

SPECIAL REPORT

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# Addressing Risk in Agriculture

Daren Bakst, ed.

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# *Addressing Risk in Agriculture*

*Daren Bakst, ed.*

## Introduction

Agricultural producers, similar to other businesses, face significant risk. The United States Department of Agriculture's (USDA) Economic Research Service identifies five different types of farming risk: human and personal risk (such as human health), institutional risk (regarding governmental action), financial risk (such as access to capital), price or market risk, and production risk (such as weather and pests). Of these, policymakers usually focus on the last two types.

Unlike most other businesses, however, federal government programs assist agricultural producers in protecting against risk. In analyzing these subsidies,<sup>1</sup> often referred to as the federal "safety net," key foundational questions had to be asked: Is there something about agricultural risk that makes private risk management insufficient? Why would government intervention in risk management be appropriate for agricultural producers but not for other businesses?

This *Special Report* provides an in-depth analysis<sup>2</sup> of these and other questions regarding agricultural risk and examines the federal programs that make up the taxpayer-funded safety net: commodity programs and federally subsidized crop insurance. It also provides detailed and concrete policy recommendations. Ultimately, the purpose of this report is to instigate a discussion about the reforms necessary to free the agricultural sector from harmful government intervention.

## America's Robust Agricultural Sector

Most domestic agricultural production comes from large producers. For example, only 4 percent of farms (those with sales of \$1 million or greater) accounted for 67 percent of all agricultural sales in 2012. It is also important to recognize that more than half of all farms in the U.S. had less than \$10,000 in sales, accounting for less than one percent of all agricultural sales.

Fortunately, agricultural producers are doing well financially. In fact, farm households have much higher incomes and wealth than non-farm households.

Even very small farms with less than \$10,000 in sales are also generally doing well financially. That is because while their farm income may be low, they help manage risk by relying on off-farm income. Agriculture has evolved so that off-farm income plays a critical role for farmers, including these small farms. This is an excellent example of a private risk management tool that farmers frequently utilize. The financial health of agricultural producers demonstrates that they have means to build the costs of risk management into their business models. Several critical measures demonstrate agricultural producers' ability to manage risk. For example, debt-to-asset and debt-to-equity ratios, two key indicators of solvency and financial vulnerability, are extremely low (the debt is low compared to assets and equity).

## **Freeing the Agricultural Sector to Manage Risk Privately**

There are many private ways that agricultural producers can manage risk. Too often, when discussing agricultural risk, the focus turns to federal-subsidized multiple peril crop insurance. Multiple peril crop insurance is merely one way to manage risk and only one type of insurance (farmers buy other insurance, such as crop-hail insurance and property insurance). One of the primary ways that farmers manage risk is through off-farm income, as mentioned previously. Agricultural producers rely heavily on off-farm income to reduce dependence on making money from agricultural operations. There are many other private risk management solutions, from diversification to hedging risk through the commodities markets.

Risk also needs to be put into perspective. As explained in Section 1:

By having to minimize or eliminate potential losses, a business is encouraged to develop new solutions and evolve to remain competitive. This helps the business by finding new ways to be profitable; consumers also benefit from new and improved goods and services. Riskier actions and investments can often mean greater rewards. When protected by taxpayers from risk, businesses are encouraged to remain complacent and discouraged from learning how to manage risk on their own—something farmers generally can do very well.

All businesses have to face risk. The risks in different industries can be significant, just as in agriculture. The nature of these risks can also be unique. However, taxpayers are not expected to manage risk for these other industries. This begs the questions as to why agriculture should be treated differently, especially when there are private means to effectively manage risk.

A frequent argument is that agriculture should receive favorable treatment because it is more “important” than other sectors of the economy. There are claims that we need subsidies for food security. These arguments likely arise due to the fact that agricultural producers provide a necessity to the public (i.e., food) but there is no real explanation though as to what problem is being addressed by the federal government that could not be addressed through private means.

The federal government should not be determining what industry is more important than another, or picking winners and losers. Ironically, even if agriculture is somehow “special,” this status would be an argument for free enterprise in agriculture, not central planning and government interventionist policies.

## **Subsidies to Address Risk are Harmful**

Even if one improperly concluded that agricultural risk cannot be effectively managed or farmers are incapable of managing risk, this does automatically mean that government intervention is warranted.

Government intervention creates numerous problems and makes the status quo of agricultural subsidies an untenable situation. Subsidies distort planting decisions of farmers so that instead of responding to the market, they make decisions based on the incentives provided by the subsidies.

Farm subsidies often lead to moral hazard in which risk is not borne by farmers but instead passed on to taxpayers. The result is agricultural producers taking actions they otherwise would not take, such as planting crops on environmentally sensitive land. Property owners, including farmers and ranchers, are the best stewards of their property. However, subsidies can create incentives that would alter their actions connected to their property. Subsidies can crowd out private solutions to address risk and actually discourage the use of risk management. The list of problems with subsidies is seemingly endless.

## **The Federal Taxpayer-Funded Safety Net**

The commodity programs and the federal crop insurance program cost taxpayers about \$15 billion a year. These are major costs, but they are only part of the problems with subsidies, as has been explained.

Most farmers do not even receive subsidies. In 2011, only 25 percent of agricultural producers received payments from commodity-related programs. These payments are also very concentrated. As explained in Section 3:

From FY 2005 to FY 2014 just five crops (corn, cotton, wheat, rice, and soybeans) accounted for approximately 90 percent of commodity payments administered by the USDA's Farm Service Agency. While these are some of the most widely grown crops, payments from the USDA are also highly concentrated, with a small number of farmers of commodities receiving large

payments. From 1995 to 2012, the top 10 percent of commodity payment recipients received 77 percent of commodity payments.

Based on 2011 data, only about 15 percent of farms participate in the federal crop insurance program. An Environmental Working Group study of the 2011 crop insurance year indicates the top 20 percent of policyholders were the beneficiaries of 73 percent of the total premium subsidies.

There are many reasons why the percentage of farms receiving subsidies is low. Farmers may not receive subsidies because of their production levels and because many farmers of certain commodities are simply not eligible for certain subsidies. For example, fruit and vegetable growers receive very few subsidies.

- **Commodity programs.** When Congress eliminated the direct payment program in the 2014 farm bill, it did not stop there. Instead, it created two massive new commodity programs, the Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) programs, which are proving to be much costlier than projected and even more expensive than the direct payment program.

The ARC program is an example of how extreme agricultural subsidies have become. Under this program, taxpayers protect farmers from even shallow losses (i.e. minor losses). The commodity programs also include the federal sugar program. This program is the epitome of central planning, restricting the supply of sugar and thereby driving up prices. The program also hurts other industries, particularly the sugar-using industries.

- **Federal Crop Insurance Program.** In the 1970s, the Agriculture and Consumer Protection Act of 1973 and the Rice Production Act of 1975 authorized the disaster payments program. The costs for these programs were soon deemed to be extremely high and therefore an alternative was sought. Moreover, these programs were thought to have moral hazard problems. In 1980, Congress passed the Federal Crop Insurance Act, which established the federal crop insurance program as the primary form of providing disaster protection for farmers, providing premium

subsidies for farmers to purchase multiple peril crop insurance.

Crop insurance has been a failure. For example, the program was supposed to be a more cost-effective way to provide disaster protection. The costs of the crop insurance program are about six times greater than the disaster payment program, adjusted for inflation.

Participation in the program from the outset was very low, and has required continually ramping up the subsidies that benefit farmers. In 1990, the Bush Administration proposed eliminating the crop insurance program. By then (barely 10 years after passage of the 1980 Act), it was clear the program had been a failure.

The program remains though, and goes well beyond addressing disasters. Revenue-based policies, which did not even exist until 1997, protect against dips in expected revenue due to low prices, low yields, or both. The federal crop insurance program was supposed to be a lower-cost alternative to help farmers with disasters. Instead, it has become a high-cost way to help farmers receive their expected revenue, regardless of whether a farmer has had a bumper crop or whether a disaster has even occurred.

## Policy Recommendations

Detailed policy recommendations are addressed in Section 5. As a general matter, there should be a shift in federal government intervention to help agricultural producers address risk. While a “safety net” is unjustified, to have a smoother transition, this shift should not happen all at one time.

This special protection during the move away from subsidies should at most protect from deep yield losses that farmers actually suffer from unforeseen events such as natural disasters and disease. Anything beyond this is exceeding any concept of a safety net. As is explained, this means eliminating most of the commodity programs and stopping subsidies for revenue-based insurance policies in the federal crop insurance program. Further, as another way to ease the transition, states would receive a one-time payment based on the savings achieved from eliminating these programs.



## **Conclusion**

A common assertion (or a variation of it) is getting rid of subsidies would somehow spell the end for U.S. farmers. This argument is an insult to farmers and ranchers. U.S. agricultural producers are sophisticated business people who can succeed without taxpayer help, just like other businesses. Moving away from subsidies will free up agricultural producers to better use their ingenuity and expertise to achieve even greater success.

For policymakers to take a step back and genuinely consider why the numerous subsidies exist in the first place would be an important step in determining the proper role of government when it comes to agricultural risk. When they do, it will be clear that maintaining the status quo needs to end.

*—Daren Bakst*

## Section 1: The Ability of Agricultural Producers to Manage Risk

*Brian Wright*

The 2014 farm bill, like previous farm bills, provides farmers various direct and indirect subsidies ostensibly aimed at addressing various risks.<sup>3</sup> These subsidies include commodity programs, such as the new shallow loss program that protects farmers from even minor losses they might incur, and the federal crop insurance program, which shifts almost all risk to taxpayers by forcing them to subsidize on average about 62 percent of the premiums that participating farmers pay for the program. (For a more in-depth discussion of commodity programs and crop insurance, see Sections 3 and 4, respectively.)

However, before addressing the merits of these programs, a foundational question must be asked: Why should the federal government create any programs to help agricultural producers manage risk in the first place?

There are two underlying and faulty assumptions that drive this government intervention:

1. Agricultural producers do not have the financial means to manage agricultural risk; and
2. Agricultural risk cannot be effectively managed and requires government intervention.

This section will primarily address these assumptions, showing why producers are well-positioned to manage risk and have many options to do so without any government intervention.

### **Agricultural Producers Have the Financial Means to Manage Risk**

An image of farmers permeates agricultural policy and, to a large extent, the public's perception of modern-day agriculture: struggling farmers trying to save their small farm and stave off poverty and destitution. This myth has contributed to keeping agricultural policy from moving forward and is exacerbated by closely connected myths such as the family farm is disappearing (in fact, 99 percent of all farms were family farms in 2014, and most large farms are family farms).<sup>4</sup>

The reality is that American's food and fiber comes almost exclusively from large agricultural

producers. The following data for 2012, based on all farms (regardless of whether they receive subsidies) demonstrate this point (see Chart 1 for additional data):

- Two-thirds of all agricultural sales come from farms with sales of \$1 million or greater. Further, farms with sales of \$5 million or greater accounted for 32 percent of all agricultural sales.
- Only 4 percent of farms (those with sales of \$1 million or greater) accounted for 67 percent of all agricultural sales.
- An astonishing 89 percent of all sales come from about 12 percent of all farms. (These farms had sales of \$250,000 or greater.)
- Almost all sales (97 percent) come from just one-quarter of all farms.
- As for smaller farms, most farms (75 percent of all farms) had sales less than \$50,000, accounting for only 3 percent of all sales.
- More than half of all farms had sales of less than \$10,000. These farms accounted for less than 1 percent of all sales.

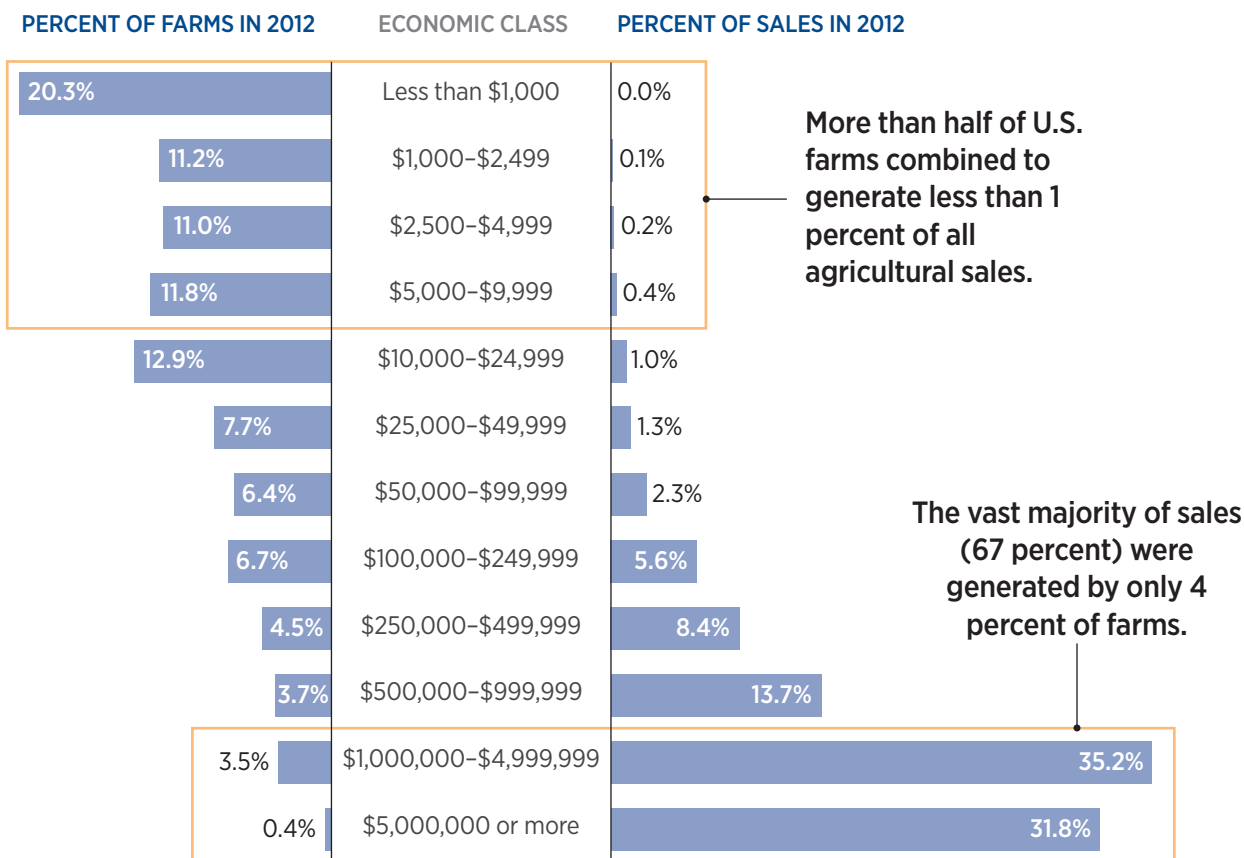
In the distant past, assistance to farmers was based in part on the poverty of farmers, serving as a social welfare program. As explained in a USDA report entitled "A Safety Net for Farm Households":

Farmers' deep poverty was a rationale for assistance in the past. In 1940's, per capita income of farmers was, on average, 50.7 percent that of non-farmers. Moreover, given that most people lived on farms in the first half of the 20th century, efforts to alleviate poverty among farmers likewise eased the burden of poverty for a large segment of the population [internal citations omitted].<sup>5</sup>

Conditions, though, have drastically changed. The financial situation of agricultural producers can hardly be considered a justification for government intervention to address agricultural risk.

CHART 1

## Small Percentage of Farms Generate Majority of Agricultural Sales



**SOURCE:** U.S. Department of Agriculture, National Agricultural Statistics Service, *2012 Census of Agriculture, Farm Typology*, Vol. 2, Part 10, January 2015, p. 1, [http://www.agcensus.usda.gov/Publications/2012/Online\\_Resources/Typology/typology13.pdf](http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Typology/typology13.pdf) (accessed January 5, 2016).

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**Farm Households Have Higher Income Compared to All U.S. Households.** For decades, as shown in Chart 2, average and median farm household incomes have been consistently higher than all U.S. household incomes. For the 10-year period 2005–2014, the average and median income for farm households was 35 percent and 19 percent greater than all U.S. households, respectively.<sup>6</sup>

**Farm Households Have Higher Net Worth Than Total U.S. Households.** In 2013, the median net worth for farm households (\$801,980) was 10 times greater than that of total U.S. households (\$81,200).<sup>7</sup> (See Chart 3.)

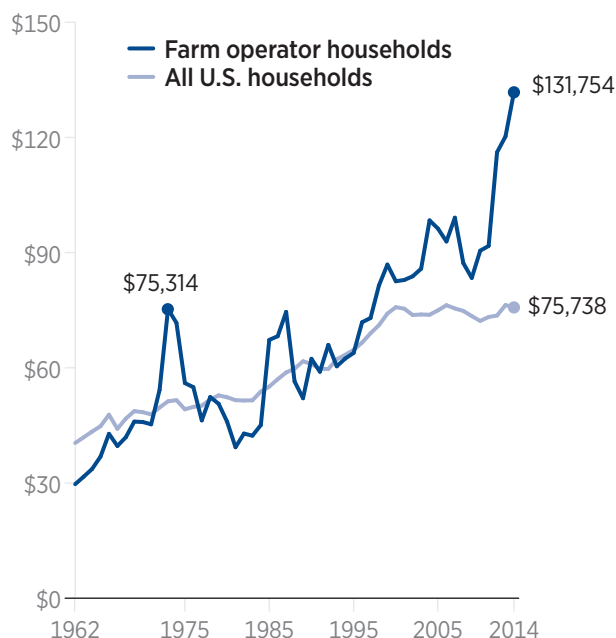
**Small Farm Households Are Also Doing Well Financially.** The majority of even the smallest farm households are doing well. While most farms are very small and do not generate much in terms of agricultural sales, this does not mean they are not doing well financially. In 2011, small farm households that had less than \$10,000 in sales still had greater average incomes than that of all U.S. households.<sup>8</sup>

**The USDA's Income-Wealth Measurement.** The United States Department of Agriculture (USDA) has developed a useful measure, called the joint income-wealth indicator, which captures the vast income and wealth of farm households, by farm type.<sup>9</sup>

CHART 2

## Mean and Median Farm Household Income Is High

MEAN HOUSEHOLD INCOMES, IN THOUSANDS OF INFLATION-ADJUSTED DOLLARS



MEDIAN HOUSEHOLD INCOMES, IN THOUSANDS OF INFLATION-ADJUSTED DOLLARS



**SOURCE:** U.S. Department of Agriculture, Economic Research Service, “Historic Data on Mean and Median Farm Operator Household Income and Ratio of Farm Household to U.S. Household Income,” 1960–2014, <http://www.ers.usda.gov/data-products/farm-household-income-and-characteristics.aspx> (accessed January 5, 2016).

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In 2011, only 2 percent of farm households were in the bottom half of all households in terms of both income and wealth, categorized as low income-low wealth. About 97 percent of farm households had wealth in the top half of all U.S. households and about 57 percent of farm households had income in the top half of all U.S. households.<sup>10</sup> It should be noted that the USDA recently released a document “America’s Diverse Family Farms, 2015 Edition” that highlights some newer data (2014), finding that the wealth figure was 97 percent (the same<sup>11</sup>) but 69 percent (as opposed to 57 percent) of farm households had income in the top half of all U.S. households.<sup>12</sup>

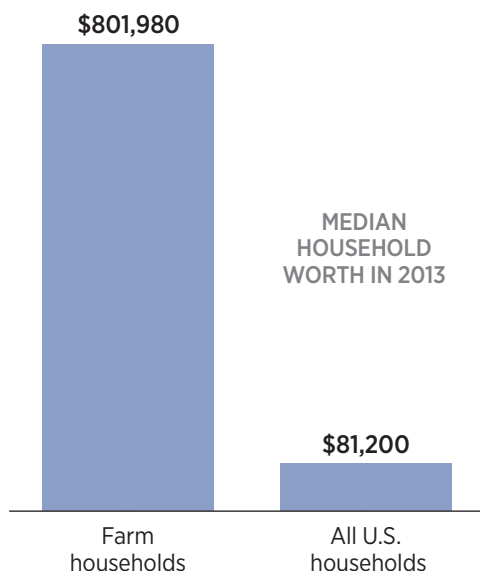
Even farm households classified as low-sales farm households (less than \$150,000 in gross cash farm income<sup>13</sup>) had an almost identical low income-low wealth indicator as all farms. Only 2.2 percent (compared to 2 percent for all farm households) of

these low-sale farms were in the bottom half of all households in terms of both income and wealth.<sup>14</sup>

Government subsidies do not explain the large income and wealth across farm households; even the current massive federal government intervention in agricultural policy accounts for only a small part of total farm income. In 2011, about 65 percent of farms received no government payments (including non-agricultural-risk-related payments such as conservation payments), 75 percent of farms did not receive commodity payments, and 85 percent of farms did not participate in the crop insurance program.<sup>15</sup> It is also important to recognize that from 2005–2014, the average annual percentage of income for farm households that came from off-farm income (unrelated to farming or subsidies) was 84 percent of total income.<sup>16</sup>

CHART 3

## Median Farm Household Net Worth Is Very High



**SOURCES:** U.S. Department of Agriculture, Economic Research Service, "Principal Farm Operator Household Finances, 2009–2015," <http://ers.usda.gov/data-products/farm-household-income-and-characteristics.aspx> (accessed January 5, 2016), and Jesse Bricker, et al., "Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances," Federal Reserve *Bulletin*, Vol. 100, No. 4 (September 2014), p. 8 <http://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf> (accessed January 5, 2016).

