Center For Agricultural & Natural Resource Policy

RESEARCH BRIEF

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# United States Farm Subsidies: A Question of Equity and Efficiency

Are United States farm subsidies fair? Should they and can they be made more fair? Do farm subsidies even impact their intended targets? Dr. Barrett Kirwan at the University of Maryland takes a closer look.

### AT A GLANCE

- The US Department of Agriculture pays more than half of all agricultural subsidies to only eight percent of all farms, mostly the largest and wealthiest farms, leading many to believe there exists a distribution inequality.
- While the absolute sum received by wealthier farms is greater than the absolute sum received by smaller farm, subsidies to wealthier farms are a smaller percentage of total net cash income than subsidies to smaller farms.
- Contrary to popular belief that subsidies are absorbed by land values and other factors of production, empirical evidence using rental rates

*Glance continued on page 2*

## Distribution of Agricultural Subsidies

Ten percent of Maryland farmers collected sixty-eight percent of all subsidies for an average of $27,889 per year between 1995 and 2010. The bottom eighty percent on the other hand collected less than one thousand dollars on average per year. Large growers received more than 31 times the amount received by the smaller growers. According to 2007 USDA Census of Agriculture, 64 percent of farmers in Maryland did not collect subsidy payments. This is typical of a national trend: the U.S. Department of Agriculture (USDA) pays more than half of all government agricultural subsidies to just eight percent of all farms—mostly the wealthiest farms in the country. Does this not unfairly subsidize wealthier farmers, while leading to more farm consolidation and the loss of small family farms?

The original logic of farm assistance in the United States was to counteract troubling income inequalities and assist a flagging agricultural sector. Farm commodity programs were introduced in the 1930s in response to large income disparities that had arisen between rural and urban areas. Agriculture was (and often still is) seen as a beleaguered sector, and many family farms were struggling. To help raise farm incomes, the government engaged in several types of market interventions, boosting farm prices by restricting supply or subsidizing sales. The government also provided mechanisms to decrease risk and alleviate the economic distress of farmers, particularly for smaller family farms. Over time, however, market interventions receded. Since the mid-1990s, they have been almost entirely replaced with direct subsidy payments to farmers.

PHOTO: EDWIN REMSBERG

Many people are now asking if these subsidies are fair. When the Environmental Working Group used its

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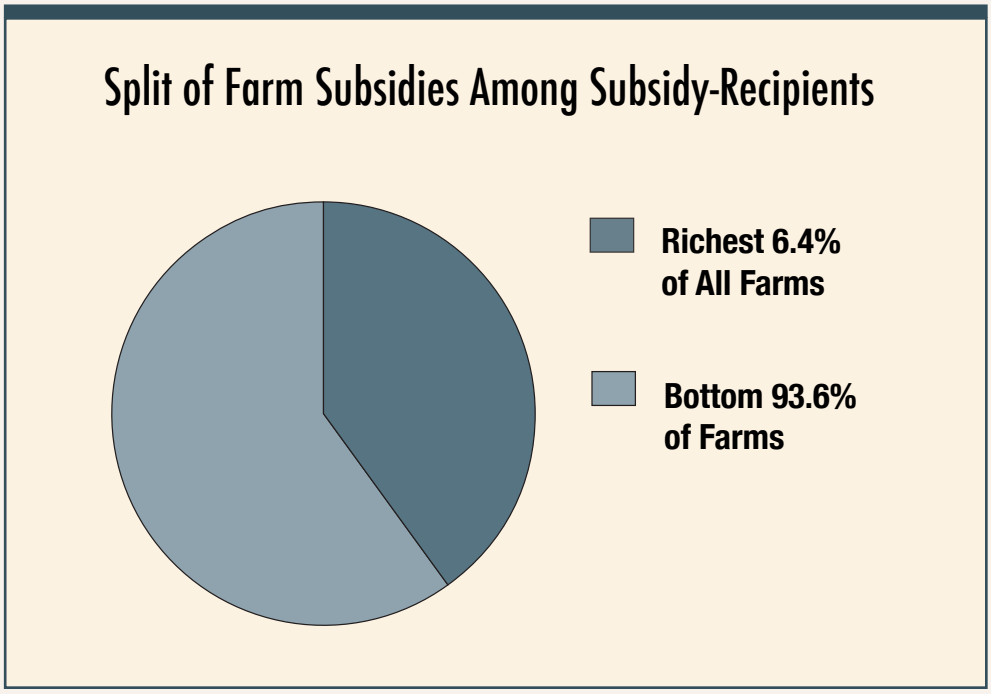
suggests farmers retain 75 to 80 percent of subsidies and the price measures of inputs remain unresponsive to subsidies.

