Poverty, Hunger, and US Agricultural Policy

DO FARM PROGRAMS AFFECT THE NUTRITION OF POOR AMERICANS?

JOSEPH W. GLAUBER, DANIEL A. SUMNER, AND PARKE E. WILDE

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Executive Summary

The modern era of federal farm commodity subsidies began with the New Deal more than 80 years ago. At that time, a large fraction of American poverty was concentrated in rural and agricultural regions. Since then, subsidy programs, international trade measures, and commodity regulations have been repeatedly modified. The current version of these programs operates under the provisions of the Agriculture Act of 2014 (the 2014 farm bill).

This study investigates whether US farm subsidy policies help the food consumption and nutritional well-being of low-income Americans. We focus on the poor, because they are especially vulnerable to changes in food prices. We conclude that farm programs do not affect food prices in a direction that protects the poor, and the people whose incomes are most improved by farm policies are not the same people who are at risk of poverty and hunger. In short, the time is long past—for thinking of US farm policies as a good way of helping the poor.

Our approach has two steps.

Effects on Prices

First, we outline the main farm commodity policies and programs and examine their impacts on food prices. It turns out that farm commodity subsidy programs in the United States have a quite limited potential to affect retail food prices. Most farm subsidy programs have at most small impacts on US production of farm commodities, even though they may increase acreage and production of some crops relative to others. For example, farm programs, including risk management programs, may encourage acreage of feed grains, oilseeds, and cotton relative to other crops. But even for these, the land retirement under the Conservation Reserve Program offsets these acreage impacts. Moreover, the more subsidized crops tend to be far removed from the food items in which they are an input. For example, soybeans are mostly either exported or used as livestock feed. Therefore, any impact on meat prices, for example, is indirect and very small. Even for livestock feed, much of the impact of subsidies would be to expand grain acres at the expense of hay or other forage acreage, so the net impact on the cost of production of beef or milk, for example, is mixed. On net, the impact of these programs on US consumer prices is tiny.

The impact of the complex array of dairy policy on milk product prices deserves special notice. After decades of propping up US milk prices, trade barriers and export subsidies now have no significant impact on retail prices. Farm price supports that raised dairy prices have also been eliminated. The new risk management program has the potential to raise milk production overall and lower US prices for dairy products slightly, but has had little impact yet. At the same time, the elaborate array of marketing regulations raises the price of milk used for beverage products and slightly depresses the price of more heavily processed dairy products and ingredients—such as cheese, milk powders, and butter—that are sold domestically or exported. Despite the complicated array of policies, the net result is no significant effect on prices or consumption of dairy products by the poor in the United States.

Some policies even raise consumer prices. For example, trade barriers raise the price of sugar and sugar-containing foods above what they would be if imports of raw or refined sugar entered the United States more freely. Trade barriers also raise the prices of orange juice and fresh market tomatoes. The impact of these trade barriers is not huge, but to the extent that they matter, they raise consumer prices for the poor rather than lower them.
Effects on Incomes

Second, we consider the extent to which those farm policies and programs affect incomes earned by poor households. Large and important US Department of Agriculture (USDA) programs provide income assistance and food-specific aid to low-income households that reduce poverty and lower the relative cost of food. These programs—Supplemental Nutrition Assistance Program (SNAP), school meals, Women, Infants and Children (WIC), and related programs—make additional resources available to enhance food consumption of the poor. Although operated by the USDA with authorization and oversight from the same committees in Congress, these programs are distinct from the farm programs.

The farm programs themselves have almost no impact on incomes of the poor in the United States. That lack of impact follows from the design and structure of the programs. The bulk of farm subsidy benefits is roughly proportional to output of bulk commodities, so these benefits are mainly distributed to large commercial-sized farms. That means that farmland owners and operators of large farms tend to receive these benefits, and few of these owners or operators are poor or food-vulnerable. We find that farm subsidies have slight impacts on incomes of the relatively few farm operators living in poverty, because they produce little farm output.

Farm employees also gain little. Impacts on wages through increased demand for labor may be slightly positive in the short run. But the most labor-intensive crops receive the smallest subsidy. Even where trade barriers raise acreage, such as in sugar or fresh market tomatoes, elastic labor supplies and farm worker immigration programs minimize any positive wage impacts. Finally, farm income and employment are small shares of the rural economy almost everywhere in the United States. Even with multiplier impacts that affect nonfarm employment and income opportunities, farm subsidies do little for rural poverty in the long run and thus have tiny impacts on food consumption and nutrition of vulnerable households. Food and income assistance are far more important than farm subsidies for poor rural households.

For completeness, we note three additional broad or indirect effects of farm commodity subsidy policy on incomes and welfare of low-income households and thereby indirectly on food consumption and nutrition patterns. First, farm subsidies affect the tax bill of the poor, but this effect is small. Second, although the environment is not a focus of this study, we note that farm subsidy programs, such as crop insurance, may increase agricultural production and facilitate production in marginal lands, with possible environmental consequences for rural populations. Third and of potentially most significance, farm subsidy policies may compete for budgetary support with federal nutrition assistance programs for the poor. Government expenditures on farm subsidies may reduce spending on food programs that benefit the poor, especially SNAP subsidies, school lunch subsidies, and other food and nutrition programs in the USDA budget.

Our bottom line is that, after reviewing many varied potential impacts and despite occasional claims to the contrary, farm subsidy programs have little impact on food consumption, food security, or nutrition of the poor in the United States.
1. Introduction

Farm policy in what is now the United States began with trade barriers, taxes, and regulations in the earliest colonial times, when agriculture dominated the economy. The modern era of federal farm commodity subsidies began with the New Deal more than 80 years ago. Since then, subsidy programs, related international trade measures, and associated commodity regulations have been repeatedly modified. The current version of these programs operate under the provisions of the Agriculture Act of 2014 (the 2014 farm bill).

This study focuses on the economic consequences of current US farm subsidy policies for the food consumption and nutritional well-being of low-income Americans. We assess how the current policies affect prices paid by US food consumers and the incomes of poor households in the United States. The analysis involves two major steps. First, we outline the main farm commodity policies and programs in the United States and examine their impacts on commodity prices. Second, we consider the extent to which those farm policy affect incomes earned by poor households and the retail prices they pay for food.

We focus on the poor because they are potentially food insecure, vulnerable in that their incomes may be inadequate to cover food costs, making them especially vulnerable to high food prices. Shifts in food prices or marginal shifts in farm income subsidies are unlikely to affect food consumption patterns and the adequacy of the diets of middle-income and wealthy Americans. That means that we pay attention to defining which households are poor and how farm income and food price shifts may affect different urban and, especially, rural populations in poverty.

Scope and Focus

We examine the specific impacts of farm policies that address farm prices and incomes through commodity markets and related channels. We examine the claim that farm subsidy programs significantly affect food consumption and nutrition in the United States. For example, Goodman claims that “government farm subsidies are necessary to protect the public from scarcity and high food prices.”

Or as the US crop insurance interest groups claim, “it is in the public interest to have a financially stable agricultural sector that produces the nation’s safe and affordable food and fiber supply and supports the rural economy. That necessitates the presence of a publicly supported safety net for farmers.” We explain in detail why such claims are unfounded.

In recent decades these policies have taken various forms and are often considered as farm “safety net” programs. These policies include government payments to farmers, farm commodity price regulations and supports, and subsidized insurance or insurance-based programs that are sometimes called risk management programs. For a few commodities, such as sugar and orange juice, import barriers remain an important influence on commodity prices in the United States.

Many federal policies administered by the US Department of Agriculture (USDA) are beyond the scope of this study. Most importantly, we do not focus on the impacts of food and nutrition policy and programs, such as the Supplemental Nutrition Assistance Program (SNAP) and school lunch programs. These programs dominate the USDA budget and are important sources of income and food subsidies for the poor. The USDA and the Food and Drug Administration have major roles in food inspection to assure safety and to reduce the spread of plant and animal diseases.
These agencies also regulate definitions of food ingredients and labeling. Their activities indirectly influence which foods are consumed, but those activities are also outside our scope.

The USDA also engages in dozens of relatively small programs that have specific effects in selected markets and for particular groups of households and farmers. These range from support for farmers’ markets to grants to schools and community organizations for agricultural information. The USDA encourages people to “know your farmer” and supports “local” farm sales. At most, these sorts of activities likely have small indirect effects on food consumption patterns and the nutrition status of the poor.

Farm commodity production in the United States has expanded rapidly even though input use in farm production has changed relatively little in many decades—labor use on farms has declined, and purchased inputs and capital have risen only gradually. The rapid productivity improvements have been attributed to better human capital embedded in farm operators and research and development (R&D) funded by private firms and governments. Government-funded agricultural R&D has had a long history of improving farm productivity, expanding agricultural production, and reducing farm prices. We do not include impacts of government-supported (or government-performed) R&D among the farm policies considered here.

As for the study’s scope, we focus on impacts on the poor in the United States. We do not consider the impacts of US farm policy on the poor in other countries. For example, we do not address the widely discussed issue of whether US subsidies lower global farm commodity prices, reducing the incomes of poor farmers in other countries who produce commodities that compete with US exports. That issue has been central to recent global controversies over US farm subsidies, but is not examined here.

We should be clear at this stage about terminology for two key concepts and categories. First, we use the terms “farm commodity policy” and “farm policy” interchangeably to apply to a set of subsidy programs, trade barriers, commodity promotion programs, marketing regulations, land retirement, and related measures. As noted, this is not the full array of US agricultural policy, but an attempt to capture the important policy features that are generally referred to as farm programs. Second, we use the terms “low-income households,” “household in poverty,” and “the poor” interchangeably to refer to individuals, families, and similar food-consuming units in the United States who have relatively low access to resources with which buy food. In most cases, we mean households with incomes below the official federal poverty guidelines, although we comment briefly on alternative poverty measures.

Our approach and findings are consistent with the sizeable broadly focused economics literature on obesity in the United States. A smaller but still substantial literature has specifically examined the obesity impacts of US farm policy. The literature has shown that farm subsidy, trade, and price support policies have had, and continue to have, small impacts on retail food prices, and some of these raise prices while others lower prices. The literature has also shown with several data approaches that US farm policy has no significant impact on US obesity rates.