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## Agricultural Risk Can Be Effectively Managed

The USDA's Economic Research Service identifies five different types of farming risk and provides these definitions:<sup>17</sup>

- **Production risk** derives from the uncertain natural growth processes of crops and livestock. Weather, disease, pests, and other factors affect both the quantity and quality of commodities produced.
- **Price or market risk** refers to uncertainty about the prices producers will receive for commodities or the prices they must pay for inputs. The nature of price risk varies significantly from commodity to commodity.
- **Financial risk** results when the farm business borrows money and creates an obligation to repay debt. Rising interest rates, the prospect of loans being called by lenders, and restricted credit availability are also aspects of financial risk.
- **Institutional risk** results from uncertainties surrounding government actions. Tax laws, regulations for chemical use, rules for animal waste disposal, and the level of price or income support payments are examples of government decisions that can have a major impact on the farm business.
- **Human or personal risk** refers to factors such as problems with human health or personal relationships that can affect the farm business. Accidents, illness, death, and divorce are examples of personal crises that can threaten a farm business.

Human and personal risk (such as human health), institutional risk (regarding governmental action), and financial risk (such as access to capital) are clearly common risks across almost all businesses. Policymakers usually focus on price or market risk and production risk. These risks are manageable. Similar levels of risk exist in many other lines of business, and are managed efficiently without such high levels of public intervention.

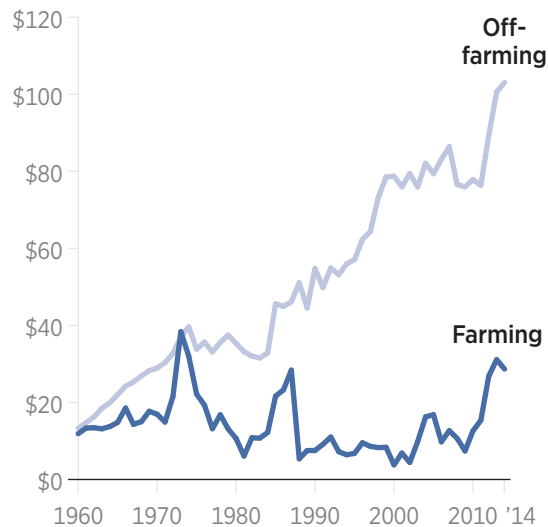
## Risk Is Inherent in Any Business

Putting risk in perspective is important. By having to minimize or eliminate potential losses, a business is encouraged to develop new solutions and evolve to remain competitive. This helps the business by finding new ways to be profitable; consumers also benefit from new and improved goods and services. It also helps the economy by weeding out inefficiency and bad ideas, allowing resources to be put to better use. Riskier actions and investments can often mean greater rewards. When protected by taxpayers from risk, businesses are encouraged to remain complacent and discouraged from learning how to manage risk on their own—something farmers generally can do very well. When subsidies are present, businesses, including farms, will divert resources and attention away from risk management because taxpayers are already protecting them against risk. Further, when evaluating actions and possible investments, the level of risk

CHART 4

## Average Farm Household Income by Source

IN THOUSANDS OF 2014  
INFLATION-ADJUSTED DOLLARS



**SOURCE:** U.S. Department of Agriculture, Economic Research Service, "Historic Data on Mean and Median Farm Operator Household Income and Ratio of Farm Household to U.S. Household Income, 1960–2014," <http://www.ers.usda.gov/data-products/farm-household-income-and-characteristics.aspx> (accessed January 5, 2016).

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can be distorted for businesses, turning an otherwise unacceptably risky and unwise action into something that may be acceptable from the perspective of a business, because it will not feel the full downside of its decision.

### Agricultural Risk Is Not a Significant Issue for Most Farmers

Agriculture can be a risky business. However, risk management is not going to be a significant issue for most farmers. This may come as a surprise, but it reflects the reality of agriculture that is often lost in policy debates.

#### Few Farm Households Rely on Farm Income.

According to the USDA, most farm households earn *all* of their income from off-farm sources.<sup>18</sup> In 2014, at least 71 percent of farm households had farm income

less than 25 percent (including zero or negative farm income) of total household income,<sup>19</sup> including 50.6 percent of farm households who reported negative farm income.<sup>20</sup> In other words, risk management in agricultural production plays a very small role in the income of most farm households. Indeed, their farm income is dwarfed by their non-farm income and their net worth. Consequently, reducing farm risks affecting farm prices or output will not have a significant effect on the financial status of these farm households.

In 2011, 58 percent of farms consisted of farms designated by the USDA as “retirement farms” (the operator of the farm is retired from farming) and “off-farm occupation farms” (the operator’s primary occupation is a non-farm occupation).<sup>21</sup> In 40 percent of the retirement farms, nothing was produced at all.<sup>22</sup> Reducing farm risk will also not have a significant effect on the financial status of these farm households.

This negative farm income may seem contradictory to the points stated above about how well farm households are doing from an income standpoint. However, this is not the case regarding the financial wherewithal of farm households: one of the most important points to understand about the agricultural sector is that most farm households receive the bulk of their income from off-farm sources.

The ratio of average off-farm income to average total income for farm households has increased significantly since 1960, and from 2005–2014 it was 84 percent; that is, 84 percent of the average total income came from off-farm income (See Chart 4 that shows off-farm income compared to farm income).<sup>23</sup> During this same time (1960–2014), average farm household income has consistently been greater than the average income for all U.S. households. (As discussed previously, see Chart 2.)<sup>24</sup>

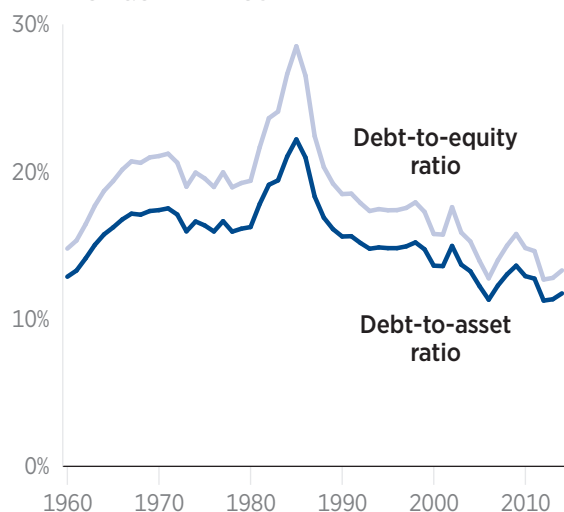
**Most Farms Are, in Effect, Hobby Farms.** In 2014, 20 percent of all farms were “point” farms, which did not have the minimum \$1,000 in sales required to be considered a farm. These farms, as the USDA explains, “had sufficient crops and live-stock to normally have sales of \$1,000 or more.”<sup>25</sup> Further, in 2014, most farms (51 percent) had sales less than \$10,000.<sup>26</sup> These extremely small farms are more akin to hobby farms than farms designed to generate money. Risk management in farming is not going to play a significant role given their limited scope.



CHART 5

## Financial Ratios Show Healthy Agricultural Sector

DEBT-TO-ASSET AND  
DEBT-TO-EQUITY RATIOS



**SOURCE:** U.S. Department of Agriculture, Economic Research Service, “Farm Sector Financial Ratios, 1960–2014,” <http://www.ers.usda.gov/data-products/farm-income-and-wealth-statistics/data-files-us-and-state-level-farm-income-and-wealth-statistics.aspx> (accessed January 5, 2016).

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## Measuring Farmer Success in Addressing Risk

There are numerous ways to determine how successful farmers are doing in terms of managing risk. In addition to high income and wealth levels for farmers, there are specific measures that can illuminate whether farming is particularly difficult from a risk perspective.

**Debt-to-Asset and Debt-to-Equity Ratios Are Extremely Low.** Two primary measures to determine the solvency (and thereby the financial vulnerability) of a business are the debt-to-asset and debt-to-equity ratios. The USDA’s Economic Research Service uses a debt-to-asset ratio of no more than 40 percent to determine whether a farm has a favorable financial position.<sup>27</sup> As shown in Chart 5, the average debt-to-asset ratio for farms over the past 55 years has not even come close to being 40 percent, and has not even reached 23 percent during that time. The average over this period of time has been 15.5 percent, and from 2005–2014, it was 12.2 percent.<sup>28</sup>

Regarding the debt-to-equity ratio, the University of Minnesota’s Center for Farm Financial Management developed a useful standard for financial ratios.<sup>29</sup> They indicate a “strong” farm debt-to-equity ratio is no more than 43 percent. As shown in Chart 5, the average debt-to-equity ratio for farms over the past 55 years has not even come close to being more than 30 percent. The average over this period of time has been 18.4 percent, and from 2005–2014 it was almost 14 percent.<sup>30</sup>

Discussing both ratios, the USDA has explained, “the [agricultural] sector remains well insulated from the risks associated with commodity production (such as adverse weather), changing macroeconomic conditions, and any fluctuations in farm asset values.”<sup>31</sup>

**Exit Rates Are Very Low.** The exit rate is the rate at which businesses go out of business. It no doubt covers voluntary decisions and is not necessarily related to financial distress. A 2006 USDA report “Understanding Farm Exits”<sup>32</sup> found that the farm exit rate was about 9 or 10 percent annually, which according to the USDA was comparable to exit rates for non-farm small businesses (8 percent).<sup>33</sup> In a 2015 publication, the Small Business Administration (SBA) indicated exit rates for small businesses had been much higher than this 8 percent since at least 1977 and were about 10 percent in 2012.<sup>34</sup> This USDA study appears to be an outlier, with other studies showing annual farm exit rates at about 3.5 to 6.75 percent per year.<sup>35</sup> Another USDA report assumed an exit rate of 4.5 percent during the 1990s (the same time period analyzed by the USDA farm exit study) based on the studies it identified.<sup>36</sup> At worst, exit rates are comparable to non-farm small businesses, and more likely, they are significantly lower.

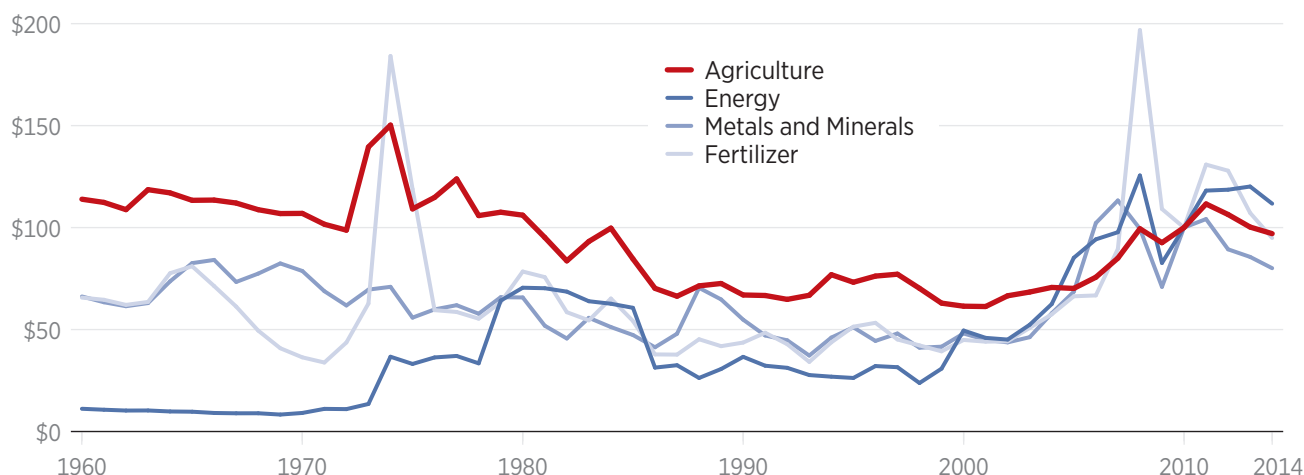
In addition, the USDA’s “2014 Tenure, Ownership, and Transition of Agricultural Land Survey” found that landowners planned to transfer 91.5 million acres of farmland (10 percent of all farmland) to new owners. Only 23 percent of the land was expected to transfer through sales to non-relatives.<sup>37</sup> These data suggest that most “exits” are intergenerational transfers.

**Price or Market Risk Is Not Unique.** Agricultural producers’ primary concern regarding price or market risk is the volatility of agricultural commodity prices. There certainly can be volatility. However, other major sectors of the economy have price

CHART 6

## Commodity Price Movements

ANNUAL INDICES (2010=100), IN 2005 INFLATION-ADJUSTED DOLLARS



**SOURCE:** The World Bank, World DataBank, “Global Economic Monitor (GEM) Commodities,” <http://databank.worldbank.org/data/databases/commodity-price-data> (accessed April 15, 2016).

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TABLE 1

## Annual Commodity Price Variability, 1960–2014

COMMODITY INDICES (2010=100), IN 2005 INFLATION-ADJUSTED DOLLARS

	Mean	Standard Deviation	Coefficient of Variation
<b>Agriculture</b>	92.6	17.7	19.1%
<b>Fertilizers</b>	66.9	32.9	49.2%
<b>Metals and minerals</b>	64.2	18.3	28.4%
<b>Energy</b>	45.6	21.5	47.2%

**NOTE:** Standard deviation was taken on the data series after accounting for a simple linear trend.

**SOURCE:** The World Bank, World DataBank, “Global Economic Monitor (GEM) Commodities,” <http://databank.worldbank.org/data/databases/commodity-price-data> (accessed April 15, 2016).

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volatility that is comparable to agriculture, as shown in Chart 6. Using World Bank commodity data from 1960–2014, other commodity markets had comparable risk to agriculture (energy, fertilizers, and metals and minerals). For these specific data, the standard deviation is lowest for agriculture. (See Table 1.)

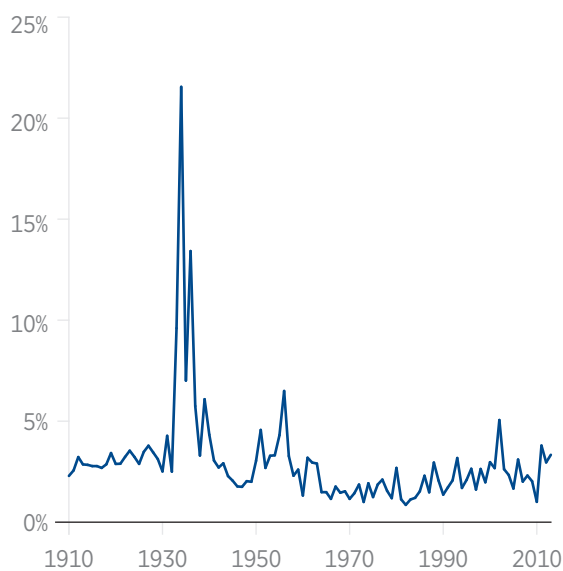
As with other government intervention, price manipulation only exacerbates problems by distorting risk and discouraging private risk management. The Organization for Economic Co-operation and Development (OECD) notes:



CHART 7

## Crop Failure Levels Mostly Remain Low and Steady

FAILURE RATE



**SOURCE:** U.S. Department of Agriculture, Economic Research Service, Major Land Uses Dataset, "Summary Table 3: Cropland Used for Crops: Cropland Harvested, (Including Double Cropped), Crop Failure, and Cultivated Summer Fallow for the United States, Annual, 1910–2015," <http://www.ers.usda.gov/data-products/major-land-uses.aspx> (accessed March 15, 2016).

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Governments have often assumed that the answer to farming risk lies in stabilising prices. In fact, by doing this they may actually increase the variability of income and have the opposite effect.... Price interventions will isolate farmers from underlying market fundamentals such as high prices that signal a negative supply shock or low prices that signal over-supply. Governments end up carrying the entire burden of risk management at high cost to consumers and taxpayers because their actions have crowded out the efforts of farmers themselves and the private sector.<sup>38</sup>

**Putting Production Risk in Perspective.** Agriculture does face risks that can impact production, such as severe weather and pests. However,

other industries can also have production negatively impacted by a wide variety of risks, such as shifts in demand and problems with critical inputs, including inputs affected by weather, natural disasters, and “acts of God.” Many businesses are more vulnerable to downturns in the economy than agriculture—people are still going to eat, but may even reduce consumption of critical products such as gas. Some businesses are also dependent on weather, such as construction and mining. Many of the natural disasters that can affect agriculture can equally affect other industries, such as hurricanes, tornadoes, or earthquakes.

There are other issues to bear in mind when examining production risk in agriculture. For example:

**Crop Failure Needs To Be Put in Context.** The myth that farmers are often devastated by the destruction of most of their crops is simply not supported by evidence. The incidence of total crop failures is very small. As defined by the USDA, crop failure “[c]onsists mainly of the acreage on which crops failed because of weather, insects, and diseases, but does include some land not harvested due to lack of labor, low market prices, or other factors.”<sup>39</sup> The rate at which crops have failed on acreage planted for harvest has been very low as far back as 1910. (See Chart 7.) From 2004–2013, this crop failure rate averaged 2.78 percent.<sup>40</sup> This does not mean that specific farmers in any given year are not devastated or that yields are as good as expected, but it does indicate that overall, planted acres generally do not fail.

**Farmers Are Generally Well-Equipped to Handle the Loss of a Crop.** There is a myth that agricultural risk is unique in part because farmers can be devastated due to the loss of a single crop. Farmers typically diversify their operations so that this does not happen. The USDA has developed a typology for various family farms. The four types of family farms identified that on average have positive farm earnings<sup>41</sup> produced an average of three to four commodities in 2011.<sup>42</sup> Even about half (47 percent) of low sales farms (which on average have negative farm earnings) produced at least two commodities.<sup>43</sup> Further, farmers should generally be expected to diversify, or to hedge their market risks, especially if they are dependent on farm earnings.

**Certain Production Risks Can Be Effectively Managed Through Risk Management.** As will be discussed below, farmers have effective tools to

manage risk. Farmers, through actions such as crop diversification, are not merely managing risk in the sense that they are mitigating it, but are mitigating specific and foreseeable problems from ever arising, such as being harmed due to dependence on one commodity.

## Private Means to Effectively Manage Agricultural Risk

There are many ways that farmers, through private means, can effectively manage risk. Farmers know their operations and the relative risks better than anyone. They can make decisions that will best meet their needs as opposed to government-created cookie-cutter policies that handle risk as if agricultural producers are homogeneous in nature. When discussing risk management in agriculture, crop insurance often dominates the discussion. However, crop insurance is merely one tool to address risk. Further, it is also only one type of insurance; farmers purchase many different types of insurance, from hail insurance to property insurance. The following lists many important risk-management tools (beyond insurance), but it is far from exhaustive. Through sensible practices, agricultural risk can be greatly reduced and many potential problems connected to risk can be eliminated.

Private risk-management strategies include:

- **Off-farm income.** As has been discussed throughout this section, agricultural producers rely heavily on off-farm income to reduce dependence on making money from agricultural operations. In 2012, 78 percent of all farms had off-farm income that constituted at least half of their annual farm household income, and 70 percent of farms had off-farm income that was at least 76 percent or more of their annual farm household income.<sup>44</sup>
- **Diversification.** Just as investors should generally not put all their eggs in one basket, farmers without significant off-farm income should diversify their crops to minimize the level of harm caused by any problems associated with any one particular crop. As documented in the recent Agricultural Census, agricultural operations in the United States are becoming more diverse as farmers and ranchers look beyond commodity production to find new ways of generating income. Producers are finding that diversification can

make their operations more profitable by providing additional income from direct-to-consumer sales and sales of value-added and specialty products, including certified organic products.<sup>45</sup> Some producers diversify their operations beyond commodities and provide other farm-related services, such as agri-tourism (e.g., direct sales of products, hunting, and festivals).<sup>46</sup>

- **Vertical integration.** Farmers can gain control and ownership of more than one level of the production and distribution process. This reduces dependence on third parties and can take advantage of efficiencies. For example, a farmer may grow hay for dairy cows or a vegetable grower can pack and sell the produce.<sup>47</sup>
- **Crop rotation.** As explained by the USDA, “Crop rotations are planned sequences of crops over time on the same field. Rotating crops provides productivity benefits by improving soil nutrient levels and breaking crop pest cycles.” The use of crop rotation is already common. According to the USDA, “82 to 94 percent of most crops are grown in some sort of rotation.”<sup>48</sup>
- **Hedging.** Just as a bank might hedge their risk by taking an action to counterbalance an investment, farmers can minimize risk by also taking actions to counterbalance or offset their risk. If farmers, for example, believe prices for their crops might decline, they might hedge against this risk by using the commodity market to protect against this possibility. There are two financial instruments, known as derivatives,<sup>49</sup> which are commonly used to hedge risk: futures and options.