- Subsidy payment limits enacted by Congress in 2002 create economic losses and inefficiency as farms expend resources reorganizing and restructuring operations so as to maintain subsidy levels and avoid limits.
- While historically farmers earned less than non-farmers, by the 1990s, farmers earned just as much and currently, they earn more.




**Source: 2005 Agriculture and Resource Management Survey**

web site to publish the actual amount of subsidy payments to specific farms, large differences in payments were obvious. The result was a flurry of news stories and widespread outrage. The notion that farm subsidies might worsen inequality of household incomes is disconcerting to many.

With increased public frustration and the current concerns about steep income disparities in the national economy, we must ask if our agricultural subsidy system is contributing to the inequality. And what can be done to improve it?

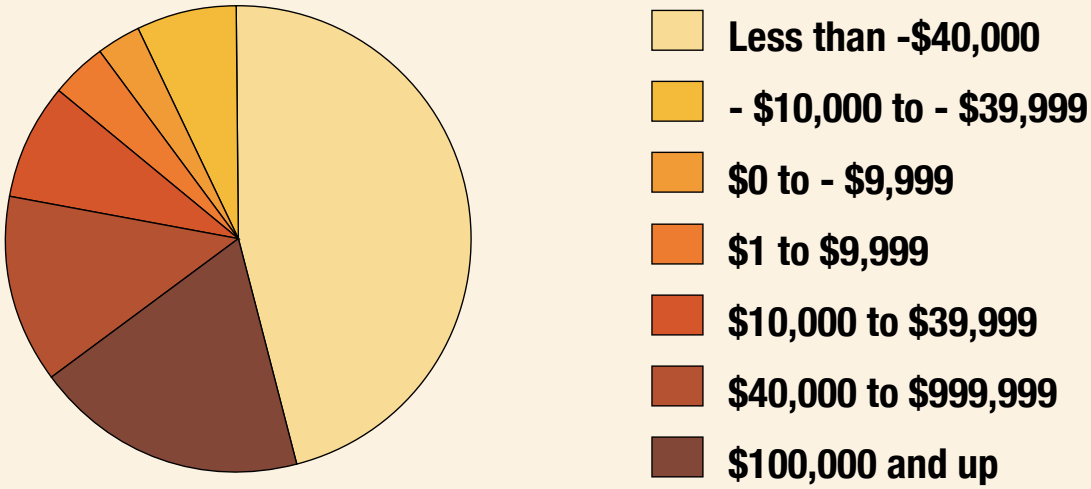
### Does the Distribution of Subsidies Worsen Inequality?

Dr. Barrett Kirwan researches farm subsidies and their impact on income inequality as part of his work at the University of Maryland's Department of Agricultural and Resource Economics. Kirwan notes that, at first blush, farm subsidies appear to benefit the larger, high-revenue farms far more than smaller, low-revenue farms. Looking at the amounts of these payments and their recipients, one finds stark inequality. More than a quarter of all subsidy payments in 2006, for example, were collected by the largest 5 percent of all farms. As shown in the figure below, the richest 6.4 percent of farms (those with profits over $100,000) receive 44 percent of all the subsidies. Even among these richest farms, a fifth receives four-fifths of the subsidies.