Linkages from Farm Policy to Food Consumption and Nutrition of the Poor

The farm policies we consider are directed to providing benefits for farm commodity industries and especially to commodity producers. They deliver those benefits mainly through payments to farmers when prices, yields, or revenues are lower than those specified in the program rules. For over a dozen commodities (mostly grains and oilseeds) farmers now choose between commodity price–based payments or commodity revenue–based payments. Those producers, as well as producers of many other commodities—including fruits, nuts, and vegetables—are also eligible for highly subsidized crop insurance, often tied to farm revenue shortfalls rather than just crop yield shortfalls.

These programs are commodity based. As a result, they generate payments that are roughly proportional to a farm’s expected revenue from the covered
commodities. Small farms with small outputs therefore usually receive small payments. Many small farms report negative net farm incomes in most years, and their operators generally earn their livelihood from other sources. Indeed, operators of farms in all size categories tend to be relatively wealthy compared with most Americans. Very few who earn most of their income from farming are among the nation’s low-income households. Section 2, which describes farm programs, also examines the distribution of payments and related benefits in more detail.

The impacts of current farm policies on farm commodity prices are mostly indirect. Almost all government-set price floors that raise market prices have been eliminated in recent decades. Sugar price supports, implemented with the aid of trade barriers based on tariff rate quotas, are the significant exception. For other commodities, farm programs add to expected revenue per unit and reduce the risk of income shortfalls associated with lower-than-expected yields and market prices, thereby increasing production incentives. At the same time, some of these enhanced incentives are not commodity specific, applying equally among many supported commodities. Those types of programs may therefore have only small overall impacts on the production of an individual commodity. The market price effects through supply response of the full set of commodity policies depend on the array of commodity impacts and competition for land and other resources across crops. Effects on livestock commodity prices and retail prices are even more complex and indirect. In Section 2 we use the results of prior research to assess the market price effects of commodity policies in the United States. We then examine the impacts on food prices paid by consumers.

Section 3 examines how the implied impacts on incomes and food prices affect food consumption patterns and nutrition on the poor. First, we consider the definition and extent of low-income households whose food consumption behaviors are the focus of this analysis. Measuring and identifying the extent of poverty is a complex topic that hinges especially on two concerns. First, what incomes should be considered, and in particular, how should we account for the value of noncash government benefits? Second, how should we account for geographic variations in the prices of goods and services? We briefly review alternative measurements of the poor in the United States, although for purposes of food and nutrition patterns, details of definitions do not matter much. Many household are poor enough that higher food prices and lower incomes will affect their diets.

We pay particular attention to two low-income groups that earn their livings from agriculture and therefore may be affected directly by farm subsidies. First, hired farm workers may face reduced opportunities for employment and lower wages if farm subsidies are cut. Second, some farmers and farm land owners may themselves be poor. We also examine how changes in farm incomes may indirectly affect poor rural residents not working on farms in their communities. Despite their close linkage to agriculture, we find that farm policies are not structured or funded in ways that reduce poverty much even for these three groups. More generally, farm policy effects for these groups make only a minor contribution to broader efforts to reduce US poverty and consequent ill nourishment in the population at large.

Most hired farm employees in the United States work in fruits, vegetables, and other labor-intensive crops that receive a small share of the farm subsidy program budget and attention. As noted above, poor farm landowners and farm operators produce a small fraction of total farm output and receive very little from farm subsidy policy. The effects on rural communities can be significant in some isolated cases, but farm income from subsidies is no longer a driver of rural incomes in the United States, if it ever was. For completeness we note three additional broad or indirect effects of farm commodity subsidy policy on incomes and welfare of low-income households and thereby on food consumption and nutrition patterns. First, since farm subsidies are mostly tax supported, they affect the tax bill of the poor. However, the share of the federal budget on farm programs is less than 1 percent, and many low-income households have low or negative income tax rates. Therefore, the effect of farm subsidies on the after-tax incomes of the poor is tiny.
Second, although the environment is not a focus of this study, we note that farm subsidy programs, such as crop insurance, affect the environment as well as the economy because farming has environmental consequences. Hence, farm programs may affect the well-being of low-income households, especially in rural areas, because the poor generally live in less favorable areas that in some contexts are more subject to negative environmental influences.

Third and of potentially most significance, farm subsidy policies may affect federal tax-supported programs that directly benefit the poor, specifically those tied to food and nutrition and the USDA. Two offsetting forces are at play. To the extent that the federal government faces budget limits, different programs compete for spending. Thus, government expenditures on farm subsidies may reduce spending on general services that benefit the poor, especially SNAP subsidies, school lunch subsidies, and other food and nutrition programs in the USDA budget.

Offsetting the impacts of direct competition for the federal budget, political accommodation across subsidy programs may have positive effects on programs directly targeted to the poor. A long-held assumption by many observers of agricultural politics is that food and nutrition programs and farm subsidies are part of an overall political bargain through which supporters of each type of subsidy agree tacitly to moderate their opposition to the others’ programs in return for similar accommodation. This coalition may have been weakened during congressional debates over the 2014 farm bill. Still, in most years, it seems likely that farm subsidy spending and food and nutrition program spending are as much codependent as mutually competitive.

Overview and Roadmap

Farm subsidy and other support programs were introduced in the 1930s as part of a massive federal effort to address the causes and consequences of the Great Depression. Farm price supports and supply controls were designed to increase farm incomes at a time when farmers were among the poor. These programs had significant short-run impacts on commodity prices and farm incomes in particular markets and locations. Their success with respect to poverty relief in the 1930s is more complex and controversial. These programs did raise prices temporarily and to that extent may have reduced nutritional well-being of the nonfarm poor.

Today, however, farm subsidy programs are clearly not poverty programs and cannot be usefully evaluated in that light. Farm commodity subsidies are also not food policy. We show that they have little influence on retail food prices in the United States. Finally, farm subsidies may indirectly influence food consumption patterns of low-income households through impacts on household incomes. However, these are surely small relative to many other governmental and market economic factors.

In Section 2 we review the influence of farm commodity policies on farm prices and trace that effect to retail prices in the United States. We also consider their effects on net farm incomes and the distribution of net farm income by farm size. In Section 3 we examine the characteristics, food consumption, and nutrition status of US low-income households. We examine the rural poor and those with farm-related occupations in more detail. Section 4 links the previous two sections and draws the summary implications that have been highlighted above.
2. The Effects of US Agricultural Policies on Farm and Food Prices

The United States subsidizes farms and ranches and regulates farm commodity markets through a myriad of policies affecting prices, production, and farm incomes. While intervention in agricultural markets dates back to the early days of the republic (especially through trade policies), most farm policies have their roots in the New Deal legislation of the 1930s. Policies that often began as temporary “stabilization” measures to improve farm income in the 1930s have persisted to the present. The evolution of US policy can broadly be characterized as a move away from direct intervention in markets through purchases and supply controls toward support measures that more indirectly influence production. Recent policy shifts have emphasized risk management programs through which, in some cases, producers contribute to funding through premium payments. That said, most of the types of measures originating in the 1930s continue in one form or another in 2016.

The federal government still uses tariffs and quotas to provide or augment protection for domestic prices (e.g., for sugar, orange juice, beef, and dairy products). We still have programs that boost domestic demand (Supplemental Nutrition Program for Women, Infants and Children (WIC) and SNAP), and export demand (export credit guarantees). We still restrict supplies or divert production to market segments (marketing orders and land retirement programs) and provide input subsidies (credit, conservation cost-shares, and crop insurance). While many argue that the current policies distort markets less than did the old policies, the amount of government outlays or price enhancement relative to open markets remains large for many commodities. The Congressional Budget Office projects that, if present policies continue, government spending for price and income support programs, conservation programs, and crop insurance will total $200 billion from fiscal year (FY) 2016 through FY 2025.

In this section we examine the range of federal programs that affect commodity and food prices. These include:

- Import restrictions, which protect domestic production from foreign competition;
- Supply management policies, which raise market prices by restricting supplies;
- Demand enhancement policies, which raise market prices by increasing demand;
- Export subsidy policies, which may raise domestic market prices by increasing exports;
- Direct market price support, which typically raise market prices by taking production off the market;
- Direct payments to producers, sometimes tied to low market prices, which raise producer returns through income transfers;
- Input subsidies, which reduce input costs to producers; and
- Compensation programs such as crop insurance and disaster assistance, which assist producers during times of crop yield or revenue shortfalls.
This list of federal policies affecting agriculture examined is not comprehensive. Not covered here, but historically important, are:

- Federal land distribution policies, such as the Homestead Acts, which enabled access to virgin agricultural land;
- Water allocation rights, which tended to favor agriculture;
- Rural infrastructure development such as roads, canals, and railroads, which lowered costs of transporting agricultural commodities and inputs;
- Food safety laws, which protect consumers from foodborne illnesses; and
- Animal and plant health regulations, which help control plant and animal diseases.

Importantly, we do not examine the federal financing of agricultural R&D that has led to large and sustained productivity gains. Those gains have resulted in a significant decline in agricultural prices relative to prices of other goods in the economy over many decades.

### Policies That Restrict Imports

Tariffs on agricultural imports date back to the early years of the United States. Originally, tariffs were primarily for revenue generation. By the latter half of the 19th century, tariffs were used to prevent agricultural imports (primarily from Canada) from weakening US prices. By the late 19th century, the United States had become a major exporter of cotton, tobacco, and wheat. Today, as a result of both unilateral and multilateral liberalization, US agricultural tariffs are among the lowest in the world. The current trade-weighted average is 4.1 percent and the simple (unweighted) average is 7.8 percent. However, there are key exceptions such as sugar, peanuts, orange juice, and dairy products.

The United States also uses domestic trade remedy laws, such as antidumping measures and countervailing duties, to protect selected products against imports from some countries. Currently, countervailing duties exist on a handful of products, including raw and roasted in-shell pistachios from Iran, fresh garlic from China, pasta from Italy and Turkey, honey from China, and numerous fresh fish and seafood products from China, Vietnam, India, Thailand, and Brazil.