As defined by the Commodities Futures Trading Commission (CFTC), a futures contract is “an agreement to purchase or sell a commodity for delivery in the future: (1) at a price that is determined at initiation of the contract; (2) that obligates each party to the contract to fulfill the contract at the specified price; (3) that is used to assume or shift price risk; and (4) that may be satisfied by delivery or offset.”<sup>50</sup> For example, a corn farmer who is concerned that corn prices will decline in the future can make an agreement to deliver corn at a price established by contract to hedge against lower prices.

TABLE 2

## How America Has Changed in 80 Years

Issue	1933	2013
Interstate highway infrastructure	Not built	47,856 miles
Farms with electricity	10.5%	98.8%
Households with air conditioning	10%	87%
Number of tractors on farms	920,021	4,178,300
Tractors in U.S. per farm	0.15	1.98
Cars and trucks	23,827,288	255,876,822
Cars and trucks per capita	0.19	0.81
Crops genetically engineered	Not invented	50%
Households with a telephone	21.5%	97.6%
Households with Internet access	Not invented	67%
Expected lifespan at birth	63.3	78.8
Infant mortality rate (per 1,000 births)	47.02	5.93
Air travel passengers	474,000	645,677,544

SOURCE: Heritage Foundation research. For details, see appendix.

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According to the CFTC, an option is “a contract that gives the buyer the right, but not the obligation, to buy or sell a specified quantity of a commodity or other instrument at a specific price within a specified period of time, regardless of the market price of that instrument.”<sup>51</sup> For example, the same corn farmer above may decide to hedge against lower corn prices by having the option, not obligation, to sell corn at a price established by contract.

- **Contract farming.** As explained by the United Nations Food and Agriculture Organization, “contract farming can be defined as agricultural production carried out according to an agreement between a buyer and farmers, which establishes conditions for the production and marketing of a farm product or products.”<sup>52</sup> By using these contracts, farmers gain “a guaranteed market outlet, reduce their uncertainty regarding prices and often are supplied with loans in kind, through the provision of farming inputs such as seeds and fertilizers.”<sup>53</sup>

- **Leasing inputs and hiring custom work.** Two effective methods of reducing agricultural costs are leasing inputs and hiring custom work—strategies by which farmers can limit commitments and purchase only what they need. The USDA states that “leasing [inputs] refers to a capital transfer agreement that provides the renter... with control over assets owned by someone else for a given period, usually a mutually agreed-upon rental agreement. Farmers can lease land, machinery, equipment or livestock.”<sup>54</sup> Payments under this model are short term and allow the farmer to adjust if market conditions change. A similar approach would be the hiring of custom help. As the USDA says, “Producers may, at times, find that hiring workers full-time for the entire year may be costly when those workers are only essential during harvest or other peak months.”<sup>55</sup>

### Major Developments in Agriculture Help to Manage Risk

In addition to a variety of effective private risk-management solutions, farmers today have many benefits that their predecessors never did when it comes to mitigating risk and becoming profitable.

Current agricultural policy is supported by the same motivations that supported the farm bill that was enacted in 1933. A lot has changed<sup>56</sup> in agriculture since then, as it has for almost every economic sector. Modern farmers do not merely live in a different agricultural environment, but live in a completely different world. Table 2 compares 1933 to 2013 in terms of some of the important (and stark) differences that make it possible for farmers to operate far more effectively than in the past.

### **Critical Policy Considerations**

There is an underlying assumption that agriculture should receive special treatment because it is more important than other sectors of the economy. This assumption is likely due to the fact that agriculture offers a basic necessity to the public (i.e., food). Therefore, the farmer is seen as more important, for example, than the restaurant owner. The government should not, however, be in the business of picking winners and losers by figuring out what industry or business is more important than others and therefore more worthy of subsidies.

Ironically, even if agriculture were “special,” such status would be an argument for free enterprise in agriculture, not central planning and government interventionist policies. Across other industries, in general, free enterprise principles have helped them flourish. Yet, when it comes to agriculture, those important principles are abandoned; government, and particularly massive financial transfers, such as subsidies and other payments, are seen as the

solution. Subsidies distort markets and undermine the agricultural sector such as by stifling innovation and distorting planting decisions that make agricultural producers less responsive to the market. Furthermore, subsidies or quotas that may help a narrow agricultural interest, such as the sugar industry, are obtained at the expense of the economy, consumers, and other industries.

Even if one improperly concludes that agricultural risk cannot be effectively managed or farmers are incapable of managing risk, this does automatically mean that government intervention is warranted. As will be discussed in much greater detail in the next section, government intervention in agricultural risk has created serious problems. Subsidies to address risk crowd out private solutions to risk management and create what is known as moral hazard. In this instance, farmers will take risks they otherwise would not take because the cost of the risks is being passed onto taxpayers.

### **Conclusion**

Farmers are more than capable of managing risk, and while the risk they may face can often be significant, not unlike many other businesses, it is by no means a justification for government intervention. In fact, as will be shown in the next section, government intervention, and specifically subsidies, create serious harm. The cure (i.e., subsidies) is much worse than the imaginary disease of farmers being unable to manage risk.



## Section 2: Subsidies to Address Risk are Harmful

*Josh Sewell*

**C**ostly, market-distorting federal subsidies remain entrenched in current agricultural policy. The persistence of such policies is primarily due to the misperception that farmers are incapable of managing farming risk or that farmers face unique risks. This subsidy status quo is untenable because of the wide-ranging and significant harms that result from subsidies. These harms go beyond the cost imposed on federal taxpayers; they also negatively impact the agricultural sector, the environment, and taxpayers. This section first highlights who is receiving subsidies, showing that most farmers do not receive subsidies, and then highlights the many serious problems connected to these subsidies.

### Who Is Receiving Agricultural-Risk-Related Subsidies?

The federal government subsidizes agricultural risk management through two primary subsidy programs: commodity price and income support payments under Title I of the 2014 farm bill (discussed in Section 3) and premium subsidies under the crop insurance program authorized under the Federal Crop Insurance Act (discussed in Section 4).

**Most Farms Do Not Receive Subsidies.** Most farms operate without these government subsidies. According to the USDA's "Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition,"<sup>57</sup> only 25 percent of all farms received payments from agriculture commodity-related programs, which send payments to producers of certain crops.<sup>58</sup> Of the almost 548,000 farms that did receive payments, total payments are concentrated amongst the largest, most successful farms. Family farms with annual gross cash farm income of \$350,000 or more received 62 percent of commodity-related payment dollars, while only constituting 23 percent of all farms that received payments.<sup>59</sup>

Taxpayers also provide billions of dollars of indirect subsidies through federally subsidized crop insurance, which is administered by the Risk Management Agency and currently is the single costliest federal agricultural subsidy program.<sup>60</sup> Based on 2011 data, 85 percent of all farms did not participate in the crop insurance program.<sup>61</sup> Like price and income support payments, subsidies for crop

insurance are highly concentrated. An Environmental Working Group study of the 2011 crop insurance year, the most recent year for which the USDA has released detailed numbers, showed that \$4 billion of the \$7.4 billion in federal crop insurance premium subsidies benefitted just 10 percent of crop insurance policyholders.<sup>62</sup> The top 20 percent of policyholders were the beneficiaries of 73 percent of the total premium subsidies.<sup>63</sup> And because there are no payment limitations on premium subsidies, 26 policyholders each benefitted from more than \$1,000,000 in premium subsidies in 2011.<sup>64</sup> Subsidies are costly, and the payments are concentrated on a small percentage of farmers. Because premiums and premium subsidies are tied to production, a large share of the total subsidies flows to these larger producers.

Interestingly, it is not merely the total amount of subsidies that go disproportionately to the large farms. A greater percentage of large family farms receive commodity payments than do small family farms. The percentage of farms operating with or without commodity-related subsidies varies by the size of the farm. Data regarding commodity payments from the USDA "Family Farm Report 2014 Edition"<sup>65</sup> show that 21 percent of small family farms<sup>66</sup> (family farms with less than \$350,000 in gross cash farm income<sup>67</sup>) received payments, whereas 77 percent of midsize and large-scale family farms (family farms with \$350,000 or more in gross cash farm income) received payments.<sup>68</sup>

Table 3 shows the percentage of farms that receive commodity subsidies by type of farm (there are subcategories in both the small family farm and large-scale farm categories). It also shows the percentage of non-family farms that receive commodity payments. Even among the wealthier farms, a significant percentage of them do not receive commodity-related subsidies.

Farmers may not receive subsidies for many reasons, such as their production levels or because many farmers of certain commodities are not eligible for certain subsidies. For example, fruit and vegetable growers receive very few subsidies.

**Subsidies Are Not a Significant Part of Most Farmers' Incomes.** While agricultural subsidies can total in the tens of billions of dollars annually, subsidies are not a significant portion of national

TABLE 3

## Mid-Size and Large-Scale Family Farms Receive Commodity Subsidies at a Much Higher Rate than Small Family Farms

	Type of Farm	Farms	Receiving Commodity Subsidies
SMALL FAMILY FARMS	Retirement farms	353,922	13.4%
	Farming is not primary occupation	909,872	15.5%
	Low sales (less than \$150,000)	567,214	24.8%
	Moderate sales (\$150,000–\$349,999)	118,253	66.3%
MID-SIZE AND LARGE-SCALE FAMILY FARMS	Mid-size (\$350,000–\$999,999)	123,009	78.5%
	Large (\$1,000,000–\$4,999,999)	38,541	74.3%
	Very large (\$5,000,000 or more)	3,857	58.0%
NON-FAMILY FARM		58,175	23.7%

**NOTE:** The U.S. Department of Agriculture defines a family farm as any farm where the majority of the business is owned by the operator and individuals related to the operator.

**SOURCE:** U.S. Department of Agriculture, Economic Research Service, "Structure and Finances of U.S. Farms: Family Farm Report," 2014 Edition, Table 6, December 2014, <http://www.ers.usda.gov/media/1728096/eib-132.pdf> (accessed April 9, 2016).


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TABLE 4

## Government Payments Are a Small Share of Farmer Income

	2011	2012	2013	2014	2015	2016
GROSS CASH INCOME	407,010,766	451,297,357	455,023,850	466,653,111	421,437,329	415,671,953
All commodity receipts	365,849,626	401,437,418	403,034,491	421,505,060	377,018,008	367,460,691
Cash farm-related income	30,740,611	39,224,821	40,985,563	35,381,206	33,845,478	34,312,371
Total direct government payments	10,420,530	10,635,118	11,003,796	9,766,845	10,573,843	13,898,891
<b>Government payments as share of cash income</b>	<b>2.56%</b>	<b>2.36%</b>	<b>2.42%</b>	<b>2.09%</b>	<b>2.51%</b>	<b>3.34%</b>
NET CASH INCOME	123,436,171	135,258,726	135,066,567	128,121,861	93,159,878	90,854,725
Total direct government payments	10,420,530	10,635,118	11,003,796	9,766,845	10,573,843	13,898,891
<b>Government payments as share of cash income</b>	<b>8.44%</b>	<b>7.86%</b>	<b>8.15%</b>	<b>7.62%</b>	<b>11.35%</b>	<b>15.30%</b>

**NOTES:** Figures for 2015 and 2016 are forecasts. Figures do not include off-farm income. The data also overstate the importance of commodity subsidies because data on direct government payments include conservation program payments.

**SOURCE:** U.S. Department of Agriculture, Economic Research Service, "Farm Income and Wealth Statistics," <http://ers.usda.gov/data-products/farm-income-and-wealth-statistics/net-cash-income.aspx> (accessed March 15, 2016).

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farm income. From 2011–2015, government payments averaged 2.4 percent of gross cash income.<sup>69</sup> While the USDA projects government payments will increase to 3.3 percent of gross cash income in 2016, the overwhelming majority of a farmer's income is dependent on the price the farmer receives providing crops and livestock.

Even as a percentage of net cash income, when seed, rent, machinery, and other costs are deducted, federal subsidies averaged only 8 percent of net income from 2011–2014. Subsidies are forecast to rise to 11.4 percent of net cash income in 2015 and 15.3 percent in 2016.<sup>70</sup>

To clarify, these data show whether these subsidies play a significant role in farm cash income. They do not show the importance of subsidies in comparison to all sources of income for farmers, many of whom rely heavily on off-farm income. (See Section 1 for much more detail.) Data also overstate the importance of commodity subsidies because data on “direct government payments” include conservation program payments.

So while federal agricultural subsidies disproportionately accrue to the largest farms, operations big and small gain the overwhelming majority of their gross cash income from sources other than government subsidies.

The effect of current agricultural policy is that agricultural subsidies are concentrated on the largest farms producing the majority of commodities. Subsidies, however, constitute a small percentage of the total income of these large farms.

## Why the Status Quo Is Untenable: The Harm Imposed by Subsidies

**Moral Hazard.** Taxpayer programs designed to shield farmers and ranchers from economic risks present an opportunity for increased moral hazard. Moral hazard occurs when individuals take actions that increase risks because of the protection they are afforded through insurance or other risk-mitigation programs. With farm subsidies, moral hazard often results in taxpayers bearing the cost of those actions. Risk is transferred from the farmer to the taxpayers as a whole. While Section 1 of this report refutes the notion that farmers are unable to effectively manage agricultural risk without government intervention, there are numerous risks that agricultural producers must manage to remain viable.<sup>71</sup> But the problem with government intervention, as exemplified by the

dozens of federal programs created to reduce risks for the agricultural sector, is that at times they actually promote riskier business decisions. Excessive debt accumulation, growing crops poorly suited for the climate, planting on land that is likely to flood or erode, or abandoning diversification, crop rotation, and other unsubsidized risk-management tools are but a few of the riskier business decisions agricultural businesses may take when they are able to pass off the majority of the risk of economic loss onto taxpayers.

**Subsidies Are Harmful to Taxpayers.** Federal agricultural programs to reduce the risk of financial losses in the agricultural sector are expensive. The Congressional Budget Office (CBO) currently projects that federal commodity and supplemental disaster assistance programs, which are numerous income support, price guarantee, or subsidized loan programs targeted toward producers of specific crops or livestock, are projected to cost \$36.2 billion over the next five fiscal years, fiscal years 2016–2020.<sup>72</sup> Highly federally subsidized crop insurance, in which agricultural businesses can buy insurance policies guaranteeing as much as 85 percent of their anticipated crop revenue, and have taxpayers pick up on average 62 percent of the premiums, is projected to cost \$40.7 billion.<sup>73</sup>

The tax dollars spent on these programs do not cover the true cost of subsidies. Federal agricultural subsidies can, in fact, increase costs for consumers, impose burdens on other federal programs, and present an obstacle to tackling federal deficits and other important public policy priorities. There are massive wealth transfers from taxpayers to favored interests, in this case, agricultural producers. Furthermore, the diversion of these tax dollars takes scarce resources and shifts them away from more productive uses, thereby inhibiting economic growth.

**Subsidies Artificially Drive up Land Prices.** Programs that aid the incomes of established, highly capitalized producers have contributed to skyrocketing costs for agricultural land. Nationally, crop land value more than doubled in the last 15 years, from \$1,490 an acre in 2000 to \$4,100 an acre in 2014.<sup>74</sup> Regional increases have been even greater. Corn Belt farm land prices increased 212 percent, even after dipping slightly since 2013, and Northern Plains cropland has increased more than 350 percent.<sup>75</sup>



This increase in prices was driven primarily by high commodity prices, but income from federal agricultural subsidies are also capitalized into the price of land.<sup>76</sup> As landowners can predict payments from commodity programs, they can incorporate this steady stream of future income into the value of their land. A report conducted by the USDA's chief economist in 2003, a time of relatively low commodity prices, noted, "some studies indicate that total government payments in recent years have increased U.S. farmland values 15–25 percent."<sup>77</sup> And it is not simply government payments, but the government mandates for ethanol consumption that drive up grain prices (and land prices) by diverting a large share of maize and oilseed production from feed and food uses.<sup>78</sup>

These price distortions prop up land prices, and farmers then depend on the subsidies to keep these artificial prices afloat. When subsidies stop as they should, prices will decline to reflect the price that is supported by the market absent the artificial distortions. Subsidies are not justified in order to maintain the problems created by the subsidies. These problems are a key reason to get rid of the subsidies.

**Subsidies Increase Obstacles for Beginning Farmers.** The aging population of farmers is something over which the agricultural sector, as well as the USDA, expresses concern.<sup>79</sup> The average age of principal farmers has increased, rising from an average of 50.5 years in 1982 to 58.3 years in 2012.<sup>80</sup> Despite the USDA's focus on beginning farmers, including \$444 million of authorized spending for numerous programs targeted specifically at beginning or socially disadvantaged farmers over FY 2014–FY 2018, there are fewer principle farm operators under the age of 25 now than in 2007.<sup>81</sup> There has also been a 20 percent reduction in the number of beginning farmers, those who have been farming less than 10 years.<sup>82</sup>

One of the biggest obstacles faced by an entrepreneur looking to get into farming is access to quality land. High prices alone are not the issue; rather, the problem is the government role in driving up prices. Federal agricultural subsidies are making it more difficult for beginning farmers to purchase land. They face two primary hurdles. First, programs that subsidize the incomes of established farmers, such as commodity payments, federal mandates for ethanol, and other government programs increase the cost of farmland (as explained above). Second,

federal income support payments tied to agricultural land are incorporated into the cash rents farmers must pay to operate on farm land. Increasing cash rents are beneficial to owners of farm land. In cases where the owner is also the operator, the rapid increase in land values has been an economic boon; owners do not pay rent, thus an operator who owns his or her farmland avoids one of the largest costs of production, while the increased value of their land increases their wealth.

Increased cash rents, however, are a barrier for beginning farmers. Beginning farmers have lower levels of capital and own less if any land, thus they tend to rent higher percentages of land than established producers. Cropland rental rates are bid higher by farmers seeking to capture land-based subsidies, increasing beginning farmers' operating costs and reducing their ability to save money in order to purchase the now more expensive land.

**Subsidies Go to Individuals Who Have Little to Nothing to Do with Farming.**<sup>83</sup> A *Washington Post* review of government payments between 2000 and 2006 found more than \$1.3 billion in commodity subsidies went to landowners who did no farming, including homeowners in subdivisions built on former farmland.<sup>84</sup> In numerous reports the Government Accountability Office (GAO) found a number of deficiencies in the USDA's monitoring of agricultural programs, including "that \$22 million in subsidies and allowances may have been provided on behalf of an estimated 3,434 [crop insurance] program policyholders 2 or more years after death."<sup>85</sup>

Subsequent reviews of agricultural programs have repeatedly<sup>86</sup> found tens of millions of dollars in agricultural subsidies annually going to residents of such agriculture powerhouses as New York City and Washington, DC.<sup>87</sup>

**Subsidies Can Distort Planting Decisions.** Subsidies also present the opportunity for farmers to "farm" the federal programs. In other words, farmers may make planting decisions based on the incentives offered by federal programs, rather than on the market. When the USDA made sweet potato crop insurance policies available in North Carolina in 1998, the number of producers growing sweet potatoes quadrupled in some areas. Losses on these policies also increased substantially with farmers receiving 16 times the amount of insurance payments as premiums they paid. This was due less to poor yields and more to deliberate actions on the

parts of some bad actors: planting in places known to have a low chance of success, failing to tend to the crop. Revised standards for sweet potato crop insurance eliminated these losses.<sup>88</sup> Waste and fraud in the crop insurance program has been documented in many other areas besides North Carolina.<sup>89</sup> Similarly prevented planting provisions in crop insurance, where a farmer receives an insurance payment if conditions prevent planting of a crop, have been exploited in the prairie pothole region of the Northern Plains.<sup>90</sup>

**Agricultural Subsidies Hamper Rural Development.** The economic health and well-being of rural communities is often cited by proponents of increased federal spending on agricultural programs, despite the fact “assisting rural communities through commodity payments has not shown up as an explicit goal”<sup>91</sup> of any farm bill.<sup>92</sup> Rural development is in fact a separate title in the farm bill, containing dozens of grant, loan, and direct spending programs. The goal of commodity and crop insurance programs has always been to transfer taxpayer dollars to individual farmers or landowners, though proponents often assert this government-directed transfer will bolster rural communities.