*Kirwan asked whether this inequity can be seen through a different light. Yes, sharp inequalities exist. But a deeper look shows that subsidies are actually reducing inequalities rather than exacerbating them.*

The bottom 93.4 percent of farms that receive subsidies split the remaining 66 percent of the subsidies. Meanwhile, 57 percent of farmers receive no subsidy

## Distribution of Total Subsidy Payments by Profit-Level in 2005

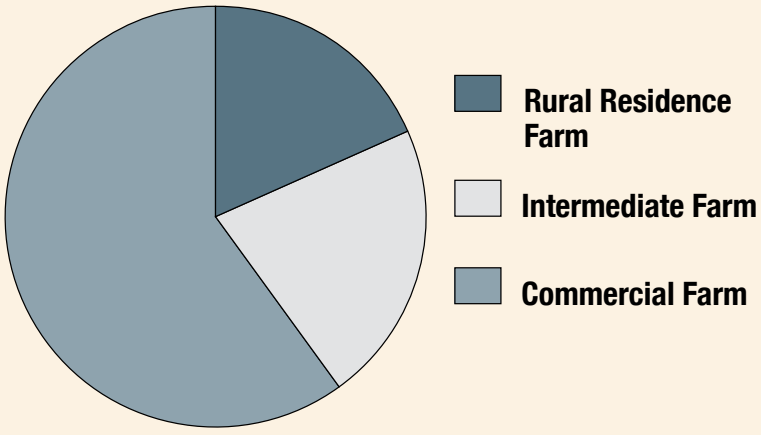



at all, since payments are made only for certain crops and for those that have historically have planted them.

This inequality in subsidy distributions is nothing new. Public outcry over these imbalances in the late 1960s and early 1970s prompted federal legislation on payment limits aiming to spread subsidies more evenly among farmers. Kirwan shows that, despite these attempts, the imbalance between small and large farms has not only persisted, but *increased*.

Kirwan asked whether this inequity can be seen through a different light. Yes, sharp inequalities exist. But a deeper look shows that subsidies are actually reducing inequalities rather than exacerbating them. To demonstrate, Kirwan used a unique dataset compiled from the USDA Farm Services Agency rather than the more commonly used Agriculture and Resource Management Study surveys.

## Distribution of Total Subsidy Payments by Farm Type




**Source: 2005 Agriculture and Resource Management Survey[1]**

[1] As defined by the USDA Economic Research Service, commercial farms have annual sales of $250,000 or more. Farms with annual sales below $250,000 are divided into: Intermediate farms, whose operators report agriculture as a full-time occupation, and Rural residence farms, which include retirement and residential/lifestyle farms.

A deeper look shows that subsidies are actually reducing inequalities rather than exacerbating them (i.e. USDA distributes them in a largely progressive manner). The picture becomes clearer by drawing an analogy to income taxes. Many Americans judge the federal tax system to be "fair" because of its progressive nature—it taxes wealthier people at higher rates or *percentages* than those with less income. That is, the rich don't pay higher taxes merely because they are providing the same sized slice (one eighth) of a larger pie (income), but also because the slice of their pie going to taxes itself also grows (from zero to twenty-eight percent) as individuals enter higher income brackets.

If we deem it "fair" to increase the pie-slice for taxes as individuals become wealthier, presumably we would also judge it fair to decrease the pie-slice of monetary gifts *from* the government as individuals grow wealthier and to increase this slice as individuals become poorer. This is in fact what the current subsidy system does. Government subsidies, viewed as a percentage of total farm wealth, are actually smaller for richer farms than for poorer farms.

The dollar amount of a subsidy received by a large farm may be much larger than the dollar amount received by a small farm. However, the large farm's subsidy is a significantly smaller percentage of its total net cash income, while the small farm's subsidy is a large percentage of its total net cash income. The subsidy therefore has a greater effect on the small farm than the large farm, despite the fact that greater dollar amounts go to the large farm.