In addition, the United States has taken advantage of safeguard provisions under the World Trade

<table>
<thead>
<tr>
<th>Product Group</th>
<th>Average Tariff (ad valorem)</th>
<th>Maximum Tariff (ad valorem)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Products</td>
<td>2.3</td>
<td>26</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>16.6</td>
<td>188</td>
</tr>
<tr>
<td>Fruit, Vegetables, Plants</td>
<td>4.9</td>
<td>132</td>
</tr>
<tr>
<td>Coffee, Tea</td>
<td>3.3</td>
<td>44</td>
</tr>
<tr>
<td>Cereals and Preparations</td>
<td>3.5</td>
<td>44</td>
</tr>
<tr>
<td>Oilseeds, Fats and Oils</td>
<td>4.4</td>
<td>164</td>
</tr>
<tr>
<td>Sugars and Confectionery</td>
<td>12.3</td>
<td>55</td>
</tr>
<tr>
<td>Beverages and Tobacco</td>
<td>14.8</td>
<td>350</td>
</tr>
<tr>
<td>Other Agricultural Products</td>
<td>1.1</td>
<td>52</td>
</tr>
<tr>
<td>Fish and Fish Products</td>
<td>1.0</td>
<td>35</td>
</tr>
</tbody>
</table>

Organization (WTO) Agreement on Agriculture that allow countries to impose temporary tariffs on certain imports in the event of price declines or import surges. The United States has the right to impose safeguards on 189 products (mostly covering dairy and sugar tariff lines). While less frequently used in recent years, the US continues to apply safeguard provisions. In October 2015, for example, the United States imposed prohibitive tariffs on butter and sour cream imports for the rest of the 2015 calendar year.

Nontariff barriers such as country-of-origin labeling requirements, quality standards, and sanitary and phytosanitary standards can also raise effective barriers to imports and raise prices. At the end of 2015, facing retaliation from Canada and Mexico, the United States ended its country-of-origin labeling regulations for certain muscle cuts of beef and pork after the WTO found these regulations violated agreements to avoid undue trade barriers.

Acreage Controls

One traditional instrument used by the United States to raise farm prices, dating back to the 1930s New Deal legislation, has been mandatory and voluntary acreage supply control programs. Acreage control programs have generally been run in tandem with price and income support programs for grains, oilseeds, and cotton. The programs have been targeted to raise prices and/or control government outlays. Annual acreage reduction programs were terminated by the 1996 farm bill.

Today the principal land set-aside program is the Conservation Reserve Program (CRP). The CRP is a long-term land retirement program that pays annual rental payments in exchange for farmers removing environmentally sensitive land from agricultural production and improving the environmental quality of the land. CRP contracts typically are for 10–15 years. Since its first year of operation in 1986, the CRP has idled an average of 31 million acres annually. However, beginning in 2009, as their contracts matured, many farmers have opted to bring land out of retirement to take advantage of higher agricultural commodity prices. The 2014 farm bill restricted land enrollment in the CRP to 25 million acres. As of October 2015, 23.4 million acres were enrolled in the CRP.

Effectiveness of supply control efforts has been mitigated because producers generally retire less productive land. Thus, in percentage terms, production has fallen by less than the area idled. Much of the land currently enrolled in the CRP is in Great Plains states and is more suited for fallow cropping rotations and grazing. For example, between 2007 and 2015, the area enrolled in the CRP declined by 13.4 million acres, yet land planted to principal crops increased by only 5.3 million acres over the same period.

Marketing Quotas and Price Discrimination

Since the 1930s, the United States has implemented several programs that supported prices by limiting the amount of production that could be sold in the marketplace. The last of these programs, for peanuts, ended more than a decade ago. Marketing orders for several specialty crops remain, restricting the quantities that can be sold in higher-priced markets based on product characteristic or market (fresh vs. processed or domestic vs. export). Currently, the US operates marketing orders for 29 fruit, vegetable, and tree crops. Each order has quality restrictions, and 10 provide the authority for volume control. Quality controls can raise the price of produce in domestic markets by diverting lower-quality produce to processed uses or destruction. Volume controls, however, have largely been suspended or are under review due to legal challenge (for example, raisins).

The federal milk marketing order (FMMO) system allows for explicit price discrimination between milk destined for fluid and soft products and more heavily processed products such as milk powders, butter, and cheese. The geographically based FMMOs (and the important California milk marketing order) set minimum prices to be paid by milk processors based on how the milk is used. These minimum farm milk prices change monthly with shifts in prices of major dairy commodities. Minimum milk prices for fluid beverage products differ geographically, but tend to
be about 10 percent to 40 percent above the minimum milk price for heavily processed products. Actual market prices paid to farmers tend to exceed the minimums, and not all regions are covered by marketing orders, so the impact of the marketing order system is muted. In 2014, milk marketed through federal orders accounted for 63 percent of all milk sold in the United States and 63 percent of fluid grade milk sold to US plants and milk dealers. The California marketing order, which is similar to the federal orders accounted for another 20 percent of US milk production.

Chouinard et al. conclude that eliminating the milk marketing orders would likely reduce fluid milk prices by 15.5 percent while increasing the price of cheese and other dairy products. They estimate that the FMMOs effectively cost the average US household $152.88 per year. The impacts on consumers vary by region with the smallest effects in regions that have comparative advantages in milk production, such as the upper Midwest, Idaho, and California, because in these regions a low share of locally produced milk is used for beverages.

Programs That Enhance Demand

The US agricultural policy portfolio contains a number of programs that boost demand for agricultural commodities, including commodity checkoff programs that promote products through generic advertising and commodity purchase programs such as those authorized under Section 32 of the Act of August 24, 1935. Costing more than $500 million per year and collected through the federal government’s mandatory assessments on producers and importers in each industry, these checkoff programs are small in scale compared with private-sector advertising and marketing efforts, but are large compared with other government-supported communication efforts related to food and dietary guidance. The demand and price effects of these programs on food broadly are almost surely negligible.

The United States spends over $100 billion annually on food-related programs to assist eligible low-income household families. These programs, including SNAP for low-income households and programs that target school children and women, infants, and preschool children (WIC) are described in Section 3.

Section 32. Section 32 of the Act of August 24, 1935 is a permanent appropriation that since 1935 has set aside the equivalent of 30 percent of annual custom receipts to support the farm sector through the purchase of surplus commodities and a variety of other activities. In recent years, the annual appropriation has totaled about $9 billion. About $8 billion is transferred to USDA’s child nutrition account, with another $130 million transferred to the Department of Commerce for fishery activities. The remainder is used by USDA to purchase agricultural commodities such as meats, poultry, fruits, vegetables, and fish—commodities that are not typically covered by price and income support programs. In FY 2013, $718 million was spent on commodity purchases, including $518 million to supply USDA child nutrition programs

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Amount (Millions of $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>$65.0</td>
</tr>
<tr>
<td>Chicken Products</td>
<td>$50.0</td>
</tr>
<tr>
<td>Potatoes</td>
<td>$25.0</td>
</tr>
<tr>
<td>Blueberries, Wild</td>
<td>$15.7</td>
</tr>
<tr>
<td>Blueberries, Cultivated</td>
<td>$15.0</td>
</tr>
<tr>
<td>Catfish Products</td>
<td>$9.9</td>
</tr>
<tr>
<td>Cranberries</td>
<td>$5.0</td>
</tr>
<tr>
<td>Lamb Products</td>
<td>$5.0</td>
</tr>
<tr>
<td>Grapefruit Juice</td>
<td>$3.8</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>$3.6</td>
</tr>
<tr>
<td>Strawberries</td>
<td>$2.0</td>
</tr>
<tr>
<td>Total</td>
<td>$200.0</td>
</tr>
</tbody>
</table>

and $200 million in “contingency” purchases of surplus commodities such as turkey, chicken products, and fruits and vegetables. These commodities were then distributed as “bonuses” to domestic food assistance programs such as soup kitchens, food banks, schools, and child care centers (see Table 2).

**Checkoff Programs.** Checkoff programs operated by USDA are mandated, grower-funded programs used for a variety of industry enhancement programs including research, market development, and marketing strategies. Currently, federal checkoff programs exist for a wide range of commodities including beef, lamb, pork, soybeans, sorghum, eggs, cotton, dairy, fluid milk, mushrooms, honey, peanuts, popcorn, potatoes, watermelon, cultivated blueberries, raspberries, Haas avocados, and mangos. In addition, federal marketing orders for a wide variety of primarily fruits, vegetables, and nuts are authorized to conduct promotion and research programs.

The impact of checkoff programs on commodity prices is likely small. Commodity promotion expenditures generally amount to less than 1 percent of the total industry sales each year. Moreover, as Wohlgenant points out, even if promotion efforts were effective in increasing demand and raising retail prices, producers may capture little of the benefits where the farm share of the retail price may be quite low. As demand-enhancing policies, the impact of promotion programs is to shift food demand among products, not to increase food consumption overall.

**Biofuel Policies.** US biofuel policies have stimulated demand for biofuel feedstocks, mainly corn and soybeans. From 2005 to 2011, corn use for ethanol grew by about 3.4 billion bushels, accounting for over 40 percent of total corn use in 2011/12 (see Figure 1). About 25 percent of soybean oil use goes to biodiesel production (see Figure 2).

Babcock and Fabiosa emphasize that a number of other factors were crucial for ethanol’s growth. First, the phaseout of MTBE as a gasoline additive in 2004 and 2005 boosted demand for ethanol as its replacement in oxygenated fuel markets. This growth in ethanol demand combined with existing demand subsidies and a limited supply of ethanol to increase ethanol prices, leading to wide processing margins in 2006 and 2007. Along with direct subsidies for the construction of ethanol processing capacity, large margins spurred further investment in ethanol production capacity. Second, the rapid rise in oil prices beginning in 2006 encouraged discretionary blending of ethanol as a substitute for gasoline.

The rapid rise in corn and other commodity prices in 2007/08 prompted concerns about the impact of ethanol on food prices both in the United States and abroad. Many, like Wright, blame biofuel production for increased prices and volatility. Condon et al. review a wide range of studies that considered the impact of ethanol production on corn prices during the period 2007–10. Their meta-analysis concludes that about one-third of the price increase in corn prices over the period was likely due to increased ethanol production.