In fact, job growth and economic innovation have been shown to lag national trends in rural communities most dependent on federal agricultural subsidies.<sup>93</sup> In 2005, research conducted by the Federal Reserve Bank of Kansas City concluded, “Farm payments are not providing a strong boost to the rural economy in those counties that most depend on them. Job gains are weak and population growth is actually negative in most of the counties where farm payments are the biggest share of income.”<sup>94</sup> As a way to measure innovation, the article examined the rate of growth of new businesses, finding, “From 1990 to 2002, the growth in new business establishments was generally the weakest in counties most dependent on farm payments.”<sup>95</sup>

Agriculture is not the main source of employment even in most non-urban counties. As discussed earlier, agricultural subsidies are concentrated among a small number of farms and these farm owners are increasingly not members of rural communities. Farm consolidation has also led to consolidation in the businesses providing farm machinery, seed, fertilizer, and other resources as larger farms shift their purchasing away from local businesses. A recent review of the impact both farm and food programs

have on rural communities found “farm commodity programs are probably the least efficient policy mechanisms for promoting overall rural community well-being” due to the low number of recipients, concentration of payments, rise of absentee landowners, and diversification in the rural economy.<sup>96</sup>

**Agricultural Subsidies Impose Environmental Costs.** Federal agricultural subsidies aimed at reducing agricultural risk can have a negative effect on the environment. While high commodity prices are the main driver in decisions to plant crops on wetlands, pasture, or other marginal lands, federal subsidies, most notably highly subsidized crop insurance, contribute by shifting most of the cost of any potential loss to taxpayers while reserving gains for producers.<sup>97</sup> Marginal lands and wetlands often contain lower quality soil, leading to an increased reliance on fertilizer or other inputs, like pesticides and herbicides, to ensure a crop makes it to harvest. In addition, subsidies reducing risk of financial loss have been shown to influence decisions on crop choice and crop rotation; farmers are more likely to plant crops that are subsidized eschewing unsubsidized crops, including rotating in cover crops.<sup>98</sup> Reduced crop rotation and monocrop production (planting the same crop repeatedly) can also lead to an increased reliance on fertilizer, negatively impacting water quality. Fertilizer runoff from corn production, driven by federal ethanol and crop insurance policies, is the primary cause of nutrient pollution in the Mississippi River and Gulf of Mexico.<sup>99</sup>

**Subsidies Undermine Free Trade.** Federal agricultural commodity programs can be costly barriers to free trade. Agricultural subsidies artificially reduce the cost of production leading to overproduction of crops and below market prices. When these crops are exported—dumped—on foreign markets they can undermine the agricultural industry in these foreign countries. Since the Doha round of the World Trade Organization (WTO) negotiations were launched in 2001, governments have focused on reducing trade distortions caused by agricultural policy.<sup>100</sup> Yet the 2002, 2008, and 2014 farm bills continued trade-distorting subsidies. Subsidies for U.S. cotton producers were successfully challenged by Brazil in the WTO for having a detrimental effect on global cotton prices. As a result of the WTO decision, federal taxpayers paid \$147 million per year to prevent Brazil from taking retaliatory action for

a successful WTO challenge to U.S. cotton subsidies.<sup>101</sup> After spending \$496 million on these payouts, the U.S. government announced an agreement with Brazil for changes in the cotton programs plus a final payoff of \$300 million to drop the case.<sup>102</sup>

**Subsidies Are Harmful to Sound Risk Management.** Subsidies create a disincentive for private, unsubsidized risk management. Farmers, like all business owners, will utilize the most cost-effective means of reducing their risk of economic loss. Federal agricultural subsidies are often so generous, and come with so few restrictions, that it would be unwise for one farmer not to participate. It would put them at a competitive disadvantage to neighboring farmers who do get subsidies from the programs by reducing the income they have when bidding for the purchase or rental contract on new lands, investing in equipment, hiring farm managers, or covering other farm expenses.

Farms, especially the largest most productive operations, can utilize numerous time-tested tools to tailor their business to their own risk-tolerance level. They include growing more than one crop, raising livestock in addition to crops, keeping higher cash reserves, using markets to lock-in guaranteed prices for inputs or crops, etc. But ignoring subsidized programs would be “leaving money on the table.” Subsidies influence farmers’ risk-management practices and can reward poor farming decisions. Few farmers would purchase insurance without subsidies.<sup>103</sup> Studies have shown that farmers increase their participation rate and increase their crop insurance coverage in direct response to increases in premium subsidies.<sup>104</sup>

**Subsidies Can Create the Need for Subsidies and Work at Cross-Purposes with Existing Programs.** Subsidies may be created to address one problem but simultaneously they could be creating another problem. Taxpayers are often required to subsidize a program to address problems created by government intervention in the first place. This unintended consequence may in fact work at cross-purposes with the goal of another subsidy or government program. For example, subsidies can have a

negative impact on the environment, yet taxpayers are subsidizing conservation programs in the farm bill to address environmental concerns. Costly federal government efforts exist to attract beginning farmers, yet subsidies undermine these efforts by making it more difficult for them to get into farming.

**Subsidies Give Government an Excuse to Dictate Farming Decisions.** As the federal government continues to subsidize farmers, especially at such significant cost, policymakers will use that as justification to influence or control farming activities. For example, the 2014 farm bill required farmers who participate in crop insurance to meet certain conservation requirements that are part of a program called conservation compliance. These requirements also exist for receipt of other subsidies.<sup>105</sup>

In many respects, accountability is a reasonable expectation of policymakers seeking to ensure proper use of taxpayer dollars. However, this accountability could become a pretext for government interference in farming. Agricultural producers should know all too well that there is increasing pressure for policymakers to heavily regulate genetic engineering, industrial farming, and animal practices that may be humane, but draw criticism from some activists.

Quite simply, there are many organizations that do not like modern-day farming practices and would like to see their preferred methods of agriculture be adopted. Federal funding makes the case to interfere in farming much easier. This interference may accumulate gradually; like the frog slowly boiling in the pot, farmers may wake up and realize they gave up too much of their freedoms to secure money that was unnecessary for their success.

## Conclusion

Federal agricultural subsidies to reduce economic risks harm taxpayers, rural communities, and the agricultural sector itself. By selecting winners and losers, federal subsidies addressing agricultural risk distort the market, thereby leading to numerous negative unintended consequences. Lawmakers need to fundamentally rethink the agricultural safety net.

## Section 3: Commodity Programs

*Josh Sewell*

Agricultural commodity programs are a legacy of the government's attempts to raise farm income during the Great Depression—programs that continue today despite the fact that farm household income greatly exceed that of non-farm households.<sup>106</sup> These programs, which at the time of farm bill passage were projected to cost \$44 billion from 2014–2023,<sup>107</sup> include subsidies such as price supports and quotas that are supposed to help farmers, but do so at the expense of taxpayers and consumers. The agricultural sector is well equipped to handle risk and does not need special handouts. This section provides some background on commodity programs in general, and then highlights the problems with major commodity programs.

### Commodity Programs: In General

Federal taxpayers are forced to subsidize a number of programs targeted at producers of certain agricultural products, many of whom make more than the average taxpayer. Managed primarily by the USDA's Farm Service Agency (FSA) and financed by the government-owned Commodity Credit Corporation (CCC), these agricultural commodity programs are intended to support farm incomes primarily by making payments when income or prices fall short of government-set targets, by reducing the supply of commodities in the market, and subsidizing loans. The crops that are covered by each program are specified in legislation but consist primarily of row crops that are easily stored and traded, such as corn, soybeans, wheat, cotton, and rice.<sup>108</sup> In addition, there are unique income-protection programs for dairy and high price supports to prop up the sugar industry. All of the commodity programs make costly intrusions into the market. A list of current commodity programs and a brief description of how they work is provided on the next page.

**Commodity Programs Are Unjustified.** As shown in great detail in Section 1, farmers are not in need of special handouts and do not need to be treated any differently than other business leaders. Farm households have higher incomes and greater levels of wealth when compared to all American households. Over the past 80 years, the agricultural sector has developed new technologies and innovations and opened new markets that have led to more stable incomes and increased profitability.

Yet, public misperception of the American farmer as technologically backward and defenseless against the whims of the weather and markets leads to misunderstanding of the condition, needs, and capabilities of agriculture to manage its affairs without costly federal commodity programs. In addition, consolidation into a smaller number of farmers operating ever larger operations has concentrated benefits on a small number of actors that fiercely defend their subsidies, making it difficult to reform outdated policies.

Commodity programs are a classic case of concentrated benefits and dispersed costs. The benefits of the program go to a small number of people, while the costs are paid by all taxpayers. Ending commodity programs would eliminate generous income subsidies for a small number of beneficiaries, generally large agricultural producers, and eliminate the serious harm imposed by subsidies. Agriculture of today is a far cry from agriculture of the 1930s, but that difference is not reflected in federal policy.

### Who Is Receiving Commodity Subsidies?

Commodity subsidies benefit a small number of farmers, and only farmers growing certain crops. According to the USDA's "Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition,"<sup>109</sup> only 25 percent of all farms received payments from agriculture commodity-related programs.<sup>110</sup>

From FY 2005 to FY 2014 just five crops (corn, cotton, wheat, rice, and soybeans) accounted for approximately 90 percent of commodity payments administered by the USDA's Farm Service Agency.<sup>111</sup> While these are some of the most widely grown crops, payments from the USDA are also highly concentrated with a small number of farmers of commodities receiving large payments. From 1995 to 2012 the top 10 percent of commodity payment recipients received 77 percent of commodity payments.<sup>112</sup>

Payments are geographically concentrated as well. Just 10 congressional districts received nearly one-third of payments in 2012, with 22 districts accounting for more than 50 percent of payments and 41 districts accounting for two-thirds of the more than \$5.3 billion in commodity payments in 2012.<sup>113</sup> States in the Great Plains, Corn Belt, and Texas routinely receive the most commodity payments. The concentration of benefits to a small number of producers in a small number of congressional

## Current Commodity Programs

<b>Agricultural Risk Program (ARC)</b>	A program that makes payments to farmers when revenue from commodities falls slightly short of levels experienced in recent years. The revenue target is based on averages calculated at the county level (ARC-County) or individual farm basis (ARC-Individual).
<b>Price Loss Coverage (PLC)</b>	A target price program that makes payments to farm operators when the national average price for a commodity falls below a price set in the 2014 farm bill. Applies to 21 specific commodities.
<b>Marketing Assistance Loans (MAL) and Loan Deficiency Payments (LDP)</b>	MALs are low interest government loans, in which the commodity is collateral, utilized for short-term financing at harvest, allowing producers to store their crops until prices are likely to be higher. At loan maturity MALs are repaid in cash or, if prices are lower than rates specified in the loan, the commodity can be forfeited. In order to discourage forfeitures, MALs can often be repaid at levels less than the original principal amount, creating a “marketing loan gain” for the level of debt forgiven. Loan Deficiency Payments occur when producers that are eligible for MALs instead choose to receive a payment equivalent to the “marketing loan gain.”
<b>Permanent Disaster Assistance Programs</b>	<p><i>Livestock Forage Disaster Program (LFP)</i> makes payments when drought or fire impact federal grazing lands</p> <p><i>Livestock Indemnity Program (LIP)</i> pays producers for livestock deaths due to weather or attacks by wild animals either reintroduced by or subject to protection by the federal government (i.e. wolves).</p> <p><i>Emergency Assistance for Livestock, Honeybees and Farm-Raised Fish Program (ELAP)</i> makes payments for losses due to disease, weather, and wildfires.</p> <p><i>Tree Assistance Program (TAP)</i> pays for orchards and nurseries to replant or rehabilitate trees and bushes;</p>
<b>Noninsured Crop Disaster Assistance Program (NAP)</b>	Provides payments for noninsurable crop losses due to drought, flooding, hurricanes, or other natural disasters
<b>USDA Loans</b>	Low rate loans are available for construction of farm storage or handling facilities, farm purchases, operations and expenses, and to cover costs in federally declared disaster areas.
<b>Dairy Programs</b>	<p><i>Federal Milk Marketing Orders</i> require companies that package milk or make products from milk purchase the milk from dairies at specific minimum prices determined by the end-use of the milk.</p> <p>The <i>Margin Protection Program (MPP-D)</i> makes payments to dairy producers depending on the difference between the national price of milk and average price of feed. “Catastrophic” coverage is free with producers able to pay premiums to elect higher levels of guaranteed margins</p> <p><i>Dairy Product Donation Program (DPDP)</i> requires USDA to purchase dairy products, which are then donated to public and private nonprofit organizations, during times of low dairy prices.</p>
<b>Sugar Programs</b>	<i>Tariff Rate Quotas (TRQs)</i> specify the amount of low-tariff sugar that can be imported on a per-country basis. Imports of sugar beyond these quotas result in prohibitively high tariffs.



The USDA provides *short-term, non-recourse loans* to sugar processors at specified rates on the condition the processors make payments to sugar producers roughly equivalent to the rates provided by USDA. Instead of repaying the loans, refiners can forfeit sugar in times of surplus.

*Marketing Allotments* specify the amount of sugar each sugar refinery is allowed to refine with the intent of keeping sugar prices high and avoiding loan forfeitures.

*Feedstock Flexibility Program* requires the USDA to buy sugar and re-sell it at a loss to ethanol plants when “excess” sugar is on the market.

districts provides commodity groups an outsized advantage when it comes to securing and maintaining special treatment from Washington.

### The Flaws of the Major Commodity Programs

For the most part, agricultural support has shifted from supply controls (planting quotas, tariffs, and payments to take land out of production) to programs subsidizing income which are less tied to planting decisions. The nexus for this move toward less centralized and bureaucratic, but still government-directed farm programs was the 1996 farm bill. This bill eliminated counter-cyclical programs, those that made payments when prices were below government-set target prices, and most planting limitations or other controls on production, replacing them with fixed annual direct payments. These direct payments went to producers based on acres that had historically been planted with a program commodity (referred to as “base acres”), were set to be temporary, and were promoted as a means of weaning farmers off federal supports. Yet, when prices declined in the late 1990s, lawmakers revived the counter-cyclical payments, providing more than \$20 billion in ad-hoc Market Loss Assistance (MLA) payments and permanently reviving the counter-cyclical payments in the 2002 farm bill. Despite the revival of the counter-cyclical program, direct payments were continued as well in both the 2002 and 2008 farm bills.

The attempt to move commodity programs toward less centralized and bureaucratic but still government-directed commodity programs, occurred as the farm safety net was transitioning away from one centered on direct government

control and toward managing the risks of production. The centerpiece of the “risk management” regime is the federally subsidized crop insurance program. Covering more than 120 crops, federally subsidized crop insurance is now the single largest support program for production agriculture at more than \$8 billion a year.<sup>114</sup> (Crop insurance is discussed in Section 4.) Despite the emergence of crop insurance as a cornerstone of federal agricultural policy, lawmakers continue to create new commodity programs to guarantee income for certain producers.

**Commodity Programs Are Tantamount to Central Planning.** A fundamental problem with all commodity programs is that they attempt to supplant the natural workings of the marketplace with the wisdom of Washington. The New Deal era commodity programs attempted to raise the income of farmers by increasing prices through policies that restricted supply. Supply controls and quotas are still used, most notably in the sugar program, but federal policy undertakes different approaches for other commodities. Biofuels mandates attempt to increase prices for feedstock producers, mainly corn, and create markets for other biofuels by manufacturing demand. The bulk of federal policy now attempts to supplement incomes of commodity producers by shifting tax dollars directly to producers through commodity payments and highly subsidized revenue insurance. Whatever the mechanism, federal commodity programs are an attempt to control the workings of the agricultural markets.


Programs sending tax dollars to farmers do so either because of the production decisions made on those farms or simply because those farms exist.

TABLE 5

## Farm Bill Reference Prices Compared to Commodity Price Projections

FARM BILL REFERENCE PRICE		COMMODITY PRICE PROJECTIONS				
		2014–2015	2015–2016	2016–2017	2017–2018	2018–2019
Corn: \$3.70 per bushel	May 2013	\$4.45	\$4.52	\$4.54	\$4.56	\$4.58
	April 2014	\$3.90	\$4.00	\$4.19	\$4.35	\$4.45
	March 2016	\$3.70	\$3.60	\$3.52	\$3.59	\$3.71
Wheat: \$5.50 per bushel	May 2013	\$5.81	\$5.75	\$5.86	\$5.95	\$6.01
	April 2014	\$5.40	\$5.60	\$5.65	\$5.65	\$5.78
	March 2016	\$5.99	\$5.00	\$4.50	\$4.58	\$4.75
Soybeans: \$8.40 per bushel	May 2013	\$10.12	\$10.16	\$10.21	\$10.50	\$10.53
	April 2014	\$11.06	\$10.02	\$10.06	\$10.87	\$11.11
	March 2016	\$10.10	\$8.75	\$8.55	\$8.77	\$8.85
Rice: \$14.00 per cwt.	May 2013	\$14.47	\$14.37	\$14.22	\$14.12	\$14.19
	April 2014	\$15.25	\$14.97	\$14.84	\$15.06	\$15.11
	March 2016	\$13.56	\$12.92	\$13.44	\$13.48	\$13.36

**SOURCE:** Congressional Budget Office, “USDA Mandatory Farm Programs—Baseline Projections,” May 2013, April 2014, and March 2016, <https://www.cbo.gov/publication/51317> (accessed August 5, 2016).

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Payments, whether “coupled” or “de-coupled” to a farmer’s decisions, are inherently problematic. De-coupled payments, by their design, go to farmers regardless of the growing conditions they face or market conditions. Direct payments were a prime example of the problem. Thus they can go to farmers who do not need them, simply pad income when farmers experience good years, and even cover land that is not in crop production. All of these issues were common in the direct payment program that directed approximately \$5 billion a year toward farm land with base acres. Coupled payments, however, influence a farmer’s farm management decisions. If the only way to get subsidies is to plant certain crops, it is inevitable some farmers will grow those crops. These decisions impact the availability of commodities for consumers, manufacturers, and have major implications for trade agreements.<sup>115</sup>

### Title I Commodity Programs in the 2014 Farm Bill

The 2014 farm bill made significant changes to federal commodity programs. While the bill eliminated a number of commodity programs, including direct payments, a number of new potentially costly income guarantee programs were created.

Instead of just getting rid of direct payments, the Average Crop Revenue Election (ACRE) program, and counter-cyclical payments, Congress created two new major programs: Agricultural Risk Coverage and Price Loss Coverage. For commodity supports, the 2014 farm bill created a scenario where producers on farms with base acres can elect to participate in one of two primary FSA-operated income support programs, Price Loss Coverage (PLC) or Agricultural Risk Coverage (ARC).<sup>116</sup> The election a farm owner or operator makes is made on a per-farm basis<sup>117</sup> and is irrevocable; applying to each year the current farm bill is in effect (currently 2014 through

the 2018 crop year). There is no enrollment fee or deductible charged to participate.

**Price Loss Coverage.** The PLC program makes payments to farmers when the national average farm price for a commodity falls below a price set in the farm bill. If the national average price for a covered commodity falls short of this “reference price,” producers enrolled in PLC will get a payment. The actual price a farmer receives for their crop does not matter. Payments are based on national averages.

One problem with dictating prices from Washington is that target prices can be much higher than market prices. The reference price for certain commodities is set so high as to make payments likely, especially given current price projections, making PLC look less like a safety net program and more like one designed to transfer income to certain producers.

Table 5 shows the reference prices for corn, wheat, soybeans, and rice<sup>118</sup> and compares them to the outdated prices<sup>119</sup> that the CBO used (prices in the May 2013 baseline) in estimating the cost of the enacted farm bill. Before passage of the farm bill, wheat and corn prices had already dropped significantly, so lower prices should not have come as surprise.<sup>120</sup> Table 5 also shows that the March 2016 CBO commodity prices are often below the reference prices.

There is also no requirement that farmers plant base acres with the “base” crop. While this enables producers to make planting decisions based on what they determine is in their economic interest rather than simply what happened to be planted on their base acres in previous years, the calculation of “loss” due to prices falling below the government set reference price may not be directly tied to the farmers’ actual experience. Thus it is possible for farmers to get a payment for “losses” on base acres even if they were not growing that crop. For example, corn base acres could receive a payment if corn prices fell even if the acres had been planted to soybeans. In fact, base acres planted to a cover crop, one designed to protect or increase soil health but not intended as a marketable commodity, remain eligible for commodity payments.