As the total revenue of a farm decreases, subsidy payments as a percentage of total net cash income increase substantially. If the incomes of smaller farms grow by a greater

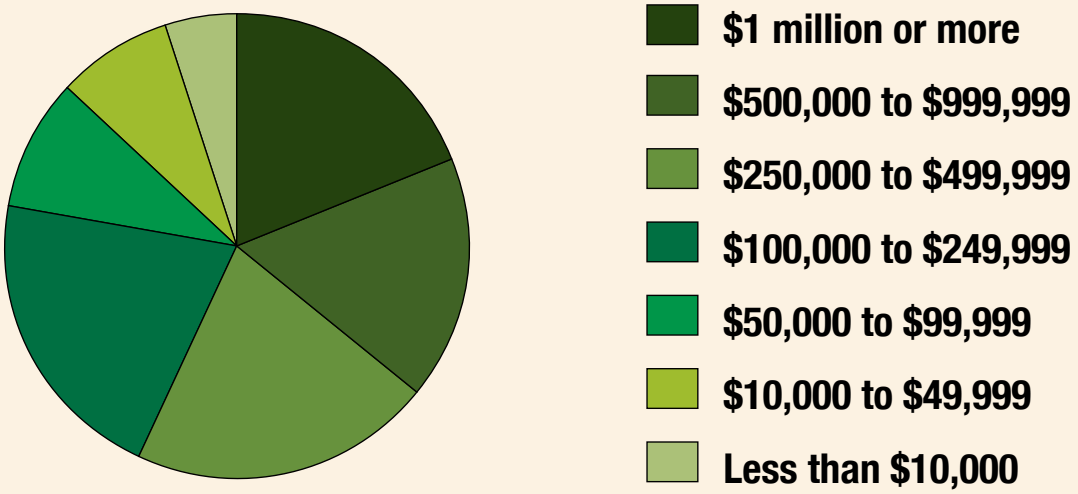
PHOTO: EDWIN REMSBERG

percentage than larger farms for each subsidy dollar spent, this actually decreases income inequality. Among farms that qualify for subsidies, income would actually be more unequal in the absence of subsidies. Despite first appearances, the current subsidy system actually reduces the inequalities of farm incomes.

## Who Really Benefits From Subsidies?

Of course, none of this really matters if the farmers do not actually benefit from subsidies.

### Distribution of Total Subsidy Payments by Total Farm Revenue




Source: 2005 Agriculture and Resource Management Survey

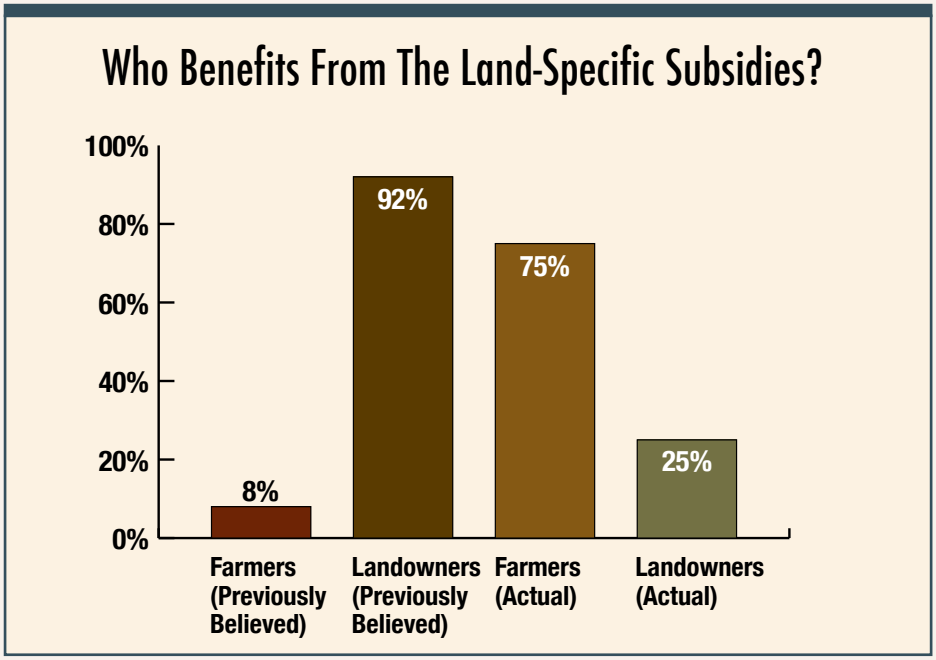
PHOTO: EDWIN REMSBERG

Most economists have traditionally believed that the true beneficiaries of government farm subsidies are not farmers, but the land owners (including farming land owners) and other input suppliers. Economists argue that subsidies connected to specific pieces of land (those that historically grew the crop for example) are usually absorbed into the land values of these parcels. In addition, they suggest that general production subsidies create additional returns to all the other factors of production (input dealer, seed supplier, labor, machinery seller, etc.), according to their relative importance in the production process. If subsidies provided to all of these inputs raise returns to the input owners, one is left to wonder whether or not they actually raise net incomes of farmers.