Since 2011, corn ethanol production has remained relatively flat at about 13.5 to 14 billion gallons reflecting automobile performance constraints, which limit ethanol penetration in motor fuel use at 10 percent (the so-called blend wall). As a result, corn use for ethanol remains at about 5.1 billion bushels per year and is not expected to grow much over the next 10 years (USDA baseline).

The current impact of the Renewable Fuels Standard (RFS) on corn prices is likely small. Ethanol remains price competitive as an octane enhancer in gasoline production. Even with low oil prices, ethanol margins remain competitive, and ethanol production has remained above mandates under the RFS. Thus, elimination of the mandates would likely have little impact on ethanol production and hence corn use and prices, at least in the short run. (Wright has a somewhat different perspective.) Competitiveness of ethanol in the absence of mandates and subsidies depends on the relative price relationship with alternative fuel sources.

Biodiesel production, however, is heavily influenced by the mandates and a biodiesel tax credit that provides a $1-per-gallon credit for blenders of biodiesel fuel. Under the recent RFS for 2016, mandates for biodiesel were set at 1.9 billion gallons.
the absence of the mandates and tax credits, biodiesel production would unlikely be more than one-third of current levels (a number of states and municipalities mandate biodiesel use).

**Export Policies**

The United States has a long history of using subsidies to augment exports, including direct export subsidies, subsidized export credit, and food aid. Under the Uruguay Round Agreement on Agriculture, the United States agreed to discipline its use of export subsidies. Since 1995, direct export subsidies have largely been limited to dairy. The 2008 farm bill eliminated the Export Enhancement Program, the primary export subsidy affecting commodities, and the 2014 farm bill eliminated direct export subsidies for dairy products. The United States agreed to reduce effective export credit subsidies as a part of the settlement with Brazil in the United States–Upland Cotton dispute.

US foreign food aid has moved from primarily long-term commodity procurement (Title I) to primarily emergency and disaster food assistance and developmental programs to improve food security (Title II). Average spending on US international food aid programs during FY 2006–FY 2013 was about $2.5 billion annually, with Title II activities averaging 76 percent of annual outlays. The United States also provides about $200 million annually to promote US commodities overseas under the Market Access Program (MAP). As with the generic advertising programs, MAP’s effectiveness in increasing demand for US products overseas is questionable.
Market Price Support

While price supports remain authorized for many commodities, they have been largely supplemented by income supports and safety net policies such as crop insurance. To be effective, price supports require a policy mechanism to prevent the price paid to farmers from falling to a lower market equilibrium price. In the United States, price supports have been implemented using various combinations of direct government purchases, nonrecourse loans, and import barriers such as tariffs and quotas.

Historically, dairy prices were supported by direct purchases of dairy products such as cheese, butter, and nonfat dry milk. Purchased commodities were either delivered to low-income families under USDA’s nutrition programs or disposed of in foreign markets as food aid. Under the 2014 farm bill, dairy support prices were eliminated.

Nonrecourse loans have been available to grain, sugar, cotton, and oilseed producers since the 1930s. With a nonrecourse loan, a producer has the opportunity to forfeit commodity pledged as loan collateral if market prices fall below the commodity’s loan rate. Today, nonrecourse loans for most commodities are augmented by so-called marketing assistance loan provisions, which allow producers to repay nonrecourse loans at the lesser of the loan rate plus interest or the local market price. Thus, it is rare to see commodity forfeitures under the nonrecourse loan program.33

The exception is the sugar price support program, which continues to operate under a nonrecourse loan with no marketing assistance loan provisions. In some recent years, domestic sugar prices have been as much as twice the world price. Sugar imports increase the supply available in the US market and would tend to undermine support...
levels and lower domestic prices if unchecked by the US system of tariffs and import quotas. Beghin and Elobeid estimate that the removal of the sugar program would increase US consumers’ welfare by $2.9 billion to $3.5 billion each year.\textsuperscript{34} Since 2008, tariffs for sugar coming from Mexico have been zero under the North American Free Trade Agreement, which put pressure on US domestic sugar prices in late 2012 and 2013.\textsuperscript{35} In response, the United States, with encouragement from the US sugar lobby, accused Mexico of subsidizing sugar exports to the United States. In December 2014, a suspension agreement with Mexico was announced in which Mexico agreed to limit exports to the United States in return for US agreement to suspend its countervailing duty and antidumping investigations.

**Government Payments to Producers**

Government payments supplement farm income through cash (or in-kind) transfers rather than through higher market prices.\textsuperscript{36} After a long history with other variations of payment programs, the 2014 farm bill introduced price-based and revenue-based countercyclical payment programs that are based on historical rather than current plantings and provide income transfers whenever those prices or revenues fall below the administered price or revenue levels.

The impact of payments on production and prices largely depends on the degree to which the expected payments are linked to production and expected prices. Under current payment programs, payments are not tied directly to current production, but are determined by price or revenue outcomes and hence raise and smooth expected revenue from producing the covered crops. Researchers have pointed out that by raising wealth and credit worthiness of eligible farms such programs raise production.\textsuperscript{37} Impacts of programs on production of any specific crop are further reduced to the extent that the main competitive crops are covered by similar subsidies.\textsuperscript{38}

**Input Subsidies**

The US makes limited use of agriculture-specific production input subsidies (except to the extent that crop insurance is considered an input). The federal government assists farm borrowing at below-market interest on loans and offers some provisions specifically for beginning farmers, military veterans, and socially disadvantaged farm operators who might otherwise have limited access to credit. Demand for federal credit programs has declined significantly since the early 1980s when substantial underwriting changes were implemented to lower the probability of defaults.

Livestock producers who graze cattle, goats, and sheep on public lands benefit from implicit subsidies through grazing land improvement and irrigation infrastructure development, the full costs of which are not passed through to government-set grazing fees. Similarly, irrigation systems are priced to provide coverage of operating and maintenance costs (water delivery costs), but low-interest repayments and some loan forgiveness for physical infrastructure provide relief from full costs, so significant farm subsidies likely remain embedded in many water projects.

Cost-share programs for establishing conservation practices on agricultural land have supported implementation of farming practices and structures that reduce loss of fertility through soil erosion; facilitate improved drainage, water storage, and more efficient irrigation; and provide manure storage and assistance with meeting nutrient management regulations. Programs such as the Conservation Stewardship Program help cover input costs and income foregone for environmentally friendly practices that may reduce productivity or take years to achieve full production capacity.

The production effects of cost-share programs are difficult to calculate. First, some producers would have adopted such practices anyway. For example, Claasen et al. estimate that while additionality rates for practices such as nutrient management and buffer practices are above 80 percent, tillage practices are closer to 56 percent.\textsuperscript{39} Second, while the impact of
such subsidies for these practices on crop yields may be beneficial over the long run (thus potentially leading to lower prices), in the short run the impacts are likely minor.\footnote{40}

**Disaster Assistance and Crop Insurance**

Disaster assistance programs have provided compensation for production shortfalls from weather fluctuations and other natural events and from market revenue shortfalls due to combinations of yield and price declines. Losses from disease and disease management may also be compensated by USDA.

In addition, the United States has offered crop insurance to producers since 1938. More recently, Congress has introduced an insurance-like program for dairy producers. These programs now constitute the largest budget outlay for farm subsidies in the United States.

The US crop insurance program has witnessed dramatic growth over the past 25 years. With an annual premium volume of over $9 billion it is the largest agricultural insurance program in the world. For major row crops such as corn, wheat, soybeans, and cotton, participation is particularly high—producers typically insure over 85 percent of eligible acreage and generally at high coverage levels. The program has also encouraged the development of a myriad of products including revenue products, which insure against both price and yield declines, area-based products, and, more recently, margin products that insure against declines in revenue and/or increases in input costs. Lastly, the 2014 farm bill has authorized supplemental coverage, which augments existing insurance coverage. With an annual estimated cost to the government of $8.5 billion, the US federal crop insurance program is the largest single farm subsidy program in the United States.\footnote{41}

When crop insurance is available and priced such that farms acquire coverage, risk-averse farms produce more. But the pure subsidy impact also matters. Recent papers by Babcock\footnote{42} and Du, Feng, and Hennessy\footnote{43} conclude that farmers do not pick coverage levels that maximize expected subsidy nor do they demand full insurance coverage. However, over time, producers have tended to sign up for higher coverage levels where the per-unit subsidies tend to be higher. Glauber\footnote{44} shows that average coverage levels for most row crops have grown significantly and continuously since the late 1990s, when subsidies were increased for higher coverage levels.

Measurement of impacts of the US the crop insurance program has focused on planted area and the effects of insurance on input use. Goodwin, Vandeveer, and Deal examined Midwestern corn and soybean producers and wheat and barley producers in the Northern Plains and found that a 30 percent decrease in premium costs was likely to increase barley acreage by about 1.1 percent and corn acreage by less than 0.5 percent.\footnote{45} Soybean and wheat acreage showed no statistically significant impact. Ligon analyzed the impact of crop insurance on specialty crops and concluded that the introduction of crop insurance had a large and positive impact on tree crops, but a negligible and impact on non-tree crops.\footnote{46} Goodwin and Smith have questioned whether the results of earlier studies continue to be relevant given that subsidy levels are much higher now than when earlier research was conducted and revenue policies have largely replaced yield coverages.\footnote{47} For example, the Goodwin, Vandeveer, and Deal study examined the effects of insurance subsidies over the period 1986–93, prior to enactment of major legislation in 1994 and 2000, which dramatically increased subsidy levels, and prior to the introduction of revenue insurance.\footnote{48} Yu, Smith, and Sumner find that crop insurance subsidies have had significantly positive impacts on acreages of major field crops. But the magnitudes of the implied acreage increases for these crops have been small (a few percent) as a share of acreage because crop insurance subsidy remains small relative to revenue per acre.\footnote{49}

Crop insurance likely has larger impacts on crop choice where insured crops compete against uninsured crops, or where crops where revenue insurance is available compete against crops with only yield insurance.
Overall Impacts Are Likely to Be Small

As discussed above, most price and income support policies in the United States provide little incentive to increase production of one crop relative to others. For example, insurance subsidies are generally available for most competing crops and thus their elimination would not be expected to cause much effect on area or prices. The exceptions would be the dairy and sugar programs where elimination of the milk marketing order systems, elimination of sugar price support, and removal of protective tariffs would likely lower prices of fluid milk and sugar and sugar-containing products.