**Agricultural Risk Coverage.** The ARC program is often referred to as a shallow loss program. Any myth that commodity programs are supposed to act as a safety net as opposed to an income guarantee is quickly dispelled by this program. Under ARC, payments are based on calculated revenue rather than

simply a commodity’s price. The benchmark is set at 86 percent of the five-year Olympic average (highest and lowest years removed from the calculation).<sup>121</sup>

The ARC program is problematic for a number of reasons. First, it suffers from the same base versus actual plantings issue, where producers may get payments for base acres that are in fact planted to a different, even successful, crop.<sup>122</sup> In addition, using national prices and county-level average yields could result in a producer whose individual farm outperforms the county average receiving a payment when he actually “suffers” a better than average yield. As long as the calculated revenue for a commodity falls below the benchmark revenue, all producers with base acres for that commodity will receive payments, regardless of the actual yield or prices they received for growing their crops. And the reverse could happen: A producer operating on land that routinely underperforms his neighbors’ average may not receive a payment if the county average is sufficiently high enough, even if his individual farm falls short of revenue levels it generated in recent years.

The very notion of a shallow loss program guaranteeing revenue is itself problematic. Taxpayers spend more than \$8 billion a year running the federally subsidized crop insurance program.<sup>123</sup> This program enables producers of commodities to lock in revenue guarantees of as much as 85 percent of their anticipated revenue, with the average insurance contract 70 percent–75 percent depending on location and commodity. By setting the payment formula to 86 percent of the benchmark revenue, ARC is intended to cover dips in revenue that are too “shallow” to trigger crop insurance payments. No other industry has an explicit government guarantee designed to compensate individual businesses that “suffer” from small dips in revenue. For example, restaurant owners do not receive payments when their sales fall relative to previous years. Likewise, shoe store owners whose sales are hurt during a recession do not receive help from the federal government. The program is not about helping to manage risk as much as helping to guarantee that farmers prosper at the expense of taxpayers, who on average have less income and less wealth than the vast majority of farmers.

Even the American Farm Bureau Federation (AFBF) was concerned about shallow loss programs when the program was debated in Congress. As the AFBF wrote in an October 17, 2011, letter to the House and Senate Agriculture Committees:



Our biggest concern is that by reducing the risk of shallow losses, farmers may be encouraged to take on more risk than they would in response to market signals alone. This is basically analogous to the classic moral hazard problem of insurance. Insured individuals may engage in riskier behavior than they would if they weren't insured.<sup>124</sup>

In the same letter, the AFBF also explained why such programs are questionable in value, and effectively acknowledged that a shallow loss program is not a safety net for farmers:

A shallow loss program is a drastic departure from any previous farm policy design. Federal farm programs have traditionally existed to help farmers survive large, systemic losses. Shallow losses, however, can arise from a variety of systemic or individual sources and do not typically jeopardize the survival of a farm operation.

Shallow loss programs are not disaster programs. Producers of commodities already have numerous unsubsidized means of managing cash flow and reducing their vulnerability to revenue swings, such as hedging, contracting, diversification, and asset leveraging—not to mention off-farm income. Providing shallow loss programs is simply adding a platinum layer to an already gold-plated crop insurance subsidy scheme.

**ARC and PLC Are More Costly Than Promised.** Both programs may prove to be more costly than the programs they replaced. For example, the 2014 farm bill was notable because proponents claimed its expansion into new shallow loss and target price programs would reduce federal deficits. Elimination of commodity programs—such as direct payments, ACRE, and the Counter-Cyclical Program, and replacing them with ARC and PLC—were projected to reduce commodity program spending by \$14.3 billion over FY 2014–2023 in CBO's cost projections for the 2014 farm bill.<sup>125</sup> But cost estimates released in March 2016 cast doubts on taxpayers realizing these savings. The total projected tab for ARC and PLC for 2014–2023 increased by 57 percent to \$42.6 billion and by 71 percent to \$30.6 billion for the first five years of payments under the program.<sup>126</sup>

Farm bill proponents tout the projected cost savings generated by the legislation and point to farmers' willingness to forgo direct payments as hallmarks of

good policy and an example of agriculture sacrificing in the service of deficit reduction. Yet, it is highly unlikely replacing direct payments with ARC and PLC will in fact generate promised budget savings. Prior to farm bill passage, the CBO baseline projected the direct payment program would have cost \$22.7 billion if they had not been eliminated (covering the five-year period of the farm bill). For the five-year farm bill, ARC and PLC were projected to cost \$17.9 billion, resulting in net deficit reduction of \$4.8 billion.<sup>127</sup> But the CBO's updated cost estimates now say five-year costs for ARC and PLC will be 30.6 billion, meaning ARC and PLC are projected to cost \$7.9 billion more than direct payments were expected to cost.<sup>128</sup>

**The Dairy Program.** Federal dairy policy has failed to adjust to modern markets and technologies. Federal dairy policy is predicated on the notion that fluid milk is a highly unstable commodity that must be consumed quickly and near its source. But it is no longer 1937. Improvements in transportation infrastructure, expansion of global markets and modern technology, everything from refrigeration to improved packaging that can even make unrefrigerated boxed milk shelf stable for months, have eliminated this justification. (See Section 1 on management of agricultural risk that highlights the differences between the 1930s and today.)

Like other commodities, federal intervention in the dairy market increased during the Great Depression and has evolved, though remained unabated to this day. Taxpayers guarantee the incomes of dairy producers mainly through price guarantees and a subsidized insurance-like program that covers income. While different in their details, both programs require intense governmental intrusion in the dairy market.

Federal Milk Marketing Orders (FMMOs) are the primary tool the government guarantees minimum prices for dairy producers. Under FMMOs, companies that package milk or make products from milk are required to purchase milk from dairies at minimum prices. The price depends on the end-use, with "fluid milk" (the gallon purchased at the grocery store) guaranteed the highest price while milk turned into cheese, yogurt, and other products is set to a lower minimum price. This requirement raises the price of milk for drinking while lowering the price that would be paid for milk used to produce milk-based products.

The 2014 farm bill created an insurance-like program to put taxpayers on the hook for guaranteeing income of dairy producers. The Margin Protection

Program (MPP) is a voluntary program where dairy producers receive payments designed to compensate them when the margin between fluid milk prices and feed costs fall below guaranteed levels. The cost to participate is a \$100 annual fee and a subsidized premium if they elect higher than minimum coverage.<sup>129</sup>

Ultimately, both programs manipulate the workings of the dairy sector influencing the prices consumers pay for both milk and milk-based products, impact the costs of other federal safety net programs, and make taxpayers subsidize dairy producers instead of requiring them to improve the efficiency of their operations or otherwise manage their operating risks.

**The Sugar Program.** While federal commodity, and even specialty crop, policies are moving away from command and control mechanisms and toward subsidization of risk-management tools, federal sugar policy is an outlier. The web of federally funded price supports and supply restrictions that prop up the domestic sugarcane and sugar beet industry were unchanged by the 2014 farm bill. Federal sugar policy is the poster child for central planning even compared to the other commodity programs, to the detriment of taxpayers and consumers.

The sugar program artificially inflates the price of sugar, and therefore the income of sugar producers, by providing both a price floor and numerous programs that decrease the supply of sugar. Sugar refiners can use the sugar they refine as collateral for securing below-market rate nonrecourse marketing loans. Under these short-term loans (typically nine months), refiners receive cash to finance their operations, allowing them to store sugar for sale later. When these loans mature they must be paid back with interest or, if the price of sugar is below the rate set in the loan, refiners can forfeit the sugar to the government.

In order to avoid forfeitures by keeping prices high, the government institutes a number of controls that restrict supply. Annual marketing allotments limit the amount of sugar each domestic processor is allowed to sell; it is hard to imagine that in the United States, the land of the free, the federal government dictates how much of a particular good someone can sell. That is not all. Countries that export sugar to the United States face an annual cap to the amount that can be imported, with any beyond this amount subject to confiscatory tariffs. Finally, the 2008 farm bill created a program that requires USDA to purchase excess sugar and sell it at

a loss to biofuels companies to turn into ethanol. All of these efforts result in U.S. sugar costing as much as twice what it costs in the world market.

Federal sugar policy is flawed and costly to consumers and taxpayers. Government intervention increases both the wholesale cost of sugar and the price of products made with sugar in essence creating a hidden tax estimated to cost on average \$3.7 billion a year.<sup>130</sup> The Department of Commerce found unnecessarily high prices are a determining factor in food manufacturers deciding to relocate to foreign countries, and the high prices result in three confectionary industry job losses for every one sugar growing or harvesting job saved.<sup>131</sup>

The federal sugar program also imposes costs on the federal government. The CBO estimates the sugar program will cost \$83 million through 2024.<sup>132</sup> In FY 2013 the USDA implemented the provisions for purchasing sugar and selling at a loss to biofuels manufacturers, resulting in a loss of \$173 million.<sup>133</sup>

**Trade Problems of the Commodity Programs.** Subsidies can be very harmful, including when it comes to trade. For years federal taxpayers paid \$147 million per year to prevent Brazil from taking retaliatory action for a successful WTO challenge to U.S. cotton subsidies.<sup>134</sup> After spending \$496 million on these payouts, the USDA announced an agreement with Brazil for payment of a final payoff of \$300 million in addition to changes to cotton farm programs to drop the case.<sup>135</sup> The new commodity programs passed in 2014, however, created new vulnerabilities in the WTO. Now, large payments can influence farmers' planting decisions, thus causing increased production and lower world prices. Large program outlays potentially leave a commodity vulnerable to challenge under the WTO similar to the cotton case.<sup>136</sup>

## Conclusion

Agricultural commodity programs are an outdated legacy of centralized and bureaucratic governmental meddling in the market. These programs continue even as much of the taxpayer-funded agricultural safety net has shifted from direct income support or supply controls toward managing the financial risks of production—most notably through the highly subsidized federal crop insurance program (discussed in the following section). Lawmakers need to fundamentally rethink the role of commodity programs in a 21st-century economy.



## Section 4: Crop Insurance

*Brian Wright*

The federal crop insurance program was greatly expanded in 1980 to replace a standing disaster payment program. At that time, disaster assistance was thought to be too costly and there were also concerns that farmers were being encouraged to plant crops in marginal lands,<sup>137</sup> described by the USDA as being “characterized by lower yields and a higher probability of losses.”<sup>138</sup>

The expansion of the federal crop insurance program was seen as an alternative way to provide disaster protection for farmers that would reduce costs and address moral hazard (parties taking on risky practices because they do not incur the risks).

The program has been a failure, particularly when measured against the major objective, to reduce costs. The disaster assistance that Congress deemed to be too costly in 1980 was replaced with a crop insurance program that is six times greater in cost, adjusted for inflation.<sup>139</sup>

The federal crop insurance program is the most expensive agricultural program and the costs have increased substantially in recent years. Costs for the federal crop insurance program averaged \$3.8 billion annually for fiscal years 2004 through 2008 and skyrocketed to \$8.5 billion annually for fiscal years 2009 through 2014. Using the March, 2016 Congressional Budget Office baseline, those costs are expected to average \$8.4 billion per year for fiscal years 2015 through 2024.<sup>140</sup>

Of particular importance is recognizing what was not a reason for creating the program. There was no desire to create a bigger taxpayer-funded “safety net” for farmers or a belief that farmers were struggling and therefore needed a crop insurance program to help them out; the program was the policy option Congress chose to address disaster protection in a less costly manner.<sup>141</sup>

Moral hazard problems still exist because premium subsidies can encourage agricultural practices that farmers may not choose to engage in absent the subsidies. The program discourages private risk management because much of the risk is borne by taxpayers.

This section provides some background on the crop insurance program, highlighting several critical points that demonstrate that the program has been a failure, and also how the program has completely veered off course from its mission of protecting farmers from disasters.

### Brief History of Crop Insurance

In the 1970s, the Agriculture and Consumer Protection Act of 1973 and the Rice Production Act of 1975 authorized the disaster payments program. The costs for these programs were soon deemed to be extremely high and therefore an alternative was sought. Moreover, these programs were thought to have moral hazard problems. From FY 1975 to FY 1981, the average annual costs of disaster payments were \$510 million.<sup>142</sup> To put this in perspective, the cost of the federal crop insurance program was \$8.5 billion a year from 2009–2014,<sup>143</sup> which is six times greater when adjusted for inflation.<sup>144</sup>

In response to these concerns, Congress passed the Federal Crop Insurance Act of 1980, which expanded the modest experimental crop insurance program that had been authorized in 1938. The expansion of the crop insurance program was promoted as a way to eliminate the disaster payment program, and it subsidized premiums paid by farmers for crop insurance. Private crop insurance companies, which had to be approved by the government to participate in the program, would now deliver crop insurance to farmers. It should be noted that the crop insurance program focuses on a specific type of crop insurance referred to as multiple peril insurance (i.e., covering multiple perils), as opposed to named peril insurance, such as crop-hail insurance (covers perils such as hail, wind, and fire),<sup>145</sup> which is offered independent of the crop insurance program.

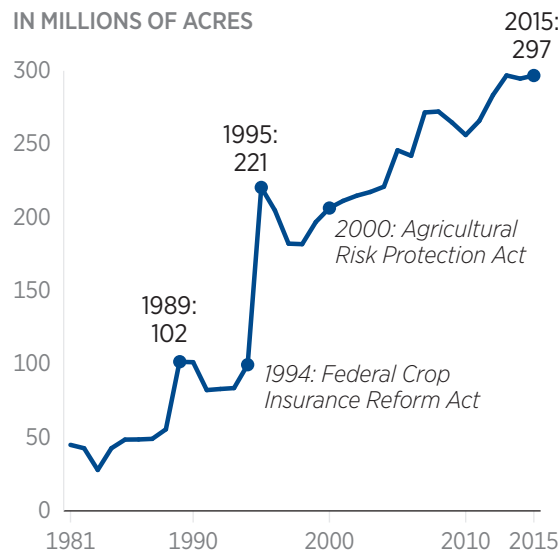
The program had very low participation. Even with a subsidy as high as 30 percent for premiums (the average rate was 25 percent<sup>146</sup>) national participation was only 25 percent of eligible area in 1988. Ad hoc disaster assistance enacted by Congress following droughts in 1988 and 1989 required disaster recipients to purchase crop insurance, but even with this boost, crop insurance participation was about 40 percent by 1990.<sup>147</sup> Most farmers simply did not deem it necessary to participate in the program.

In 1990, the Bush Administration proposed eliminating the crop insurance program. By then, it was clear the program had been a failure. As explained in its 1990 farm bill proposal, “The [crop insurance] program has suffered from poor financial performance and has failed to prevent passage of costly ad hoc disaster assistance when crop losses are

CHART 8

## Land Enrolled in the Federal Crop Insurance Program

IN MILLIONS OF ACRES



**SOURCES:** Joseph Glauber, “Crop Insurance Reconsidered,” *American Journal of Agricultural Economics*, Vol. 86, No. 5 (February 2004), pp. 1179-1195, [https://www.researchgate.net/publication/4739539\\_Crop\\_Insurance\\_Reconsidered](https://www.researchgate.net/publication/4739539_Crop_Insurance_Reconsidered) (accessed April 14, 2016), and Risk Management Agency, “Summary of Business Reports and Data,” <http://www.rma.usda.gov/data/sob.html> (accessed August 1, 2016).

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widespread.”<sup>148</sup> From 1981–1988, the average annual cost for both crop insurance and ad hoc disaster assistance combined was \$1.1 billion. Just crop insurance alone (based on 2009–2014 average annual costs)<sup>149</sup> is about four times greater than both crop insurance and ad hoc disaster assistance during that time period (adjusted for inflation).<sup>150</sup>

The Administration argued that a “standing disaster assistance program that provides protection against catastrophic losses would allow private insurers to develop multiple peril crop insurance coverage for individual farmers.” This proposal to eliminate the crop insurance program was not adopted, but the concerns expressed 25 years ago are even more relevant today.

In 1994 Congress passed the Federal Crop Insurance Reform Act. This legislation did several things, including making participation in a program called catastrophic (CAT) coverage mandatory for

farmers participating in certain farm programs, and increased premium subsidies, making it more appealing for farmers to buy higher levels of coverage.

As explained by the USDA, “CAT coverage compensated farmers for losses exceeding 50 percent of an average yield paid at 60 percent of the price established for the crop for that year.”<sup>151</sup> The premiums were fully subsidized by taxpayers. Participants only had to pay \$50 per crop within each county. The mandatory provision was removed in 1996 and area enrolled in CAT coverage fell almost 24 percent (from 115 million acres in 1995 to 88 million acres in 1996).<sup>152</sup> For 27 million acres, CAT coverage was not worth even \$50 per farm. These deep losses were apparently a negligible problem for these farms. Even with such a generous program, many farmers did not deem this coverage necessary to purchase.

The 1994 law did help to increase participation. To further increase participation, Congress passed the Agricultural Risk Protection Act of 2000. The average premium subsidy is now at 62 percent, meaning farmers pay only 38 percent of the premium for their crop insurance while taxpayers bear the remaining 62 percent. Not surprisingly, participation has continued to increase. (See Chart 8.)

There has been so much attention to driving up participation rates that success with participation has somehow become the narrative that crop insurance is a success (e.g. farmers are widely participating and therefore must find the program valuable, therefore it is a success). Forcing taxpayers to pay an increasing amount of subsidies to get farmers to participate in a program that they would not pay for if they were charged the full costs does not constitute success. However, it does show that enough financial incentive, not surprisingly, will convince farmers to enroll in something they otherwise would not buy on their own.

When measured against the major objective of reducing costs, crop insurance is a failure. The program was supposed to be a more cost-effective way to provide disaster protection. It has not only failed in this regard, but has made the cost problems far worse.

### Important Background About Crop Insurance

The federal crop insurance program was just one approach to providing disaster protection for farmers. Given its cost, policymakers should be examining what, if anything, really needs to be done to assist



TABLE 6

## Premium Subsidy Rates for Yield Protection Insurance

	COVERAGE LEVEL			
	55%	65%	75%	85%
Federal Crop Insurance Act of 1980	30%	30%	16.9%	n/a
Federal Crop Insurance Reform Act of 1994	46.1%	41.7%	23.5%	13%
Agricultural Risk Protection Act of 2000	64%	59%	55%	38%

**NOTES:** The premium subsidy rates for revenue protection are the same as that listed under the Agricultural Risk Protection Act of 2000. Revenue-based insurance was not an option for farmers until 1997.

**SOURCES:** Joseph Glauber, "Crop Insurance Reconsidered," *American Journal of Agricultural Economics*, Vol. 86, No. 5 (February 2004), Table 2, "Premium Subsidy Rates for APH (Crop Yield) Insurance," [https://www.researchgate.net/publication/4739539\\_Crop\\_Insurance\\_Reconsidered](https://www.researchgate.net/publication/4739539_Crop_Insurance_Reconsidered) (accessed April 18, 2016), and National Crop Insurance Services, "Crop Insurance Plan Comparison," October 2014, <https://www.ag-risk.org/NCIS PUBS/Training/insplancomp.pdf> (accessed March 15, 2016).

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farmers with disasters. They should not just assume the crop insurance program is required without evaluating it, and should take the time to recognize its flaws.

**"Crop Insurance" Is Less About Insurance and More About Providing Subsidies to Farmers.** "Crop insurance" in the agricultural policy context refers to taxpayer-funded multiple peril crop insurance. Critics of the crop insurance program are not opposed to private crop insurance; they are concerned about this taxpayer-funded program. The program is also completely unrelated to private insurance that farmers can and do buy just like anyone else, such as life insurance, insurance for buildings and equipment, and even certain types of private crop insurance such as crop-hail insurance. The federal crop insurance program provides subsidies for multiple peril insurance that protects farmers from numerous causes of risk, including natural disasters and other risks that have nothing to do with disasters.

**Crop Insurance Provides Coverage Even When There Is Not a Disaster.** The federal crop insurance program does not require a disaster or even yield losses to have occurred for farmers to receive indemnities. Crop insurance, promoted as an alternative to the costly disaster payment program, has instead morphed into a price support program that addresses very modest losses and indeed can reward farmers whose income is higher than usual.

There are generally two types of policies: yield-based and revenue-based. A yield-based

policy protects farmers from yields that are lower than expected due to events beyond the control of farmers, such as weather and disease. In 1997, revenue-based insurance became an option for farmers and now accounts for 77 percent of all policies earning premiums in 2014.<sup>153</sup> As explained in a Congressional Research Service report, "By 2003, acreage under revenue-based insurance exceeded acreage covered by yield-based policies."<sup>154</sup> It is only recently that revenue-based insurance has been available to farmers and that more acreage was covered by these policies than yield-based policies.

