Agricultural and Applied Economics, University of Minnesota, February 1982.

12. Rodgers, Joan. "Price Support Programs in an Open Economy: A General Equilibrium Analysis." Staff Paper P85-8, Department of Agricultural and Applied Economics, University of Minnesota, February 1985.

13. U.S. Department of Agriculture. Food and Nutrient Intakes of Individuals in One-Day, Low-Income Households, November 1977-March 1978. NFCS 1977-78 Preliminary Report No. 11.

14. U.S. Department of Agriculture. A Review of Federal Marketing Orders for Fruits, Vegetables, and Specialty Crops: Economic Efficiency and Welfare Implications. AMS, Agricultural Economic Report No. 477, 1981.

15. Waugh, F.V. "Does the Consumer Benefit from Price Instability?" Quarterly Journal of Economics 58(1944):602-614.

16. Womack, Abner W., Young II, Robert E., Meyers, Wm.H., and Johnson, S.R. "Analysis of the Food Security Act of 1985." Food and Agricultural Policy Research Institute, University of Missouri-Columbia and Iowa State University, FAPRI Report No. 1-86, February 1986.

[6] On average, consumers spend 15 percent of income on food but only 27 percent of that pays for the farm commodity (food) portion of the product purchased (15 x .27 = 4.05).