If the Conservation Reserve Program were eliminated, 20–25 million acres of former cropland would be eligible to be planted. However, as we saw above, only a portion of this land would return to crops. Almost 4 million acres have been converted to trees, wetland restoration, or conservatory buffer practices. Moreover, a large portion of the CRP land is located in the northern and southern plains states where productivity is marginal. The overall effect would likely mean a small decrease in crop prices.

The impact of removal of farm programs and subsidy policies on retail food would be smaller than the percentage impact on farm prices. The farm value of what a consumer purchases in a grocery store or restaurant is often quite small and depends on how much processing and marketing occur between the farm gate and the grocery shelf or food service table. For example, the farm value of whole milk was estimated at 50 percent in 2012, the farm value of cheddar cheese was 30 percent, and ice cream was 15 percent. Even for relatively unprocessed foods such as fresh oranges and fresh pears, the farm value is small (see Table 3) because marketing services for fresh items may be extensive.

The importance of the marketing margin is especially significant when considering the retail price impact of a change in the price of feedstuffs such as corn, soybeans, or other grains that are primarily fed to livestock or heavily processed before offered to consumers. Lower feed prices may cause producers to increase the size of their herds or flocks. But feed costs are only one component of livestock costs, and the farm share of beef and pork retail prices is itself 50 percent or less.

Table 3. Farm Share of Retail Price, Selected Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Share (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Milk</td>
<td>50</td>
</tr>
<tr>
<td>Cheddar Cheese</td>
<td>30</td>
</tr>
<tr>
<td>Ice Cream</td>
<td>15</td>
</tr>
<tr>
<td>Beef</td>
<td>52</td>
</tr>
<tr>
<td>Pork</td>
<td>30</td>
</tr>
<tr>
<td>Apples</td>
<td>32</td>
</tr>
<tr>
<td>Broccoli</td>
<td>24</td>
</tr>
<tr>
<td>Flour</td>
<td>26</td>
</tr>
<tr>
<td>Fresh Oranges</td>
<td>15</td>
</tr>
<tr>
<td>Orange Juice from Frozen Concentrate</td>
<td>24</td>
</tr>
<tr>
<td>Fresh Orange Juice</td>
<td>15</td>
</tr>
<tr>
<td>Bread</td>
<td>7</td>
</tr>
<tr>
<td>Grapefruit</td>
<td>12</td>
</tr>
<tr>
<td>Grapes</td>
<td>31</td>
</tr>
<tr>
<td>Iceberg Lettuce</td>
<td>21</td>
</tr>
<tr>
<td>Lemons</td>
<td>16</td>
</tr>
<tr>
<td>Peaches</td>
<td>26</td>
</tr>
<tr>
<td>Pears</td>
<td>22</td>
</tr>
<tr>
<td>Potatoes</td>
<td>15</td>
</tr>
<tr>
<td>Strawberries</td>
<td>44</td>
</tr>
<tr>
<td>Sugar</td>
<td>28</td>
</tr>
<tr>
<td>Tomatoes</td>
<td>27</td>
</tr>
</tbody>
</table>


In considering the average basket of food purchased at home, the USDA Economic Research Service estimates that the farm share of the retail food dollar is about 17 percent. Thus, even large changes in farm prices may have only modest impacts on food prices. Research by McGranahan and Mabli and Malsberger indicates that poorer households spend a larger share of their income on food and tend to spend more of their food dollars at home than away from home. Nonetheless, estimated impacts of eliminating farm subsidy programs would have only minor impacts on the prices of foods they purchase.
3. Linkages from Agriculture Commodity Policy to Poverty and Food Consumption of the Poor

In Section 2, we reviewed the impacts of farm policies on food prices. We now turn to the question of whether those policies affect either the extent of poverty or the food consumption and nutrition patterns of those who are poor. We begin by describing the extent of poverty and food consumption and nutrition patterns for low-income households. Then, we consider four hypothetical linkages between agriculture policy and poverty and food consumption in the United States affecting (1) food prices paid by poor households, (2) the poverty status of farm operators themselves, (3) the poverty status of farm workers, or (4) poverty among other people in rural communities. Although these linkages are plausible hypotheses—and some are considered true by some policymakers or some of the public—we conclude that farm policy is at most a minor and indirect vehicle for addressing US poverty and nutrition of the poor. The previous section found that farm policy at most modestly affects farm commodity prices and that the overall impacts on food prices are tiny.

We explain at the end of this section that the impacts on food consumption are very small for almost all foods. The populations whose incomes are most strongly affected by farm policy account for just a tiny fraction of US poverty. Poverty remains an important public policy issue in the United States, but farm programs are neither a significant cause of poverty nor the solution to poverty.

Poverty in the United States

Official estimates indicate that the share of the population in poverty in the United States fell rapidly from the 1950s to the early 1970s, but further improvements have been stubbornly elusive since that time. The federal government’s official poverty measure counts household income from sources such as wages and salaries, investments, and government programs (excluding in-kind benefits such as housing subsidy, health insurance and services, and SNAP and other nutrition benefits). The measure compares household income to a poverty threshold, which varies by family composition. The threshold is updated each year for inflation. The average poverty threshold in 2014 for four-person households was $24,230. In 2014, the official poverty rate—the percentage of people with household income below the threshold—was 14.8 percent (see Table 4).

Some subpopulations are more commonly poor than others.

By Age. Poverty is high for households with children. At one time, poverty was especially high among older Americans, but the United States has had much greater success over the decades in reducing poverty for older people than for children. One reason is that on average households headed by older Americans have more assets than households with children. In 2014, the poverty rate for people age 65 and over was 10.0 percent, while the poverty rate among people under age 18 was 21.1 percent (and exceptionally high compared with poverty rates in other advanced industrialized countries). Government benefits for the elderly are in the form of income that is measured in poverty criteria (Social Security benefits) and health care benefits that are not counted. Government benefits for households
with children are mostly in the form of non-income benefits (housing, nutrition programs, and health care) that are not counted.

**By Race and Ethnicity.** Poverty is high for black and Hispanic Americans. In the United States, the poverty rate in 2014 was approximately twice as high for black people (26.2 percent) than for white people (12.7 percent). For Hispanic people, the poverty rate was 23.6 percent.

**By Country of Origin.** Poverty rates are high for noncitizens. For people born in the United States, the poverty rate in 2014 was 14.2 percent, and for naturalized citizens born elsewhere, the poverty rate was even lower (11.9 percent). The poverty rate was much higher for noncitizens, including both those with and without legal documentation (24.2 percent).

### Table 4. Poverty Rates in the United States, 2014

<table>
<thead>
<tr>
<th>Persons (1,000s)</th>
<th>Poverty Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>315,804</td>
</tr>
<tr>
<td><strong>By Race</strong></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>244,253</td>
</tr>
<tr>
<td>Black</td>
<td>41,112</td>
</tr>
<tr>
<td>Asian</td>
<td>17,790</td>
</tr>
<tr>
<td><strong>By Hispanic Ethnicity</strong></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>55,504</td>
</tr>
<tr>
<td><strong>By Country of Origin</strong></td>
<td></td>
</tr>
<tr>
<td>US-Born</td>
<td>273,628</td>
</tr>
<tr>
<td>Foreign-Born Citizen</td>
<td>19,731</td>
</tr>
<tr>
<td>Foreign-Born Noncitizen</td>
<td>22,444</td>
</tr>
<tr>
<td><strong>By Age</strong></td>
<td></td>
</tr>
<tr>
<td>Under Age 18 (1,000s)</td>
<td>73,556</td>
</tr>
<tr>
<td>Ages 18 to 64 (1,000s)</td>
<td>196,254</td>
</tr>
<tr>
<td>Ages 65 and Older (1,000s)</td>
<td>45,994</td>
</tr>
</tbody>
</table>


Two leading nutrition concerns for low-income Americans are (a) food insecurity and hunger and (b) dietary quality. The federal government measures food insecurity using a nationally representative survey with 18 questions about symptoms of food-related hardship associated with not having enough resources to buy food. USDA estimates that 14 percent of Americans lived in food-insecure households at some point during 2014. Evidence about actual food consumption behavior of these survey respondents is not available. Researchers therefore could not further investigate what precisely survey participants meant by these responses and whether differences in questionnaire responses correspond to food consumption differences.

Poor dietary quality and rising rates of overweight and obesity have been an important concern for Americans of all income levels for several decades. A large literature has compared dietary quality for low-income and higher-income Americans in particular.

To address both food insecurity and dietary quality for low-income Americans, the United States has multiple major nutrition assistance programs. Some of these were discussed above in the context of programs that could raise market prices by raising food demand. The major nutrition programs include SNAP; child nutrition programs, such as the National School Lunch Program (NSLP) and School Breakfast Program (SBP); and WIC.

The NSLP and SBP currently serve students attending 100,000 public and nonprofit private schools and residential child care institutions. In FY 2014, the NSLP provided nutritionally balanced, low-cost or free lunches to more than 30 million children while...
about 13.6 million children (many also enrolled in the lunch programs) participated in the SBP. Total spending on child nutrition programs was more than $19 billion in FY 2014.\(^57\)

Beginning in 2007, SNAP enrollment and spending soared due to the weak economy. In FY 2014 more than 47.5 million people per month received SNAP benefits at an annual cost of $82 billion.\(^58\) To receive benefits, households must qualify based on their income, expenses, and assets. SNAP benefits are targeted to those most in need. Households with lower income receive higher benefits up to a specified maximum. In 2013, SNAP participants represented 85 percent of eligible individuals.\(^59\)

The WIC program provides food tied to nutritional services for low-income women, infants, and children younger than five who are at nutritional risk. WIC served an estimated 8.3 million people per month in FY 2014 at an annual cost of $6.2 billion. WIC includes assistance to buy specific food items and required participation in nutrition-related information activities. After peaking in FY 2010, the number of participants subsequently decreased by almost 10 percent due to declining numbers of US births.\(^60\)

Nutrition assistance programs provide a partial buffer from the effects of food price variation and, especially, income shocks. Benefits under SNAP and child nutrition programs are indexed for inflation. The real value of in-kind WIC benefits also is held nearly constant. In addition to the food price inflation adjustment, SNAP benefits were increased on a one-time basis in 2009 to account for the poor economy, but this bump in benefits was subsequently whittled away and finally ended in 2014.