These revenue-based policies are more popular than yield-based policies because they do not require yield losses. Farmers can even have greater yields than expected and still could get indemnity payments if commodity prices are lower than expected. A revenue-based policy protects against dips in expected revenue due to low prices, low yields, or both. The federal government should not be in the business of insuring price or revenue; agricultural producers, like other businesses, should not be insulated from market forces and assured of financial success.

**Crop Insurance Subsidizes Very Minimal Losses.** The crop insurance program is not just focused on catastrophic losses. Taxpayers subsidize up to an 85 percent coverage level for some crops, which means that if a producer's yield or revenue loss is more than 15 percent of normal, indemnities can kick in (85 percent of losses can be covered). While subsidy rates decline as the coverage level increases,

## Harvest Price Option Hypothetical

This hypothetical uses numbers and examples from an Environmental Working Group report, “Taxpayers, Crop Insurance, and the Drought of 2012,” April 2013.<sup>1</sup>

Assume an Illinois corn producer in 2012 with an Actual Production History (APH) yield of 200 bushels per acre. (APH is a measure of a farmer’s actual crop yields based on past experience.) The planting time price for corn revenue policies in Illinois was \$5.68 per bushel. His expected revenue in a “normal” year (where the yield is equal to the APH yield) would be \$1,136 per acre ( $5.68 \times 200$ ). Assume that he signs up for 85 percent coverage (not uncommon in Illinois where premium rates are lower than in other parts of the corn belt).

The implicit revenue guarantee is \$965.60/acre ( $.85 \times 200 \times 5.68$ ). Because of the drought, his yield is only 150 bushels. But because of the drought, the price at harvest is \$7.50 per bushel. The value of his harvested crop is thus \$1,125 ( $150 \times 7.50$ ). Under the revenue contract, he is eligible for a payment because his yield was 20 bushels below 85 percent of the APH. He thus receives an indemnity payment of \$150/acre ( $20 \times \$7.50$ ). Note that total revenue is \$1,275 ( $\$1,125 + \$150$ )—compared to his expected revenue at planting of only \$1,136. This is one reason why farmers did so well in the Midwest during the drought. In 2012, corn producers who insured at 75 percent or higher made more than they would have in a normal year with prices at harvest equal to the planting price.<sup>2</sup>

1 Environmental Working Group, “Taxpayers, Crop Insurance, and the Drought of 2012,” April 2013, [static.ewg.org/pdf/2013babcock\\_cropInsurance\\_drought.pdf?\\_ga=1.193312493.1396854743.1447772804](http://static.ewg.org/pdf/2013babcock_cropInsurance_drought.pdf?_ga=1.193312493.1396854743.1447772804) (accessed March 31, 2016).

2 Ibid.

at the 85 percent level, taxpayers still subsidize 38 percent of the premium cost. The subsidy is 55 percent at the 75 percent coverage level.

In comparison, under the 1980 Act producers could receive a 30 percent premium subsidy for coverage levels up to 65 percent. The highest coverage level offered was 75 percent, and it was subsidized at “only” 16.9 percent. (See Table 6.) The current protection for minimal losses helps to effectively eliminate most downside risk for farmers and possibly cover losses that most businesses would consider normal business risk.

### Crop Insurance Can Lead to Windfalls.

Through the harvest price option, farmers can guarantee more revenue than they even expected at the time of planting. This option—available under revenue-based policies—allows farmers to be indemnified for yield losses at the higher of the price at planting or at harvest. As a result, farmers are discouraged from using the commodities markets to hedge against prices, which they should be doing as opposed to relying on government intervention.

The harvest price option can lead to absurd results. Agricultural producers can sometimes be eligible to receive a payment that makes them “more

than whole” (a windfall)—i.e., where the indemnity payment is so large that they made more money because of a yield loss than they would have had they harvested an average crop. (See the Harvest Price Option Hypothetical for an example.)

**Crop Insurance’s Bottomless Well of Subsidies.** Taxpayers are forced to subsidize the federal crop insurance program with no limits in place on the total benefits that can be received by participating farmers. For example:

There are no limits on the amount of premium subsidies that benefit farmers (for example, the direct payment program had a \$40,000 limit); and

There is no limit on total indemnities that farmers can receive.

### Who Participates in the Crop Insurance Program?

Measured by total acreage, the program does have wide participation as shown in Chart 8. According to the Congressional Research Service:

[A]pproximately 83% of U.S. crop acreage is insured under the federal crop insurance program. Four crops—corn, cotton, soybeans, and

wheat—typically account for more than 70% of total enrolled acres. For these major crops, a large share of plantings is covered by crop insurance. In 2014, the portion of total corn acreage covered by federal crop insurance was 87%; cotton, 96%; soybeans, 88%; and wheat, 84%.<sup>155</sup>

However, based on 2011 data, only about 15 percent of all farms participated in the crop insurance program.<sup>156</sup> This may seem very low, but as shown earlier, most farms are extremely small and provide little agricultural production, and some other farms may not be eligible for the program.

Over 120 crops are eligible for the crop insurance program,<sup>157</sup> up from 28 crops in 1980.<sup>158</sup> According to Environmental Working Group data, the top 20 percent of policyholders “received” 73 percent of the total premium subsidies.<sup>159</sup> Given that only a small percentage of farms participate in the crop insurance program, this high concentration of subsidy beneficiaries makes it even more compelling that a small minority of farmers with the largest farms reap the lion’s share of the benefits from the crop insurance program.

### **Government Failure: The Federal Multiple Peril Crop Insurance Program**

The crop insurance program has only increased the cost problem that it was supposed to solve, and the problem of moral hazard still exists. As if that is not enough, the program causes serious economic damage and other harms as most subsidies do. (See Section 2 on why subsidies to address risk are harmful.) Three specific harms are of particular concern:

**Squashes Innovation and Competition.** The current system is the equivalent of a government run cartel. The federal government has stepped in and controls the private crop insurance market in collaboration with its approved companies. The 17 crop insurance companies (for 2016) that participate in the federal program receive reimbursements to cover administrative and operating expenses<sup>160</sup> and also share in the underwriting gains and losses of the program. There are specific limits on competition between insurers. For example, companies are unable to compete on premium rates. If a company has a great idea for a new product, it must first get the approval of the government to be part of this subsidized program. If they seek to develop an unsubsidized product, they must report this to the USDA’s Risk Management Agency for them to determine whether it undermines the subsidized products.<sup>161</sup>

Farmers who participate in the crop insurance program are beneficiaries from the program, but they are also hurt as well. Federal intervention into the crop insurance market crowds out competition. The result is less innovation and fewer choices for agricultural producers to mitigate their risk. Specifically, this means that farmers are denied access to insurance products, which would have existed absent government intervention, that would have helped them to effectively meet the unique risk profile they specifically face. The very threat of competition has been met with a swift response. For example, as reported by the *Washington Post*:

In 2002, a small upstart insurance company approached the federal government with an idea. The company, Crop 1, was one of 16 firms that sold federally subsidized crop insurance policies to farmers under rates set by the government.

Crop 1’s plan was modest. It wanted to introduce a slight amount of competition by offering farmers discounts of up to 10 percent on their premiums.

An eruption ensued. The other companies quickly turned to Congress to quash the idea. In congressional testimony and letters to lawmakers and regulators, they complained that competing on price threatened the “unique public-private partnership” that the companies had with the government.

With the help of several powerful Members of Congress, the program was eventually derailed.<sup>162</sup>

**Discourages Sound Risk Management.** The crop insurance program provides a disincentive for farmers to manage farm risks and avoid environmental problems. In the crop insurance program, taxpayers pay 62 percent, on average, of the premium subsidies, with farmers paying only 38 percent. The coverage levels can be as high as 85 percent of expected yields or revenues. As a result, a major part of the risk is being borne by taxpayers, not farmers. This can lead to a situation where farmers are discouraged from managing risk properly because they do not bear the necessary risk.

This subsidized insurance program may cause producers to eschew risk-management strategies such as crop diversification, hedging, or the use of



hardy varieties. Because taxpayers bear the risk, farmers and input providers have less reason to innovate and identify new solutions to existing problems. Even worse, they may engage in agricultural practices that they otherwise would not choose, such as planting on marginal lands, which can exacerbate the costs that taxpayers have to cover.

The moral hazard problem is the same problem that played a significant role in getting rid of the disaster payment program and expanding the federal crop insurance program in the first place. In addition, the program has even become a competitor to private risk-management solutions. For example, the harvest price option is in effect a competitor to the use of hedging in the commodities market.

**Wealth Transfer.** Billions of dollars every year are being taken from taxpayers and provided directly or indirectly to wealthy agricultural producers and to private crop insurance companies. It is a massive wealth transfer, taking in part from those who can least afford it and giving money to those who can best afford it.

Crop insurance is a classic example of concentrated benefits and dispersed costs, a problem that runs throughout agricultural programs. Even with costs of about \$8.5 billion a year,<sup>163</sup> the costs are spread across all taxpayers, making the impact seem trivial. Those benefitting from the program, though, have a real incentive to protect this costly program and therefore are the most vocal.

### **The Market Failure Myth**

Some crop insurance and status quo proponents assert that, absent government intervention, there would be no crop insurance. This scenario is somehow considered a market failure, and obfuscates the real issue of the failure of crop insurance.

As has been stated, federally subsidized crop insurance was a means to provide disaster protection for farmers; it was the policy option that Congress chose in 1980. That choice has been a disaster. The crop insurance program was supposed to be an improvement upon the failed disaster payment programs, but has been even worse than these already faulty programs.

Farmers may or may not have a need for some government intervention when it comes to real disasters. That is the preliminary question that must be answered, and then *if* answered in the affirmative, the best solution would need to be identified. The specific policy recommendations on agricultural risk, including disasters, are discussed in Section 5.

As for the alleged market failure, farmers can already buy private crop insurance covering hail, crop fires, and strong wind. The “market failure” is really about whether a specific type of insurance, multiple peril insurance, will be made available without government intervention.<sup>164</sup>

The market is not failing when people do not buy this specific type of insurance, just like the market is not failing when people do not buy a Rolls Royce. It is simply a choice that is left to the demands of consumers. The product may not meet their needs or may simply not be worth the price. Systemic risk is also used to make the market failure argument. This risk is alleged to be an issue because major crop losses, such as losses from droughts, can affect the same large geographic areas, making it difficult to diversify the risk. However, such systemic risk can be effectively diversified. There is a significant global reinsurance market that dwarfs crop insurance liability (reinsurance refers to insurance for insurance providers). As explained by agricultural economists Barry Goodwin and Vince Smith, “Specifically, we do not accept the argument that national and global private reinsurance markets lack the capacity to handle U.S. agricultural systemic risk, which involves a maximum of about \$20 billion in total indemnity payments in any given year.”<sup>165</sup> According to a 2014 U.S. Department of Treasury report citing Aon Benfield (a major reinsurance firm), total global reinsurance capital amounted to \$570 billion in the middle of 2014.<sup>166</sup> This does not even take into account other means to diversify risk, such as through derivatives.<sup>167</sup>

Determining whether such insurance, which is just one of many risk management tools available to farmers, would be made available in this country absent government intervention is impossible. Even without the current modern-day crop insurance program, other farm subsidies have potentially crowded out such a product and sound private risk management that farmers already employ has likely reduced the need for such a product. It is conceivable that improvements in communications and monitoring technology could in the future enable the marketing of similar insurance at lower cost, possibly making it desirable. Regardless, before 1980, farmers somehow managed to flourish with a very small multiple peril crop insurance program with limited crop coverage. Modern-day farmers are no less capable than farmers in the 1970s.

## **Good Money After Bad**

Ironically, as agriculture becomes more sophisticated and technology has increased, the amount of risk that is being borne by agricultural producers in the crop insurance program has decreased. This development is the result of government intervention that is protecting farmers from almost any type of risk as opposed to providing protection from disasters.

By not eliminating the crop insurance program as it should have decades ago, Congress “doubled down,” and tried to address low participation by providing more subsidies for farmers to participate in the program, among other things. This “fix” ignored the real problems, including high costs. Participation, not cost reduction for disaster protection, has become the goal. This is the tail wagging the dog.

If farmers did not want to participate in the program at a level that made sense from a fiscal perspective, then that should have been the end of the program. After all, as has been stated, the main reason the crop insurance program even existed was to help reduce costs, not to increase costs. This misguided

approach has meant far more generous subsidies with farmers taking on far too little risk. Table 6 shows the remarkable and unwarranted increase in generosity to agricultural producers at the expense to taxpayers since the 1980s, when expanded insurance was adopted as a less costly way of managing disaster payments.

## **Conclusion**

The federal crop insurance program is a failure, but maybe more than any other agricultural program, it has become the most sacred cow among status quo proponents. While government intervention is unnecessary, even on its own terms, as a way to address disasters, this program is way off mission. It is not really about protecting producers from disasters, and as the alternative to the costly disaster payment program, federal crop insurance has made that program seem like a bargain in comparison. The crop insurance program was widely recognized as a failure decades ago, and time has only made its problems worse.



## Section 5: Policy Recommendations Regarding Agricultural Risk

*Daren Bakst, Josh Sewell, and Brian Wright*

The U.S. economy is based on free enterprise principles—except those principles do not apply when it comes to agriculture. Even for those who believe agriculture is somehow “special” compared to other industries, this status quo of subsidies, quotas, and other government interventions should be an outrage. If agricultural policy were being created for the first time, the very notion that government should construct a vast array of public programs to prop up farmers’ and ranchers’ financial well-being would be laughable.

The starting point for policy reform regarding agricultural risk should not be to look at existing policy, but to take a step back, assume no policy exists, and ask what kind of policies are needed, if any?<sup>2168</sup> This section identifies some factors that policymakers should consider and provides some concrete policy recommendations.

### Important Considerations for Policymakers and the Public

Farmers have a reputation for wanting to be independent and free from government intervention. Yet, wealthy agricultural producers are among the biggest beneficiaries of corporate welfare and crony capitalism. Many agricultural producers who in principle oppose government intervention may feel caught in a difficult position. Private solutions that would appeal to farmers are crowded out because of big government programs. Indeed, good farmers’ ability to handle risks is being undermined. Farmers may feel that they need to take subsidies because their competitors are taking subsidies. In other words, even if they wanted to be free from government intervention, for many farmers this is not a real possibility.

Of course, there are certainly many farmers who want subsidies. There is intense pressure by farming interests to preserve and even expand the scope of those subsidies. By having a sound framework to develop agricultural policy, policymakers can make better decisions.

**Start and End with Sound Principles.** By looking to principles when developing policy, legislators can have a better plan in developing proper policy. There are many agricultural interests and they are going to ask for government intervention to help them. Making this an even greater challenge for policymakers is the

fact that farmers are a sympathetic special interest. Agricultural policy should focus on the interests of the country generally, from taxpayers and consumers to farmers. It is not solely about figuring out how best to serve the interests of farmers.

**Risk Is Not Going To Be Eliminated.** As policymakers consider agricultural risk, there are many critical points to consider. First and foremost, there is going to be risk and failure in agriculture, as there is in any other type of business. Although farms are generally financially healthy, as noted in Section 1, some farmers are going to lose their farms, just as restaurant owners will lose their restaurants and pastors will lose their churches. The federal government should not be guaranteeing that all operations will survive, and even worse, guaranteeing that all operations will flourish. Taxpayers should not be forced to subsidize and if necessary save everybody who wants to farm. When a farm does fail, this does not necessarily mean that there is one less farm in the country or that their land goes out of production. Agricultural production is also diverse; there are significant differences across crops and geographic regions. Just because a challenge exists for one farmer or even an entire type of crop does not mean that agriculture, as a whole, is somehow in peril.

**Prices and Yields Are Going to Fluctuate.** Agricultural commodity prices and yields are going to fluctuate. A dip in either or both does not necessitate government intervention. Farmers should know that these fluctuations will occur and plan accordingly. During these dips, farmers will often come to policymakers for help, even if overly generous programs already exist. Policymakers, as would be expected, do not hear from them when prices are high and/or revenue is booming. During these very profitable times, successful farmers save and invest accordingly, and are ready for situations where they are not making as much money as they would like.

**Legislators Should Care About Agricultural Policy.** To have the best policy, agricultural policy should not be left to a small group of legislators, usually those serving on the agriculture committees. While it would not be reasonable to expect all legislators to be experts in agricultural policy, they should start to think independently about agriculture. Existing agricultural programs are like “Rube Goldberg”

## New Zealand: A Case Study in Eliminating Agricultural Subsidies

### *Background*

New Zealand's experience with eliminating agricultural subsidies is very instructive for the U.S. In 1984, New Zealand's ruling Labour Party was forced to confront a large central government fiscal deficit and it did so in part by cutting agricultural subsidies.<sup>1</sup> The result was a rapid withdrawal of government support to agriculture. According to the Federated Farmers of New Zealand, "almost 30 different production subsidies and export incentives were abolished" in 1984.<sup>2</sup>

The Organization for Economic Co-operation and Development's Producer Support Estimate, which measures government subsidies as a percentage of gross farm receipts, indicates that in 1983 subsidy levels were at a level of approximately 35 percent of gross farm receipts.<sup>3</sup> By 1987, New Zealand's Producer Support Estimate had declined to just 9 percent, and then to 2 percent by 1992.<sup>4</sup> In 2014, New Zealand's subsidy level has declined to just 1 percent of gross farm receipts.<sup>5</sup> For comparison, the United States had a subsidy level of almost 10 percent that same year.<sup>6</sup>

### *Initial Concerns*

The first few years after the government removed the subsidies were dominated by uncertainty about the ability of farmers to survive such a sudden change. Initially, farmers did experience decreasing incomes and higher debt resulting from falling commodity prices, increasing production costs, and much lower land prices.<sup>7</sup> The removal of subsidies was met with dire predictions, including official estimates that 8,000 farms, or about 10 percent of all farms, would fail.<sup>8</sup>

### *The Experience of Eliminating Agricultural Subsidies*

Such projections, however, did not recognize the adaptability of the market. Eight hundred farms (1 percent of the total number) were forced into sales; not an insignificant number, but far less than what was projected.<sup>9</sup>

New Zealand's agricultural industry emerged from the reform period stronger than ever. As explained in a 2008 OECD paper examining New Zealand's reforms, "In general terms, the economic indicators for the agriculture sector improved across the board following subsidy elimination."<sup>10</sup> The elimination of subsidies may not be the sole cause of all of the economic improvements in agriculture. However, as explained in the OECD paper, "it is clear that the removal of subsidies was an important contributing factor to the changed and improved circumstances of the sector following the reforms of the mid 1980s."<sup>11</sup>

The New Zealand experience is captured well by the farmers themselves. According to the Federated Farmers of New Zealand:

The removal of farm subsidies in New Zealand has given birth to a vibrant, diversified and growing rural economy. New Zealand's experience over the last twenty years of reform has thoroughly debunked the myth that the farming sector and the environment cannot remain healthy and prosper without government subsidies....

Farmers are now farming better than ever; they are much more conscious that their activities must make good business sense. No longer are they chasing subsidies, pursuing maximum production at any cost. Farmers maintain cost structures that reflect the real earning capacity of their farms....

New Zealand has gained environmental benefits as well. Water quality has improved as wasteful practices fueled by subsidies have stopped. Farmers have adopted more efficient, targeted use of farm inputs such as fertiliser. Farming of marginal land unable to sustain agricultural activity has declined and truly marginal, unstable, or infertile land went out of production and is now reverting to native bush. Subsidy-driven land management problems ended.<sup>12</sup>

### *Current Policy*

Currently, agricultural subsidies in New Zealand remain at a nominal level. Some protection against “adverse events” for farmers does exist, but it is part of a larger program which is available to rural communities in general.<sup>13</sup> Far from being upset with existing policy, the Federated Farmers of New Zealand declare that they “are proud of their independence and are determined never again to be dependent upon government subsidies.”<sup>14</sup>

- 1 Allen Rae, Chris Nixon, and Ralph Lattimore, “Adjustment to Agricultural Policy Reform—Issues and Lessons from the New Zealand Experience,” Workshop on Agricultural Policy Reform and Adjustment Imperial College, Wye, October 23–25, 2003, p. 1, <http://ageconsearch.umn.edu/bitstream/15741/1/cp03ra01.pdf> (accessed March 29, 2016).
- 2 Federated Farmers of New Zealand, “Life After Subsidies: The New Zealand Farming Experience 20 Years Later,” November 2005, p. 2, <http://www.fedfarm.org.nz/files/2005---Life-after-subsidies---the-NZ-experience.pdf> (accessed March 29, 2016).
- 3 Rae et al., “Adjustment to Agricultural Policy Reform,” p. 2.
- 4 Ibid.
- 5 Organization for Economic Co-operation and Development, “Agricultural Policy Monitoring and Evaluation 2015,” June 2015, p. 16, <http://www.oecd.org/tad/agricultural-policies/monitoring-evaluation-2015-highlights-july-2015.pdf> (accessed March 29, 2016).
- 6 Relative to other countries, the United States does have a fairly moderate level of agricultural subsidies. Many countries subsidize agriculture at significantly higher levels than the United States. Ibid.
- 7 Federated Farmers of New Zealand, “Life after Subsidies,” p. 3.
- 8 Ibid.
- 9 Ibid.
- 10 Vitalis, “Case Study 2: Domestic Reform, Trade, Innovation and Growth in New Zealand’s Agricultural Sector,” OECD Trade Policy Working Paper No. 74, <http://www.oecd.org/newzealand/41077830.pdf> at p. 17 citing New Zealand Ministry of Agriculture and Fisheries (1996a) Situation and Outlook for New Zealand Agriculture (Wellington, New Zealand Ministry of Agriculture and Fisheries).
- 11 Vitalis, “Case Study 2: Domestic Reform, Trade, Innovation and Growth in New Zealand’s Agricultural Sector,” OECD Trade Policy Working Paper No. 74, pg. 18 citing Chamberlain, B (1996), Farming and Subsidies: Debunking the Myths, Wellington, Government Print.
- 12 Federated Farmers of New Zealand, “Life after Subsidies,” pp. 1–2.
- 13 New Zealand Ministry for Primary Industries, “Adverse Events,” December 4, 2015, <http://www.mpi.govt.nz/protection-and-response/responding/adverse-events/> (accessed March 29, 2016).
- 14 Federated Farmers of New Zealand, “Life after Subsidies,” p. 4.

contraptions, overly complicated to address a task. Instead of working from the status quo, legislators should take a step back and start with the assumption that no agricultural programs exist. If there were to be any programs today, what would be a proper justification for the programs, and what should they look like?