Despite the entrenched notion that farmland value increases due to the subsidy values, the only empirical evidence for this assumption relies on correlations between land values and subsidy amounts. Kirwan notes that this may simply result from better quality farmland increasing output amounts, and thereby raising the amount of subsidy income received. Thus, high-value farmland may simply attract higher subsidies, rather than higher subsidies causing an increase in farmland value.

Kirwan's research focused on farmland rental rates as the measure of farmland value. By doing so, he sidestepped the pitfalls of other analyses and identifies unambiguous causal effects. Kirwan found that landlords capture only twenty to twenty-five percent of land-based subsidies, while farmers retain seventy-five to eighty percent. Kirwan also used Census of Agriculture data to analyze responses of expenditures per acre on other farm inputs (fertilizers, other chemicals, machinery) to subsidy payments. He found that these "price" measures were unresponsive to subsidies, implying once again that farmers actually retain the benefit of general production subsidies as well.

These findings imply that land-based subsidies are not fully capitalized into land values, as is commonly believed. If Congress decided to alter the method of supporting the farm sector or eliminated these subsidies all together, we would not expect to see a decrease in farmland values.




## Limiting Subsidy Payments – Does it Work?

Despite the underlying nature of the subsidy system, which leads to gradual reductions in net income inequality, the concentration of subsidies for larger, high-income farms sparked growing public anger during the 1960s. Spurred to action, Congress tried in 1970 to spread subsidy monies more evenly across farms by enacting payment limits. In 2002, Congress tried again with new rules. Unfortunately, farms that would be subject to the payment limits reorganized their operations into smaller parts or with multiple owners to avoid bumping up against

PHOTO: EDWIN REMSBERG

the payment caps. This reorganization frustrates Congressional efforts to distribute subsidies more evenly and also leads to substantial economic loss as farms waste productive resources on restructuring activities.

Little evidence currently exists on the extent to which farms reorganize to avoid subsidy limits. Using his dataset from the Farm Services Agency, Kirwan examined how the limits on direct subsidy payments impact the behavior of farm owners. He found strong evidence that farms are in fact expending resources to restructure in order to maintain subsidy levels and avoid limits. Kirwan concludes that legislative reform on subsidy limits must include much clearer definitions on the criteria to qualify for subsidies, as well as ways to enforce the criteria to effectively limit payments and avoid the economic losses caused by restructuring.

## Are Subsidies Still Justified?

A perhaps larger question is whether agricultural subsidies still make sense in the current economy. Dr. Bruce Gardner, also of the University of Maryland's Agricultural and Resource Economics Department, broached this issue in 2007. Gardner notes that farmers earned less than a third as much as the average United States household during the Great Depression, fueling the notion that the agricultural sector needed federal support and strengthening the idea that farm subsidies would reduce income inequalities. Farmers continued to earn less on average than other sectors of the economy through the 1960s. However, by the 1990s farmers earned just as much as non-farmers, and they currently earn more than non-farmers.

Gardner found that, contrary to the continued widespread perception that farmers are economically hard-pressed, very few farms would fail without subsidies. He concludes that farm subsidies are satisfying political demands, not economic needs, and that ending subsidies would not damage United States agriculture. In this light, the question might be less about the extent to which farm subsidies increase or decrease inequality among farmers than whether agricultural subsidies themselves increase inequality more generally in the United States economy. Given Kirwan's findings that subsidies do not dramatically affect farmland value, Gardner's work suggest that subsidies could be eliminated without farmland owners losing their wealth as well. ■

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