Some argue that the annual inflation adjustment for SNAP lags behind actual inflation by between 4 and 16 months because the adjustment is implemented each October based on food price data from several earlier months.\(^61\) Offsetting this lag somewhat, the annual SNAP inflation adjustment has typically been slightly larger than the rate of food price inflation.\(^62\) The cost-of-living adjustment for SNAP is pegged to the Thrifty Food Plan, which is more heavily weighted toward fruits and vegetables than the overall consumer price index (CPI) for food. Fruits and vegetables have experienced comparatively rapid price increases, so using the Thrifty Food Plan is slightly more favorable to SNAP participants than using the CPI. On balance, nutrition assistance programs offer low-income households more insulation from food price changes than they have from housing prices or most other prices that are important in their household budgets.

Extensive research has measured the association between participation in nutrition assistance programs and household food security and dietary quality, as well as other outcomes. The big challenge in such research is that eligible participants choose whether or not to participate in a program for many reasons, so simple participant/nonparticipant comparisons do not prove cause and effect.\(^63\) Research that has sought to control for this self-selection challenge has provided clear evidence that SNAP improves household food security. As a recent example, in a longitudinal analysis Mabli et al. investigated changes in the prevalence of food insecurity during the six months after low-income households began a spell of SNAP participation. They find a reduction in the rate of household food insecurity from 65.4 percent of new-entrant households to 60.8 of the six-month participants.\(^64\)

For dietary quality, most research has not been able to address the self-selection challenge, but instead more simply compares SNAP participants with low-income and higher-income nonparticipants.\(^65\) In the large body of research making such comparisons, there is much evidence of poor dietary quality among all income groups, and some evidence of lower dietary quality for SNAP participants than for nonparticipants. For example, among adults, the fraction with overweight and obesity is 72 percent for SNAP participants, 64 percent for low-income nonparticipants, and 64 percent for higher-income nonparticipants. The fraction of all calories classified as “empty calories” was 34 percent for SNAP participants, 32 percent for low-income nonparticipants, and 31 percent for higher-income nonparticipants.\(^66\) A large systematic literature review found many studies showing no significant difference between SNAP participants and nonparticipants, some with lower...
dietary quality among the participants, and no conclusive demonstration of cause and effect.67

There is growing interest in research showing whether price incentives or food program changes can improve dietary quality for low-income program participants. Some of this research has used strong random-assignment research designs to address the self-selection challenge mentioned earlier. For example, the SNAP Healthy Incentives Pilot gave a 30 percent incentive for purchases of targeted fruits and vegetables, finding a moderate increase in daily targeted fruit and vegetable intake of 0.26 cup-equivalents per adult per day.68

Four Possible Linkages Between Farm Policy and Poverty

To understand the potential effects of farm policy on poverty and hunger, we first consider the effect on food prices for all poor households. Then, we consider specifically three subpopulations—farm operators, hired farmworkers, and rural residents—that farm policy is likely to more directly affect.

Linkage 1: Farm Policy and Food Prices for Households in Poverty

Hypothesis: Farm commodity policy may affect food prices, which in turn are important in the budgets of the poor. This is an important linkage to consider because the number of poor households is large—15.8 million households (14.8 percent of all households)—and of course all of these households are food consumers.

In practice, this linkage is likely to be relatively small. First, we have seen that farm programs have only a small effect on farm prices (see Section 2). Second, the latest data show that farm prices represent an average of only approximately 10.5 cents out of a dollar of retail food spending.69 Third, retail food expenditures are on average less than 10 percent of total per capita disposable income and about 17 percent for the poor. Fourth, as described above, nutrition assistance programs provide low-income households with a partial buffer from the effects of higher retail food prices.

At one time, poverty in the United States was conceptualized in terms of food needs. When the poverty rate was originally developed in the 1960s, researchers had access to good survey data on adequate food budgets but lacked information on other important spending categories, so the original poverty thresholds were determined by multiplying the cost of an adequate food budget by a factor of three. Based on similar reasoning, since 1977 the benefit formula for the SNAP has assumed that participant households spend approximately 30 percent of their disposable income on food.

Today, a much smaller fraction of disposable income is spent on food.70 This is still far below the 30 percent of spending assumed in the SNAP benefit formula and the one-third of spending assumed in the original construction of the poverty rate.

Variations in the price of housing may have larger consequences for the household budgets of low-income Americans. Based on a commonly used standard for housing affordability, SNAP households whose shelter costs exceed 50 percent of their net income are permitted a deduction that has the effect of increasing their benefits. More than 70 percent of SNAP households can claim this deduction.71

In federal government statistics, food-related hardship is measured using the prevalence of “household food insecurity,” based on the 18-item survey about experiences of not having enough food.72 The most powerful predictor of food insecurity, as measured by the survey, is household income. Consistent with actual consumption observations, the rate of food insecurity was very high for poor households (39.5 percent) and much lower for middle-income and high-income households (6.3 percent). Low income in general, rather than something about food in particular, may be considered the fundamental source of food insecurity and hunger.73
Linkage 2: Farm Policy and Poverty for Farm Operators

Hypothesis: Farm policy could affect US poverty and nutrition of the poor by lifting farm operators out of poverty. At earlier stages of US history and in many low-income countries to the present day, farm operators’ households have been a large population at high risk of poverty.74 An explicit goal of US farm policy is to raise farm incomes, so perhaps it also could reduce poverty.

As with Linkage 1, this linkage is not strong in practice. First, the commercial family farms that produce most of the food in the United States and receive most of the benefits from farm programs are owned and operated by households with high farm incomes and wealth. Second, farm incomes are only part of total household incomes. Farm operators, including those operating small part-time farms, have comparatively high total household incomes on average. Third, farm households are a small fraction of all US households, less than 2 percent. Given that relatively few farm households are poor, farm households represent an especially small fraction of US households in poverty. The effect of farm policy on farm operators’ incomes is of little consequence for US poverty more broadly, and as a result, farm policy has little impact on the nutrition of the poor.

To illuminate the issues, we examine the evidence on farm incomes and household incomes for farm operators overall and in particular categories, and we contrast the characteristics of US farm operator households and the characteristics of US households in poverty.

Income for Farm Operator Households, Overall and by Farm Type. In most years, USDA estimates report that farm operator households have median incomes that are about as high as those of nonfarm households. To interpret these data, we note first that a farm is defined to include operations that grew or could have grown agricultural output worth $1,000. This definition is based on gross revenue (or normal-year revenue in case of low yields or other shortfall). USDA data show that most low-gross-revenue farms generate negative net cash revenues (incomes from sales are lower than reported costs) and contribute negatively to household income (but also reduce the household’s tax liabilities). For two decades median incomes for farm households have been above those of nonfarm households, and the gap has widened in the past decade (Figure 3).

It is useful to distinguish among farm types, to make sure that these average statistics do not disguise hardship among a particular subpopulation such as small farmers. Likewise, it is useful to separate farm and nonfarm sources of income, to make sure that one does not give an overoptimistic interpretation if struggling farmers must take second jobs or if those with mainly low-wage nonfarm employment operate farms as a second source of income. USDA distinguishes three broad categories:

- **Large-scale family farms** (annual gross cash farm income of $1 million or more). The 6,853 “very large” family farms and 62,706 “large” family farms represent just 3.3 percent of all farms by number, but they produce most of the food grown in the United States and receive most of the agricultural subsidies. In 2014, the median annual household income (including farm and nonfarm sources) was $1,183,000 for the “very large” family farms and $368,000 for the “large” family farms, far above the average income for nonfarm households. More than one household often own and operate farms in this category.

- **Midsize family farms** (annual gross cash farm income from $350,000 to $999,999). Annual household income (including farm and nonfarm sources) was $185,000.

- **Small family farms** (annual gross cash farm income less than $350,000). Some 281,000 of these farms (13.5 percent of all farms) are “retirement farms,” in which net farm income is low or negative, but average household income from other sources is above the national average for nonfarm households. Another 943,137 (45.4 percent of all farms) are “off-farm occupation...
farms,” whose operators report a major occupation other than farming. The remaining 635,000 small family farms (30.6 percent of all farms) are “farming-occupation farms.” This last group is the one whose risk of poverty is sometimes mentioned as part of the motivation for farm programs. Most of these farms generate very low farm revenue—in 2012 about half of all farms had gross farm revenue of less than $10,000.76

Characteristics of Farm Operator Households. In general, owning or operating a farm in the United States requires considerable experience and assets. US family farms have consolidated over the years into fewer and larger farms. The USDA Economic Research Service reports that 95.4 percent of farm operators were white, and only 1.6 percent were black or African American. Hispanic Americans (of any race) represented only 3.2 percent of farm operators. Hoppe and MacDonald77 estimate that 33 percent of farm operators in 2014 were at least 65 years old. By comparison, only 12 percent of self-employed workers in nonagricultural businesses were 65 years old.

Poverty Among Farm Operators. Neither USDA nor any other government agency publishes an official poverty rate for farm operators using the same methodology that is used for the general population. Because the numbers of farmers in the sample is too small, the Current Population Survey used in official poverty statistics does not provide estimates for farm operator households. However, the USDA does estimate the number of what they call “limited-resource farms” based on low farm income

Figure 3. Household Income: Median Farm Operator vs. Median US, 1991–2014

Note: Differences between farm operator income estimates from 2012–14 and estimates from prior years reflect changes in survey methodology and implementation associated with the 2012 Agricultural Resource Management Survey, in addition to changes in the economic situation of farm households. Sources: US Department of Agriculture, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey; and US Census Bureau, Current Population Survey. Data were revised May 2, 2016.
combined with “insufficient” off-farm income for the operator’s household. USDA classifies approximately 153,000 farms (7.4 percent of all farms) as limited-resource farms. These limited-resource farm households represent a tiny fraction (less than 1 percent) of all US households in poverty.

El-Osta and Morehart79 used data from the Agriculture Resource Management Survey to study the determinants of poverty among farm operators. They found that poverty was lower for farm households with a household head who was older or white, and that poverty was lower for farm households in metropolitan counties, which often include some rural areas. Poverty was lower for households that participated in government programs or had off-farm income.