### **Five Critical Points About Current Policy.**

There are many critical points throughout the report regarding how current agricultural policy addresses agricultural risk. The following are five that are particularly critical to remember:

1. Current policy has nothing to do with social welfare and helping the small, low-income farmer; farm households have greater income and wealth than non-farm households and even the smallest farms generally do well. Only 2 percent of farm households are in the bottom half of all households in terms of both income and wealth.<sup>169</sup>
2. Current policy does not require anything like a disaster for farmers to receive assistance.



3. Current policy covers even minor dips in revenue; it is not about a “safety net” as much as an attempt to shift ordinary business risk to taxpayers.
4. Current policy is a massive wealth transfer from taxpayers to large agricultural producers.
5. Current policy creates massive problems through subsidies, such as: discouraging private solutions; harming the environment; stifling innovation, especially innovations to mitigate risks; discouraging development of farmer risk-management skills; and creating obstacles for beginning farmers.

**Questions Policymakers Should Ask Themselves.** As policymakers consider the best public policy to address agricultural risk, there are some questions that should help point them in the right direction:

- Why should taxpayers hand out billions of dollars each year to agricultural producers simply because those businesses did not earn as much as they hoped?
- Why are taxpayers forced to give money to farm households when the overwhelming majority of the money goes to farm households that have much greater income and wealth compared to average non-farm households?
- Are families who run farms somehow more deserving than families who run other businesses, such as restaurants?
- When there is a disaster, why should farms be treated differently than other businesses?
- Are farmers and ranchers less capable of managing risk than other businesses?
- If free enterprise is the most efficient way to provide goods and services, why should it not apply in agriculture?

## Policy Recommendations Regarding Agricultural Risk

**Regulation Needs to Be Addressed.** Farmers and ranchers have to address institutional risk, which covers uncertainties connected to

governmental policies, such as with regulation. These uncertainties include whether policymakers will change the law, how agencies will enforce the law, and how farmers and ranchers need to comply with the law.

In addressing government intervention generally, a critical question is how the government intervenes in a way that makes it more difficult for farmers and ranchers to meet market needs.<sup>170</sup>

**Big Picture on the Federal Taxpayer-Funded “Safety Net.”** There should be a shift away from government intervention to address risk in agriculture. As explained in the case study on New Zealand later in this section, this can be done all at one time. However, to have a smooth transition away from subsidies and because private risk management has been crowded out and even discouraged due to government intervention, this entire shift should not be done all at once.

To take a step towards getting rid of subsidies, taxpayers should not be compelled to ensure that farmers are covered for shallow losses, and minor dips in expected revenue. Farmers should not be insulated from the market and the challenges that all businesses face on a daily or fiscal year basis. Quite simply, if there is going to be a special taxpayer-funded safety net for agricultural producers, then it should act like a safety net as it is commonly understood.

A “safety net” in various contexts, such as welfare, presumes that someone has “fallen” and is in need of protection from falling to the bottom. It is supposed to help protect people so they are put in a position to get back on their feet.

This special protection during the move away from subsidies should at most protect from deep yield losses that farmers actually suffer from unforeseen events such as natural disasters and disease. Anything beyond this is exceeding any concept of a safety net. As it is, the taxpayer funded “safety net” for agricultural producers is counterproductive and an overly generous use of taxpayers’ money.

**Eliminate Title I Commodity Programs.** Title I commodity programs should be eliminated, except for the Permanent Disaster Assistance Programs and the Noninsured Crop Disaster Assistance Program (NAP). This means getting rid of programs such as the Agricultural Risk Coverage Program (a shallow loss program), the Price Loss Coverage program, the sugar program, and the dairy program. As



has been explained, in moving away from subsidies, only measures that protect against deep yield losses connected to unforeseen events should remain in the short-term.

**Properly Focus the Federal Crop Insurance Program.** There are many problems with the federal crop insurance program, as was detailed in Section 4 of this report. To maintain this program is certainly questionable, but it can serve as the general taxpayer-funded safety net through a transition away from subsidies, so long as the program gets focused back on protecting against deep yield losses and disasters.

- **Eliminate revenue-based policies.** There should be a very simple and straightforward change. The program should subsidize yield-based policies only. The recent shift towards revenue-based policies is a means to provide excessive protection for farmers for even minor dips in revenue. These policies go way beyond the concept of a safety net. Farmers have succeeded without such policies, which have accounted for more covered acreage than yield-based policies only since 2003.<sup>171</sup>
- **Cover deep losses only.** Agricultural producers could still get the same coverage levels that exist now, and such policies would be reinsured through the Federal Crop Insurance Corporation. However, taxpayers should only subsidize coverage up to 70 percent (ensuring that there is at least a deep loss).
- **Do not undermine the program through ad-hoc disaster assistance.** There will inevitably be calls for ad-hoc disaster assistance, as there is now even with generous crop insurance and commodity programs in place. This federal crop insurance program would be *the* approach to address disasters during the move away from subsidies. If farmers do not want to participate, this is their decision. Providing ad-hoc disaster assistance itself undermines federally subsidized crop insurance because of double indemnities, and if money goes to those who do not participate, this creates a disincentive to participate in the federal crop insurance program.

If participation in the program does decline, this is not a justification to ramp up crop insurance subsidies as has occurred in the past, but to recognize that this is a function of a more properly focused federal crop insurance program.

**Treat Farmers and Ranchers the Same as Other Businesses When Addressing Disasters.** There are many federal programs unrelated to agriculture that exist to address disasters.<sup>172</sup> To the extent that businesses are provided any assistance under these various programs, agricultural producers should be treated equally and offered the same type of assistance. Furthermore, these programs eventually should represent the full extent of federal disaster assistance to farmers.<sup>173</sup>

**Involve States in the Transition Away from Federal Intervention in Agricultural Risk.** States can help smooth the transition away from federal subsidies,

- **Provide One-Time Block Grants to States.** A *one-time* lump sum payment to states (not farmers) should be used to help transition away from federal subsidies. It should be a one-time payment, based on one year of savings from eliminating these programs, because this is not meant to be the start of a new federal program. States would receive some of the savings achieved from eliminating most of the Title I programs and subsidized revenue-based policies from the federal crop insurance program.
- **Allow for a Flexible Use of the Money.** States could use the money for agricultural purposes. The federal government should not place any restrictions on its use so long as it is clearly for agriculture. Through this block grant, states could have a significant role in this transition away from federal intervention or use it for other agricultural purposes.

Removing this extensive federal intervention would also allow the private market to develop new tools to address risk, in addition to the risk-management tools that already exist. Even if states created harmful programs to address agricultural risk, the scope of such programs would pale in comparison to existing federal intervention.

## Conclusion

Getting rid of these massive subsidies to address agricultural risk is a must, as highlighted in this section and this entire *Special Report*. Any discussion of eliminating agricultural subsidies triggers a significant emotional response for some. However, emotion should not be allowed to distort the need for sound policy. Farmers have the means and expertise to manage risk and the goal should be to treat farmers fairly and equally (no better or worse) with all other business owners. Congress, and the laws it enacts, should show favoritism to none.

## Addressing Risk in Agriculture: Key Points

### Brief Overview

Agricultural producers, similar to other businesses, face significant risk. The United States Department of Agriculture's (USDA) Economic Research Service identifies five different types of farming risk: human and personal risk (such as human health), institutional risk (regarding governmental action), and financial risk (such as access to capital), price or market risk, and production risk (such as weather and pests). Of these, policymakers usually focus on the last two types.

Unlike most other businesses, however, federal government programs assist agricultural producers in protecting against risk. There is an opportunity to move away from government intervention and to free up agricultural producers to engage in farming activities without the market distortions created by this intervention.

The starting point for policy reform regarding agricultural risk should not be tinkering with the so-called safety net programs: Title I commodity programs (including the Agricultural Risk Coverage program, sugar program, and disaster assistance programs) and the federal crop insurance program. Instead, the very existence of these programs needs to be questioned. There is no justification for these programs or for any other special treatment for agricultural producers.

### Farmers Have the Financial Means to Manage Risk

An image of farmers struggling to save their small farm and stave off poverty permeates agricultural policy and, to a large extent, the public's perception of modern-day agriculture. The evidence suggests otherwise:

- **Most agricultural production comes from large farms.** The reality is that American's food and fiber comes almost exclusively from large agricultural producers, who are quite capable of managing risk. Based on 2012 data:
  - Farms with \$5 million or greater in agricultural sales accounted for about a third of all sales and farms with \$1 million or more in sales accounted for about two-thirds of all sales;
  - 89 percent of all sales come from about 12 percent of all farms;
  - Only 4 percent of farms (those with sales of \$1 million or greater) accounted for 67 percent of all agricultural sales.
  - 75 percent of all farms had sales less than \$50,000, accounting for only three percent of all sales; and
  - More than half of all farms had sales of less than \$10,000. These farms accounted for less than 1 percent of all sales.
- **Farm households have higher income compared to all U.S. households.** For decades, average and median farm household incomes have been consistently higher than all U.S. household incomes. For the 10-year period 2005–2014, the average and median income for farm households was 35 percent and 19 percent greater than all U.S. households, respectively. Based on 2014 USDA data, 69 percent of farm households had income in the top half of all U.S. households.
- **Farm households have much higher net worth than total U.S. households.** In 2013, the median net worth for farm households (\$801,980) was 10 times greater than that of total U.S. households (\$81,200).
- **USDA joint income-wealth indicator.** The United States Department of Agriculture (USDA) has developed the joint income-wealth indicator, which captures the vast income and wealth of farm households. Only 2 percent of farm households were in the bottom half of all households in terms of both income and wealth, based on 2011 data.
- **Small farm households are also doing well financially.** The vast majority of even the smallest farm households are doing well. In 2011, small farm households that had less than \$10,000 in sales still had greater average incomes than that of total U.S. households.
- **Importance of off-farm income.** Off-farm income plays a critical role in modern day farming. Few farms truly rely on farm income. According to

the USDA, most farm households earn all of their income from off-farm sources. In 2014, at least 71 percent of farm households had farm income less than 25 percent of total household income, including 50.6 percent of farm households who reported negative farm income.

In other words, risk management in agricultural production plays a very small role in the income of most farm households. Indeed, for many farms, their farm income is dwarfed by their non-farm income and their net worth. Consequently, reducing farm risks affecting farm prices or output will not have a significant effect on the financial status of these farms.

### **Key Financial Indicators Show Farmers' Ability to Manage Risk**

When examining financial indicators even over long periods, farms are in extremely good financial condition:

- **Debt-to-asset and debt-to-equity ratios are extremely low.** Two primary measures to determine the solvency (and thereby the financial vulnerability) of a business are the debt-to-asset and debt-to-equity ratios. The USDA's Economic Research Service uses a debt-to-asset ratio of no more than 40 percent to determine whether a farm has a favorable financial position. The average debt-to-asset ratio for farms over the past 55 years has not even come close to being 40 percent, and has not even reached 23 percent during that time. The average over this period of time has been 15.5 percent, and from 2005–2014 it was 12.2 percent.

Regarding the debt-to-equity ratio, the University of Minnesota's Center for Farm Financial Management developed a useful standard for financial ratios. They indicate a "strong" debt-to-equity ratio is no more than 43 percent. The average debt-to-equity ratio for farms over the past 55 years has not even come close to being more than 30 percent. The average over this period of time has been 18.4 percent, and from 2005–2014 it was about 14 percent.

- **Exit rates are very low.** The exit rate is the rate at which businesses go out of business. It no doubt covers voluntary decisions and is not necessarily related to financial distress. Exit rates are comparable

to non-farm small businesses, and more likely, they are significantly lower. Further, the data suggest that most "exits" are intergenerational transfers of land (only 23 percent of land expected to be transferred to new owners was going to be transferred through sales to non-relatives).

### **Special Treatment Is Not Necessary for Farmers to Effectively Manage Risk**

Farmers should have to deal with various risks connected to their businesses—just like other business owners. Yet, proponents of the status quo still seek to point to some unique aspects of agriculture that justify government intervention. Their arguments can be refuted:

- **Price volatility is not unique.** There certainly can be volatility in agricultural commodity prices. However, other major sectors of the economy have price volatility that is comparable to agriculture.
- **Other businesses have to address natural disasters too.** Many of the natural disasters that can affect agriculture, such as hurricanes, tornadoes, or earthquakes, can affect other industries. Other industries are also subject to a wide variety of risks, such as problems with critical inputs affected by weather, natural disasters, and "acts of God."
- **Farming is not vulnerable to some risks that other businesses face.** For example, many businesses are more vulnerable to downturns in the economy than agriculture—people must eat, but may choose to reduce consumption of critical products such as gas.
- **Free enterprise is the best approach even if one believes agriculture is "special."** Often, proponents turn to the argument that agriculture is more important than other industries (after all, farmers provide America its food) and that is why they deserve special handouts. There is no real explanation, however, as to what problem is being addressed by the federal government that could not be addressed through private means.

Even if agriculture were "special," such status would be an argument for free enterprise in agriculture—not central planning and government interventionist policies.

## Most Farmers Do Not Even Receive Subsidies

Many farmers and ranchers do not receive any subsidies. Most subsidies go to large producers and a greater percentage of large family farms receive commodity payments than do small family farms. Farmers may not receive subsidies for many reasons, such as their production levels, and because many farmers of certain commodities are not eligible for certain subsidies. For example, fruit and vegetable growers receive very few subsidies.

- **Few farms receive commodity payments.** According to the USDA's Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition, only 25 percent of all farms received payments from agriculture commodity-related programs, which send payments to producers of certain crops. Farms with annual gross cash farm income of \$350,000 or more received 62 percent of commodity-related payment dollars, while only constituting 23 percent of all farms that received payments.
- **Most farms do not participate in crop insurance.** Based on 2011 data, 85 percent of all farms did not participate in the crop insurance program. Like price and income support payments of the Title I commodity programs, subsidies for crop insurance that benefit participating farmers are highly concentrated. An Environmental Working Group study of the 2011 crop insurance year indicates the top 20 percent of policyholders were the beneficiaries of 73 percent of the total premium subsidies.
- **The percentage of large family farms receiving commodity payments is much greater than the percentage for small family farms.** Data regarding commodity payments from the USDA "Family Farm Report 2014 Edition" show that 21 percent of small family farms (family farms with less than \$350,000 in gross cash farm income) received payments, whereas 77 percent of midsize and large-scale family farms (family farms with \$350,000 or more in gross cash farm income) received payments.

## The Problem with Subsidies: Why the Status Quo Is Untenable

Subsidies create significant harm. Some of the problems with these taxpayer-funded "safety net" subsidies, which cost about \$15 billion a year, include:

- **Moral hazard.** Taxpayer programs designed to shield farmers and ranchers from economic risks present an opportunity for increased moral hazard. Moral hazard occurs when individuals take actions that increase risks because of the protection they are afforded through insurance or other risk-mitigation programs. With farm subsidies, moral hazard often results in taxpayers bearing the cost of those actions.
- **Artificial increase in land prices.** Programs that aid the incomes of established, highly capitalized producers have contributed to skyrocketing costs for agricultural land. Increases in land prices were driven primarily by high commodity prices, but income from federal agricultural subsidies are also capitalized into the price of land. As landowners can predict payments from commodity programs, they can incorporate this steady stream of future income into the value of their land. A report conducted by the USDA's chief economist in 2003, a time of relatively low commodity prices, reported that "some studies indicate that total government payments in recent years have increased U.S. farmland values 15–25 percent."
- **Subsidies increase obstacles for beginning farmers.** One of the biggest obstacles faced by an entrepreneur looking to get into farming is access to quality land. High prices are not the issue; rather, the problem is the government's role in driving up prices. Federal agricultural subsidies are making it more difficult for beginning farmers to purchase land.
- **Response to subsidies, not markets.** Subsidies present the opportunity for farmers to "farm" the federal programs. In other words, farmers may make planting decisions based on the incentives offered by federal programs rather than on the market.
- **Harm to rural development.** The economic health and well-being of rural communities is often cited by proponents of increased federal spending on agricultural programs.

In fact, job growth and economic innovation have been shown to lag national trends in rural communities most dependent on federal agricultural

subsidies. In 2005, research conducted by the Federal Reserve Bank of Kansas City concluded, “Farm payments are not providing a strong boost to the rural economy in those counties that most depend on them. Job gains are weak and population growth is actually negative in most of the counties where farm payments are the biggest share of income.” As a way to measure innovation, the article examined the rate of growth of new businesses, finding, “From 1990 to 2002, the growth in new business establishments was generally the weakest in counties most dependent on farm payments.”

- **Environmental costs.** Federal agricultural subsidies aimed at reducing agricultural risk can have a negative effect on the environment. While high commodity prices are the main driver in decisions to plant crops on wetlands, pasture, or other marginal lands, federal subsidies, most notably highly subsidized crop insurance, contribute by shifting most of the cost of any potential loss to taxpayers while reserving gains for producers.

## The Problems of Title I Commodity Programs

Agricultural commodity programs are a legacy of the government’s attempts to raise farm income during the Great Depression—programs that continue today despite the fact that farm household income greatly exceed that of non-farm households. Three of the critical programs, with some of their specific problems, include:

- **Price Loss Coverage (PLC) Program.** The PLC program makes payments to enrolled farmers when the national average farm price for a commodity falls below a “reference price” set in the farm bill. The actual price a farmer receives for their crop does not matter. Payments are based on national averages.

Consequently, target prices can be much higher than what the market can produce. The reference price for certain commodities is set so high as to make payments likely, especially given current price projections, making PLC look less like a safety net program and more like one designed to transfer income to certain producers.

- **Agricultural Risk Coverage Program (ARC).** On a crop-by-crop basis, farmers can participate either in the ARC program or in the PLC program. The ARC program is often referred to as a shallow loss program (i.e. a program that covers even minor dips in revenue). Any myth that commodity programs are supposed to be a safety net as opposed to an income guarantee gets quickly dispelled by this program. Under ARC, payments are based on calculated revenue rather than simply a commodity’s price. The benchmark is set at 86 percent of the five-year Olympic average (highest and lowest years removed from the calculation).

- **The Federal Sugar Program.** The sugar program artificially inflates the price of sugar, and therefore the income of sugar producers, by providing both a price floor and numerous programs that decrease the supply of sugar. Some of these programs include annual marketing allotments limiting the amount of sugar each domestic processor is allowed to sell and restrictions on imports. As a result, U.S. sugar costs about double the world price.

Government intervention increases both the wholesale cost of sugar and the price of products made with sugar, in essence creating a hidden tax estimated to cost on average \$3.7 billion a year. The Department of Commerce found unnecessarily high prices are a determining factor in food manufacturers deciding to relocate to foreign countries and the high prices result in three confectionary industry job losses for every one sugar growing or harvesting job saved.