While larger farms receive most agriculture program benefits, USDA has a small program targeted more directly at “socially disadvantaged limited-resource farmers,” providing outreach and support in applying for farm program benefits. This program, known as Section 2501, is administered by USDA’s Office of Advocacy and Outreach (OAO). It provides about $20 million per year to organizations that conduct outreach with the target population of farms.80 A blistering report in 2015 from the USDA’s Office of Inspector General (OIG) found “a pattern of broad and pervasive mismanagement of OAO grant funds.” The report said that grant approval processes were “informal and undocumented” and “regulatory processes were disregarded.”81 OIG recommended that USDA administrators “more closely monitor OAO’s administration of this program” and reported that the department “has been developing and implementing internal controls as a result of our prior audit work.”

In summary, even after distinguishing by farm type, most farm operator households are not at risk of poverty. Agricultural program benefits are related to current or historical production levels, which means that most program benefits are received by larger farms. It is not politically feasible or economically practical to retarget the major farm programs toward the relatively few small full-time farms whose operators are at greater risk of poverty. Overall, if the goal is to reduce poverty in the United States, focusing on farm operator households is unlikely to have much impact.

**Linkage 3: Farm Policy and Poverty for Farm Workers**

Hypothesis: Farm policy could affect poverty for farm workers, either by directly affecting wages and working conditions or by affecting the demand for farm labor.

People who work as hired laborers on US farms are at greater risk of poverty than farm operators. Compensation and working conditions for farm workers are determined by supply and demand in labor markets. Farm policy could have some influence on labor demand, but it remains just one small factor among many that influence poverty for farm workers. The evidence about the poverty status of farm workers is as follows.

**Farm Workers in the United States.** Of the 676,000 farm laborers and supervisors, USDA estimates that 50 percent are Hispanic, 47 percent are foreign-born, and 41 percent are noncitizens—all of these characteristics are associated with higher risk of poverty. These patterns vary by agricultural industry. For hired crop farmworkers in particular, only 29 percent are from the United States (including Puerto Rico), while 68 percent are from Mexico. USDA estimates that almost half of hired crop farmworkers lack legal authorization, another 19 percent hold green cards or other forms of work authorization, and approximately 33 percent are US citizens (see Table 5).82

Farm work often involves physical labor that many workers cannot sustain as they age. In contrast with the large number of older farm operators, only 30 percent of farm workers are over 44 years of age.

Estimated median wages are low for some of the highest-employment categories of farm work. The estimated median hourly wage in 2011 was $8.99 for crop farmworkers and $9.17 for agricultural graders and sorters. By comparison, in nonfarm sectors, the median hourly wage was higher than for farm workers, even for low-wage occupations: $9.32 for maids and housekeepers and $14.30 for construction laborers.
POVERTY, HUNGER, AND US AGRICULTURAL POLICY

Effects of Farm Policy on Farm Labor Markets.
Wages and working conditions are determined by the supply of and demand for farm labor. All else equal, wages are expected to rise when the labor supply is constrained or when labor demand is high. Each agriculture sector’s demand for labor depends in part on the economic market for that sector’s products. For example, if consumer demand for tomatoes rises, we can expect an increase in the labor demand for workers to harvest tomatoes.

As noted in Section 2, farm policy can affect markets for agricultural products in several directions. Farm payments tied to output increase incentives for increased production, leading to higher demand for labor. Likewise, commodity promotion or generic advertising programs could enhance the demand for farm products, and hence demand for farm labor. On the other hand, supply controls, or the supply limitations in land retirement programs such as the CRP, reduce the demand for labor.

However, in the United States the major farm commodity and land retirement programs are focused on field crops, which have a comparatively high level of mechanization and low labor demand per acre, output unit, or dollar of output value. By contrast, specialty crops, including major fruit and vegetable crops, which have much less connection with farm programs, have comparatively less mechanization and higher labor demand per acre, output unit, or dollar of output value. Overall, farm programs are not focused on the farm commodities that matter the most for farm labor. Farm policy is therefore unlikely to have a major impact on wages and working conditions for farm workers.

Immigration Policy and the Supply of Farm Labor. US immigration policy is central to the supply of farm labor. Policies that reduce immigration place constraints on farm labor supply, leading to higher wages for workers who do make it to the United States (while leaving other would-be workers to find employment as best they can in their home countries). Conversely, policies that permit immigration allow more people to find employment in the United States, but the increased labor supply puts downward pressure on wages. As a result, US farm interest groups closely

<table>
<thead>
<tr>
<th>Item</th>
<th>Farm Laborers and Supervisors</th>
<th>Farm Managers</th>
<th>All Hired Farmworkers</th>
<th>All US Wage and Salary Workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>676,000</td>
<td>111,000</td>
<td>787,000</td>
<td>142,653,000</td>
</tr>
<tr>
<td>Percent Male</td>
<td>82</td>
<td>81</td>
<td>82</td>
<td>53</td>
</tr>
<tr>
<td>Median Age in Years</td>
<td>34</td>
<td>38</td>
<td>35</td>
<td>42</td>
</tr>
<tr>
<td>Percent Under Age 25</td>
<td>27</td>
<td>15</td>
<td>25</td>
<td>13</td>
</tr>
<tr>
<td>Percent over Age 44</td>
<td>30</td>
<td>41</td>
<td>31</td>
<td>44</td>
</tr>
<tr>
<td>Percent Married</td>
<td>51</td>
<td>61</td>
<td>53</td>
<td>56</td>
</tr>
<tr>
<td>Percent White (race)</td>
<td>91</td>
<td>96</td>
<td>92</td>
<td>81</td>
</tr>
<tr>
<td>Percent Hispanic (ethnicity)</td>
<td>50</td>
<td>16</td>
<td>45</td>
<td>15</td>
</tr>
<tr>
<td>Percent Foreign-Born</td>
<td>47</td>
<td>11</td>
<td>42</td>
<td>16</td>
</tr>
<tr>
<td>Percent with US Citizenship</td>
<td>59</td>
<td>91</td>
<td>64</td>
<td>91</td>
</tr>
<tr>
<td>Percent with Less than 9th Grade Education</td>
<td>31</td>
<td>6</td>
<td>27</td>
<td>3</td>
</tr>
<tr>
<td>Percent with Some College</td>
<td>20</td>
<td>51</td>
<td>25</td>
<td>64</td>
</tr>
</tbody>
</table>

monitor immigration policy and actively participate in policy discussions.

Legal immigration is possible through several visa designations. Major nonagricultural visa designations include H-1a (skilled technical workers sponsored by a particular employer) and H-2b (seasonal or temporary nonagricultural workers). An important agricultural visa designation is H-2a (seasonal or temporary farm workers). Farm employers have shown increasing interest in hiring H-2a workers, but the program has a reputation for being cumbersome, requiring several years of dedicated effort to master the paperwork requirements and learn to use the program efficiently.

The role of undocumented immigrants remains important as a part of the farm labor force. When authorities more vigorously enforce immigration rules, employers report disruptions in farm labor supply and farm production. For example, local governments may develop agreements with the US Department of Homeland Security under Section 287(g) of the Immigration National Act, allowing local authorities to perform immigration law functions. When these Section 287(g) agreements are adopted, wages of farm workers rise, farm output decisions change, and farm profitability falls “in a manner consistent with farm labor shortages.”

In recent years, because of market conditions in Mexico and immigration policies in the United States, agricultural labor supply has been constrained, and wages have been rising. Farms have responded by adopting technologies and practices that allow more output per worker (through mechanical and biological technology) and shifting to crops that use less labor per unit of value.

**Strategies for Increasing Farm Worker Wages and Improving Working Conditions.** Increased farmworker incomes have been a goal for farm labor organizations for many years. Some labor organizations have expanded beyond traditional advocacy focused on farm operators, because the farm operators face highly competitive output markets and may be unable to raise wages on their own. Instead, these organizations have developed campaigns focused on branded food companies downstream, which may be simultaneously more vulnerable to bad publicity and more able to encourage higher wages by offer higher prices for output.

In addition to labor advocacy, new reports suggest that farm wages have increased somewhat in recent years due to tightening labor markets in Mexico, combined with stronger enforcement of immigration rules in the United States. One consequence of the inability to pass immigration reform legislation through Congress may be tighter farm labor markets in the United States, causing concern for farm employers, but some wage improvements and perhaps eventual poverty reductions and consequence improvements in diets for farmworkers.

**Linkage 4: Farm Policy and Poverty in Rural Communities**

**Hypothesis:** Farm policy could affect poverty in rural communities by supporting farms and enhancing local economic activity. This economic activity could increase demand for local goods and services, raising wages and reducing poverty.

Farm policy is an indirect way of addressing poverty in rural communities. Farm programs are not strongly focused on generating employment, and most employment in rural communities is not related to agriculture.

The evidence from national statistics on poverty in rural communities, presented below, indicates that some measures show higher poverty rates in rural communities, while other measures show higher poverty rates in urban communities. The following review of initiatives for enhancing economic activity and wealth creation in rural communities demonstrates that most are focused on nonfarm sectors of the economy.

**Poverty in Nonmetropolitan Communities.** Poverty rates in the United States are higher in the principal cities than in other areas. Among the approximately 316 million residents of the United
States in 2014, 84 percent lived in metropolitan statistical areas, while 16 percent lived in nonmetro areas. (Note that “metropolitan” is related to “urban,” and “nonmetro” is related to “rural,” but the terms are not identical. Some metropolitan counties have rural hinterlands, and conversely some towns in nonmetro areas have an urban character.)

The poverty rate is much higher in the principal cities (19.0 percent) than in other metro areas (11.9 percent), including suburbs or rural areas in metropolitan counties (see Table 6). The official poverty rate in nonmetro areas fell in the middle (16.6 percent), but higher than the average for the United States as a whole (14.9 percent).

Many proposals have been put forward to improve the measurement of poverty. Building on these suggestions, in recent years the federal government has published a supplemental poverty measure. Among other changes, the supplemental poverty measure uses a different approaches for taxes, which are significant for low-income households that receive the earned income tax credit (EITC); in-kind government program benefits, which are significant for low-income households that receive SNAP and other nutrition benefits; and housing costs, which may be lower on average in nonmetro areas. In contrast to the official poverty measure, poverty rates using the supplemental measure are substantially lower in nonmetro areas. In 2014, the supplemental poverty rate was 15.8 percent in metro areas and 12.8 percent in nonmetro areas (see Table 6).90

In nonmetro areas, as in metro areas, poverty rates are higher for non-Hispanic, African American, and Hispanic residents than for white residents, and higher for female-headed households with children and no spouse present than for other family types.91 While there are some differences in the trajectory and timing of the ongoing economic recovery, the basic patterns of poverty appear similar in metro and nonmetro areas.

**Table 6. Median Income and Poverty Rates in Metropolitan and Nonmetropolitan Areas of the United States, 2014**

<table>
<thead>
<tr>
<th>Item</th>
<th>Total</th>
<th>Metropolitan</th>
<th>Nonmetro</th>
</tr>
</thead>
<tbody>
<tr>
<td>People (1,000s)</td>
<td>316,168</td>
<td>266,071</td>
<td>50,097</td>
</tr>
<tr>
<td>Households (1,000s)</td>
<td>124,587</td>
<td>104,009</td>
<td>166,733</td>
</tr>
<tr>
<td>Median Household Income ($)</td>
<td>53,657</td>
<td>55,855</td>
<td>47,850</td>
</tr>
<tr>
<td>Poverty, Official (%)</td>
<td>14.9</td>
<td>14.5</td>
<td>19.0</td>
</tr>
<tr>
<td>Poverty, Supplemental (%)</td>
<td>15.3</td>
<td>15.8</td>
<td>20.2</td>
</tr>
</tbody>
</table>

Note: The official poverty rate takes account of wages and nonwage income, but does not include in-kind benefits such as SNAP benefits as income. The supplemental poverty measure counts some in-kind benefits as income and includes a geographic adjustment for housing costs, among other changes.


**Employment Generation and Wealth Creation in Rural America.** In the first few years following the Great Recession of 2008–09, employment was slow to grow in both metro and nonmetro areas. By 2012–13, employment conditions had begun to improve in metro areas, but remained stagnant in nonmetro areas. By 2014 and the first half of 2015, there were employment gains in both metro and nonmetro areas, but rural areas continue to experience population outmigration.92
Farming is responsible for only 6 percent of all employment in nonmetro areas and 1 percent of employment in metro areas. Several other sectors employ more people, even in nonmetro areas. In nonmetro areas, services are responsible for 41 percent of all employment; trade, transportation, and utilities for 17 percent; government for 16 percent; and manufacturing for 11 percent (see Figure 4). In a recent multiauthor volume on rural wealth creation, Steven Deller observes that rural development policy focused in the past on agriculture, because agriculture “was considered the economic base of rural areas. While this was perhaps true before World War II, most rural areas outside the Central Plains have now diversified into manufacturing, tourism and recreation, and service-based industries.” It makes sense that local communities and USDA programs alike have shifted toward many other sectors for both employment and wealth creation.

In summary, most poor Americans do not live in rural areas, and for reducing poverty in rural areas, the primary focus is on employment sectors other than agriculture. Of the approximately 47.1 million Americans in poverty in 2014, according to the official measure, just 8.3 million (18 percent) lived in nonmetro areas. Using the supplemental poverty measure, which takes account of lower housing costs in some areas, the fraction of poor people found in nonmetro areas is even smaller. Farming is responsible for about 6 percent of employment in nonmetro areas, while other industries such as manufacturing are more important in those areas. USDA does many things to promote rural development, but the agriculture subsidy programs are not central to that effort. And despite the many programs, the USDA devotes relatively little budget to this effort.
Overview of the Implications of Farm Subsidies on Poverty and Consequent Food Consumption of the Poor

The previous subsections have documented the limited role of farm policy in US poverty even for the subpopulations of those in poverty that are most linked to farming. By definition, the overall effects of farm subsidies on incomes of those in poverty in the United States are much smaller than these impacts on the most affected subgroups.

Given that incomes of these groups of poor households are unlikely to be much influenced by farm policy, the consequences for food consumption and nutrition are smaller yet and more indirect. The response of food consumption to changes in income is less than one-to-one in percentage terms. In economic terms the income elasticity for food products are below 1.0 and that is especially true for staple foods. For many food groups the income elasticity is close to zero, suggesting no more is purchased as income rises. Low-income households have higher income elasticities for food, but they are still low for basic food products and higher for high-priced items.

Thus while farm subsidies transfer income from taxpayers to farm resource owners, most of the direct beneficiaries are relatively wealthy. The impacts on indirect beneficiaries, farm workers, rural residents, and those in other farm-related occupations receive little additional income from farm programs, and their food consumption and nutrition are almost unaffected by income effects of farm subsidies.
4. Summary and Conclusions

The introduction outlined two channels of influence from farm subsidy programs to food and nutrition of the poor.

Farm commodity subsidy programs in the United States have limited potential to affect retail food prices. Most farm subsidy programs have at most small impacts on overall US production of farm commodities, even though they may increase acreage and production of some crops relative to others. For example, farm programs, including risk management programs, may encourage acreage of feed grains, oilseeds, and cotton relative to other crops. But even for these, land retirement under the CRP offsets these acreage impacts. Moreover, these crops are far removed from the food items in which they are an input. For example, soybeans are mostly either exported or used as livestock feed. Therefore, any impact on meat prices, for example, is indirect and very small. Even for livestock feed, much of the impact of subsidies would be to expand grain acres at the expense of hay or other forage acreage, so the net impact on the cost of production of beef of milk, for example, is mixed. On net, the impact of these programs on US consumer prices is surely tiny.

Some policies clearly raise consumer prices. For example, trade barriers raise the price of sugar and sugar-containing foods above what they would be if imports of raw or refined sugar entered the United States more freely. But sugar is a small share of the total food budget, and some nutritionist would argue that raising the cost of sugar-containing processed food products may positively affect nutrition of the poor. After several rounds of tariff reductions and free trade agreements, most tariffs on food items are relatively low. But trade barriers also raise prices of orange juice and fresh market tomatoes.

The impact of the complex array of dairy policy on milk product prices deserves special notice. After decades of propping up US milk prices, trade barriers and export port subsidies now have no significant impact on prices of retail prices. Farm price supports that raised dairy prices have also been eliminated. The new risk management program has the potential to raise milk production overall and lower US prices for dairy products slightly. At the same time, the elaborate array of marketing regulations raises the prices of milk used for beverage products and slightly depresses the price of more heavily process dairy products and ingredients, such as cheese, milk powders, and butter that are sold domestically or exported. Despite the complicated array of policies, the new result is no significant effect on prices and consumption of dairy products by the poor in the United States.

The bottom line is clear. Farm subsidies and related land retirements, market regulations, and trade policies have an array of small and offsetting impacts on farm commodity prices. When these impacts are filtered through the supply chain, the impacts on retail prices and food consumption are surely tiny.

The second way farm subsidies could, in theory, affect food consumption and nutrition of the poor is through incomes and therefore the budgets that poor households have available for food expenditures.

Large and important USDA programs provide income assistance and food-specific aid to low-income households that reduce poverty and lower the relative cost of food. These programs—SNAP, school meals, WIC, and related programs—make additional resources available to enhance food consumption of the poor. Although operated by the USDA with authorization and oversight from the same committees in Congress, these programs are distinct from the farm programs.

The farm programs themselves have almost no impact on incomes of the poor in the United States. That lack of impact is by design. The bulk of farm subsidy benefits are roughly proportional to output.
of bulk commodities, so these benefits go to large commercial-sized farms. That means that farmland owners and operators of large farms tend to receive these benefits, and few of these owners or operators are poor or food-vulnerable. We find that farm subsidies have slight impacts on incomes of the relatively few farm operators living in poverty because they produce little farm output.

Farm employees also gain little. Impacts on wages through increased demand for labor may be slightly positive in the short run. But the most labor-intensive crops receive the smallest subsidy. Even where trade barriers raise acreage, such as in sugar or fresh market tomatoes, elastic labor supplies and farm worker immigration programs minimize any positive wage impacts. Finally, farm income and employment are small shares of the rural economy almost everywhere in the United States. Even with multiplier impacts that affect nonfarm employment and income opportunities, farm subsidies do little for rural poverty in the long run and thus have tiny impacts on food consumption and nutrition of vulnerable households.

Finally, our bottom line straightforward is that, despite occasional claims to the contrary, farm subsidy programs have little impact on food consumption, food security, or nutrition in the United States.
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Senior authorship is shared. The views expressed in this paper are our own and not those of any organization with which we are affiliated.
Notes

13. Qualifying products are restricted to those products that were tariffed during Uruguay Round.
17. Volume control remains authorized for almonds, dates, hazelnuts, prunes, raisins, walnuts, tart cherries, Florida citrus, cranberries, and spearmint oil.


22. The Agricultural Marketing Agreement Act of 1937 and several “stand-alone” acts, such as the Beef Promotion and Research Act of 1985, establish the federal statutes for checkoff programs. Williams and Capps, “Measuring the Effectiveness of Checkoff Programs.”

23. Ibid.


25. Babcock and Fabiosa, “The Impact of Ethanol and Ethanol Subsidies on Corn Prices.”


29. Wright, “Global Biofuels.”


33. Forfeitures may occur due to payment limitations (nonrecourse loans are not subject to payment limits unlike marketing loan gains) or when repayment prices do not reflect local market conditions (peanuts).


36. In-kind payments are payments made in the form of commodities rather than cash.


41. Congressional Budget Office, “CBO’s January 2016 Baseline for Farm Programs.”


66. Ibid.

67. Andreyeva et al., “Dietary Quality of Americans.”


70. Caswell and Yaktine, Supplemental Nutrition Assistance Program.

71. Ibid.


77. Hoppe and MacDonald, “America’s Diverse Family Farms.”


87. Guan et al., “Agricultural Labor and Immigration Reform.”


89. Short, “The Supplemental Poverty Measure.”

90. Ibid.


92. Ibid.


95. Ahern, “Rural Development Policy in the Farm Bill.”


97. Ibid.