## The Failure of Crop Insurance

The federal crop insurance program was greatly expanded in 1980 to replace a standing disaster payment program. The expansion of the federal crop insurance program was seen as an alternative way to provide disaster protection for farmers that would reduce costs and address moral hazard (parties taking on risky practices because they do not incur the risks). The program has been a complete failure, particularly when looking at costs:



- **The crop insurance program is far costlier than the program it replaced.** The disaster assistance that Congress deemed to be too costly in 1980 was replaced with a crop insurance program that is six times greater in costs, adjusted for inflation. From the outset, the program was a failure. In 1990, the Bush Administration proposed eliminating the crop insurance program.
- **Farmers will not participate without excessive subsidies.** Farmers did not participate in any meaningful way in the program for many years, despite generous subsidies. There has been so much attention to driving up participation rates that success with participation has somehow become the narrative that crop insurance is a success (e.g. farmers are widely participating and therefore must find the program valuable, therefore it is a success). Forcing taxpayers to pay an increasing amount of subsidies to get farmers to participate in a program that they would not pay for if they were charged the full costs does not demonstrate the success of the program. However, it does show that enough financial incentive, not surprisingly, will convince farmers to enroll in something they otherwise would not buy on their own.
- **Crop insurance does not require disasters.** There is a myth that crop insurance protects farmers from serious unforeseen losses connected to events such as natural disasters. In fact, the federal crop insurance program does not require a disaster or even yield losses to have occurred for farmers to receive indemnities. Crop insurance, promoted as an alternative to the costly disaster payment program, has instead morphed into a price support program that addresses very modest losses and indeed can reward farmers whose income is higher than usual. In 2014, 77 percent of policies earning a premium were revenue-based policies that do not require a disaster or even a yield loss to trigger an indemnity payment, but can be triggered by a decline in prices alone.
- **The program hurts farmers.** Farmers are beneficiaries from the crop insurance program, but they are also hurt as well. They do not have access to private insurance products that very well could be available absent government intervention. The federal government has crowded out any competition.

## Policy Recommendations

There are several critical policy recommendations regarding agricultural risk:

- **Regulation needs to be addressed.** Farmers and ranchers have to address institutional risk, which covers uncertainties connected to governmental policies, such as with regulation. These uncertainties include whether policymakers will change the law, how agencies will enforce the law, and how farmers and ranchers need to comply with the law. In addressing government intervention generally, a critical question is how the government intervenes in a way that makes it more difficult for farmers and ranchers to meet market needs.
- **Move away from subsidies.** There should be a shift away from providing subsidies to address risk in agriculture. To have a smooth transition away from subsidies, and because private risk management has been crowded out and even discouraged due to government intervention, this entire shift should not be done all at once. Any existing special protection for farmers during the move away from subsidies should at most protect from deep yield losses that farmers actually suffer from unforeseen events such as natural disasters and disease. Anything beyond this is exceeding any concept of a safety net. As it is, a taxpayer-funded safety net for agricultural producers is counterproductive and an overly generous use of taxpayers' money.
- **Eliminate most Title I commodity programs.** Title I commodity programs should be eliminated, except for the Permanent Disaster Assistance Programs and the Noninsured Crop Disaster Assistance Program (NAP). This means getting rid of programs such as the Agricultural Risk Coverage and Price Loss Coverage programs, the sugar program, and the dairy program.
- **Properly focus the crop insurance program.** To maintain this program is certainly questionable, but it can serve as the general taxpayer-funded safety net through a transition away from subsidies, so long as the program gets focused back on protecting against deep yield losses and disasters. Specifically:



- **Eliminate revenue-based policies.** The program should subsidize yield-based policies only. The recent shift towards revenue-based policies is a means to provide excessive protection for farmers for even minor dips in revenue. These policies go way beyond the concept of a safety net. Farmers have succeeded without such policies, which have accounted for more covered acreage than yield-based policies only since 2003.
- **Cover deep losses only.** Agricultural producers could still get the same coverage levels that exist now, and such policies would be reinsured through the Federal Crop Insurance Corporation. However, taxpayers should only subsidize coverage up to 70 percent (ensuring that there is at least a deep loss).
- **Do not undermine the program through ad-hoc disaster assistance.** There will inevitably be calls for ad-hoc disaster assistance, as there is now even with generous crop insurance and commodity programs in place. This federal crop insurance program would be the approach to address disasters during the move away from subsidies. If farmers do not want to participate, this is their decision. Providing ad-hoc disaster assistance itself undermines federally subsidized crop insurance because of double indemnities, and if money goes to those who do not participate, this creates a disincentive to participate in the federal crop insurance program.
- **Treat farmers and ranchers the same as other businesses when addressing disasters.** There are many federal programs unrelated to agriculture that exist to address disasters. To the extent that businesses are provided any assistance under these various programs, agricultural producers should be treated equally and offered the same type of assistance. Furthermore, these programs should represent the full extent of federal disaster assistance to farmers.
- **Involve states in the transition away from federal intervention in agricultural risk.** States can help smooth the transition away from federal subsidies. Specifically:
  - **Provide one-time block grants to states.** There should be a one-time lump sum payment to states (not farmers) to help with the transition away from federal subsidies. It should be a one-time payment only because this is not meant to be the start of a new federal program.States would receive some of the savings achieved from eliminating most of the Title I programs and subsidized revenue-based policies from the federal crop insurance program. It would be a one-time payment based on one year of savings from eliminating these programs.
- **Allow for a flexible use of the money.** States could use the money for agricultural purposes. The federal government should not place any restrictions on its use so long as it is clearly for agriculture. Through this block grant, states could have a significant role in this transition away from federal intervention or use it for other agricultural purposes.

## Endnotes

1. The term “subsidies” is frequently used throughout this report as a “catch-all” to cover the wide range of government intervention in Title I programs and the federal crop insurance program. This includes payments to farmers, premium subsidies, quotas, and other federal interventions to address agricultural risk.
2. Much of the data in this *Special Report* were developed in early 2016.
3. There are different types of risks, as explained later in this section. See U.S. Department of Agriculture, Economic Research Service, “Risk in Agriculture,” December 2014, <http://www.ers.usda.gov/topics/farm-practices-management/risk-management/risk-in-agriculture.aspx> (accessed March 16, 2016).
4. U.S. Department of Agriculture, Economic Research Service, “Understanding America’s Diverse Family Farms,” February 1, 2016, <http://www.ers.usda.gov/amber-waves/2016-januaryfebruary/understanding-america%E2%80%99s-diverse-family-farms.aspx#.V4-vIE3JDL8> (accessed August 5, 2016). It should be noted that the total number of farms has also remained flat since the late 1980s, at about 2.1 million farms. U.S. Department of Agriculture, National Agricultural Statistics Service, “Farms and Land in Farms Data, 1850 to 2014,” <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1259> (accessed January 11, 2016).
5. U.S. Department of Agriculture, Economic Research Service, “A Safety Net for Farm Households,” [http://www.ers.usda.gov/media/920236/aer788b\\_002.pdf](http://www.ers.usda.gov/media/920236/aer788b_002.pdf) (accessed August 5, 2016). See also Susan Offutt and Craig Gundersen, “Farm Poverty Lowest in U.S. History,” U.S. Department of Agriculture, Economic Research Service, <http://www.ers.usda.gov/amber-waves/2005-september/farm-poverty-lowest-in-us-history.aspx#.V5IqcU3JDL8> (accessed August 5, 2016).
6. U.S. Department of Agriculture, Economic Research Service, “Historic Data on Mean and Median Farm Operator Household Income and Ratio of Farm Household to U.S. Household Income, 1960–2014,” <http://www.ers.usda.gov/data-products/farm-household-income-and-characteristics.aspx> (accessed January 5, 2016). Data adjusted for inflation.
7. For the net worth of farm households in 2013, see U.S. Department of Agriculture, Economic Research Service, “Principal Farm Operator Household Finances, 2009–2015,” <http://ers.usda.gov/data-products/farm-household-income-and-characteristics.aspx> (accessed January 5, 2016). For the net worth of all U.S. households in 2013, see Jesse Bricker, Lisa J. Dettling, Alice Henriques, Joanne W. Hsu, Kevin B. Moore, John Sabelhaus, Jeffrey Thompson, and Richard A. Windle, “Bulletin: Changes in U.S. Family Finances from 2010 to 2013: Evidence from the Survey of Consumer Finances,” Federal Reserve *Bulletin*, Vol. 100, No. 4 (September 2014), p. 8, <http://www.federalreserve.gov/pubs/bulletin/2014/pdf/scf14.pdf> (accessed March 16, 2016). Please note that the Economic Research Service also used data from the Survey of Consumer Finances to determine net worth of all U.S. households. See U.S. Department of Agriculture, “Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition,” December 2014, Table 10, Note 2, <http://www.ers.usda.gov/media/1728096/eib-132.pdf> (accessed March 16, 2016).
8. Randy Schnepf, “U.S. Farm Income,” Congressional Research Service *Report for Congress*, August 30, 2013, [http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=2173&context=key\\_workplace](http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=2173&context=key_workplace) (accessed March 16, 2016). See Table 1 (showing average income for farm households with less than \$10,000 in sales) and Table 5 (showing average income for all U.S. households).
9. This measure captures family farm data only. Family farms though accounted for almost all farms (97%) in 2011.
10. U.S. Department of Agriculture, “Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition.” Table 6 for all farms and Table 10 showing income and wealth lists total farm households (captures data only from family farms). Since 1996, the number of family farms has consistently been between 97 and 99 percent of all farms. In 2014, family farms accounted for 99 percent of farms. See U.S. Department of Agriculture, Economic Research Service, “Family and Nonfamily Farms, by Farm Size Class (Gross Sales), 1996–2014,” <http://ers.usda.gov/data-products/farm-household-income-and-characteristics.aspx> (accessed March 31, 2016).
11. *Ibid.*, Table 10 looks at 2011 data. The wealth data add up to 96.6 percent. U.S. Department of Agriculture, Economic Research Service, *America’s Diverse Family Farms: 2015 Edition*, December 2015, <http://www.ers.usda.gov/media/1955981/eib146.pdf> (accessed July 27, 2016). Page 8 says 97 percent (it could be rounded up or down). Therefore, there could be very minor differences in the percentages.
12. U.S. Department of Agriculture, *America’s Diverse Family Farms*, p. 8.
13. “Gross cash farm income (GCFI) is the sum of the farm’s crop and livestock sales, Government payments, and other farm-related income.” USDA, *Structure and Finances of U.S. Farms*, see footnote 2 of the table classifying farms (on the page preceding page 1 of the report).
14. *Ibid.*, Table 10.
15. For commodity payment data, see U.S. Department of Agriculture, “Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition,” Table 6. For crop insurance data, see Figure 11 of the same USDA report.
16. U.S. Department of Agriculture, “Historic Data, 1960–2014.” Data adjusted for inflation.
17. U.S. Department of Agriculture, “Risk in Agriculture.”
18. U.S. Department of Agriculture, Economic Research Service, “Highlights from the Farm Income Forecast,” February 18, 2016, <http://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finance/highlights-from-the-farm-income-forecast.aspx> (accessed March 16, 2016).

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20. U.S. Department of Agriculture, *America's Diverse Family Farms*, p. 9.
21. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms: Family Farm Report."
22. *Ibid.*, Table 9.
23. U.S. Department of Agriculture, "Historic Data, 1960–2014."
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25. U.S. Department of Agriculture, "Farms and Land in Farms 2014 Summary," February 2015, <http://usda.mannlib.cornell.edu/usda/nass/FarmLandIn//2010s/2015/FarmLandIn-02-19-2015.pdf> (accessed March 14, 2016). "Point Farms are farms that did not have the required minimum \$1,000 sales for the year to qualify as a farm, but had sufficient crops and livestock to normally have sales of \$1,000 or more. Point Farms are assigned a sales class based on the sum of the agricultural point (dollar) values assigned to the quantity of commodities produced, but not sold." "Farms and Land in Farms 2014 Summary," p. 4.
26. U.S. Department of Agriculture, "Farms and Land in Farms 2014 Summary." The 2012 data discussed in Chart 1 that matched economic class of farms to percent of sales show that 54 percent of farms had sales less than \$10,000.
27. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms." The University of Minnesota Center for Farm Management, which has a measure for the debt-to-equity ratio discussed in this report, indicates that a "strong" farm debt-to-asset ratio is no more than 30 percent (farms easily meet this measure as well).
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31. *Ibid.*
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34. Small Business Administration, "Small Business Market Update," June 2015, [https://www.sba.gov/sites/default/files/Small\\_business\\_bulletin\\_June\\_2015.pdf](https://www.sba.gov/sites/default/files/Small_business_bulletin_June_2015.pdf) (accessed March 19, 2016). According to the Census Bureau, the exit rate in 2005 for small businesses was 10 percent. See U.S. Census Bureau, "What Matters More: Business Exit Rates or Business Survival Rates?" [https://www.census.gov/ces/pdf/BDS\\_StatBrief4\\_Exit\\_Survival.pdf](https://www.census.gov/ces/pdf/BDS_StatBrief4_Exit_Survival.pdf) (accessed March 19, 2016). The question is whether the SBA document is covering just small businesses and whether the differences may be attributed to the USDA looking at non-farm small businesses, not all small businesses. However, from 1982–1987, the USDA says the rate was 8 percent, but the SBA document shows exit rates for all small businesses at about 11–12 percent.
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42. *Ibid.*, Table 2.

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47. See, e.g., U.S. Department of Agriculture, "Managing Risk in Farming: Concepts, Research, and Analysis," <http://www.ers.usda.gov/media/1761672/aer774.pdf> (accessed March 16, 2016).
48. Steven Wallander, "While Crop Rotations Are Common, Cover Crops Remain Rare" *Amber Waves*, U.S. Department of Agriculture, March 4, 2013, <http://www.ers.usda.gov/amber-waves/2013-march/while-crop-rotations-are-common,-cover-crops-remain-rare.aspx#.V5-8pU3JDL8> (accessed August 1, 2016).
49. According to the CFTC, a derivative is "a financial instrument, traded on or off an exchange, the price of which is directly dependent upon (i.e. derived from) the value of one or more underlying securities, equity indices, debt instruments, commodities, other derivative instruments, or any agreed upon pricing index or arrangement (e.g., the movement over time of the Consumer Price Index or freight rates). They are used to hedge risk or to exchange a floating rate of return for fixed rate of return. Derivatives include futures, options, and swaps. For example, futures contracts with cash settlement are derivatives of the price of a commodity or the value of an index and options on futures are derivatives of futures contracts." United States Commodity Futures Trading Commission, "CFTC Glossary," <http://www.cftc.gov/ConsumerProtection/EducationCenter/CFTCGlossary/index.htm> (accessed March 16, 2016).
50. Ibid.
51. Ibid.
52. United Nations Food and Agriculture Organization, "Contract Farming Resource Center: FAQ, 2016," <http://www.fao.org/ag/ags/contract-farming/faq/en/> (accessed March 16, 2016). To learn more about contract farming, see Farm Foundation, "Production Contracts," May 2004, <http://www.farmfoundation.org/news/articlefiles/105-May2004ProductionContract.pdf> (accessed March 16, 2016), and University of Minnesota, "Agricultural Production Contracts," 2005, <http://www.agrisk.umn.edu/cache/ARL00782.htm> (accessed March 16, 2016).
53. Ibid.
54. U.S. Department of Agriculture, "Managing Risk in Farming: Concepts, Research, and Analysis," March 1999, p. 46, <http://ers.usda.gov/media/1761672/aer774.pdf> (accessed March 16, 2016).
55. Ibid., p. 48.
56. For a good discussion on the transformation of agriculture, see Economic Research Service, U.S. Department of Agriculture, "The 20th Century Transformation of U.S. Agriculture and Farm Policy," [http://www.ers.usda.gov/media/259572/eib3\\_1\\_.pdf](http://www.ers.usda.gov/media/259572/eib3_1_.pdf) (accessed August 5, 2016).
57. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition," December 2014, <http://www.ers.usda.gov/media/1728096/eib-132.pdf> (accessed March 19, 2016). Please note that government payments appear to be defined differently than in the 2012, Census of Agriculture.
58. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms." In this report, the USDA defines commodity-related payments as "payments from the Direct Counter-cyclical Payment (DCP) and Average Crop Revenue Election (ACRE) programs, loan deficiency payments, marketing loan gains, net value of commodity certificates, milk income loss contract payments, agricultural disaster payments, and any other miscellaneous State, Federal, and local payments." For more details on federal commodity programs, see Section 3: Commodity Programs.
59. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition," Table 6.
60. For a detailed analysis of the federally subsidized crop insurance program, see Section 4: Crop Insurance.
61. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition," Figure 11.
62. Environmental Working Group, "Concentration of Premiums Subsidies in the United States, 2011," <http://farm.ewg.org/cropinsurance.php?fips=00000&summpage=CONC2011&statename=theUnitedStates> (accessed March 19, 2016).
63. Ibid.
64. Mary Ellen Kustin and Soren Rundquist, "From Sea to Shining Sea: Subsidy Millionaires Are Everywhere," *AgMag Blog*, November 1, 2011, <http://www.ewg.org/agmag/2013/11/sea-shining-sea-subsidy-millionaires-are-everywhere> (accessed March 19, 2016).
65. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition," Table 6. Note that government payments appear to be defined differently here than in the 2012 Census of Agriculture.
66. These data cover family farms, but not all farms; however, family farms account for about 99 percent of all farms.
67. Gross cash farm income (GCFI) is the sum of the farm's crop and livestock sales, government payments, and other farm-related income. See footnote 13.

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68. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition," Table 6.
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80. U.S. Department of Agriculture, "2012 Census Highlights: Farm Demographics—U.S. Farmers by Gender, Age, Race, Ethnicity, and More," November 16, 2015, [http://www.agcensus.usda.gov/Publications/2012/Online\\_Resources/Highlights/Farm\\_Demographics/](http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Highlights/Farm_Demographics/) (accessed March 19, 2016).
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106. See Section 1 for much greater detail.
107. Following standard budget scoring rules, the Congressional Budget Office (CBO) calculated costs for the Agricultural Act of 2014 over 10 fiscal years (FY 2014–FY 2023). The bill itself, however, provides a five-year authorization (FY 2014–FY 2018) for most programs. The number cited here is the estimated outlays for "Title 1 – Commodities" resulting from H.R. 2642 as identified by the CBO. H.R. 2642, *The Agricultural Act of 2014*, January 28, 2014, <https://www.cbo.gov/publication/45049> (accessed March 21, 2016).
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110. *Ibid.* In this report, the USDA defines commodity-related payments as "payments from the Direct Counter-cyclical Payment (DCP) and Average Crop Revenue Election (ACRE) programs, loan deficiency payments, marketing loan gains, net value of commodity certificates, milk income loss contract payments, agricultural disaster payments, and any other miscellaneous State, Federal, and local payments." For more details on federal commodity programs, see Section 3: Commodity Programs.
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113. *Ibid.*
114. U.S. Government Accountability Office, *Reducing Subsidies for Highest Income Participants Could Save Federal Dollars with Minimal Effect on the Program*, GAO–15–356, March 2015, <http://www.gao.gov/assets/670/669062.pdf> (accessed March 21, 2016), and Congressional Budget Office, "CBO's March 2016 Baseline for Farm Programs," March 24, 2016, <https://www.cbo.gov/publication/44202> (accessed July 26, 2016).
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116. For more on free trade, see Scott Lincicome, "Promoting Free Trade in Agriculture," Heritage Foundation *Backgrounder* No. 3136, July 11, 2016, <http://www.heritage.org/research/reports/2016/07/promoting-free-trade-in-agriculture>.
117. A "farm" under FSA regulations is essentially a tract of land, not necessarily contiguous, that is owned by one person or entity. A farmer may operate on more than one FSA farm. Program elections may be different on each farm. For example, one tract may be enrolled in PLC while another tract is in ARC.
118. The four commodities that are used in this analysis were selected because of their significant acreage, and both the CBO and the USDA have 5-year projections for each of them.
119. Congressional Budget Office, "CBO's May 2013 Baseline for Farm Programs," May 14, 2013, [http://cbo.gov/sites/default/files/cbofiles/attachments/44202\\_USDAMandator%20FarmPrograms.pdf](http://cbo.gov/sites/default/files/cbofiles/attachments/44202_USDAMandator%20FarmPrograms.pdf) (accessed March 21, 2016).
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121. In ARC, price is calculated using the national average for a commodity while yield is based on the average yield calculated at the county level in which the FSA farm resides. There is an individual farm-based ARC, where the revenue guarantee is determined by adding all covered commodities on one farm together, rather than treating each commodity separately, and losses are calculated on a per farm basis, but almost no producers elected this option and it is likely to be eliminated in the next farm bill. (If farmers valued the coverage as protection for income risk, they should value a per farm program. But they prefer alternatives that have more upside variation on a per crop basis.)
122. Payments are inherently flawed because any way they are developed (coupled or decoupled), there is an issue. If coupled they distort planting decisions; if decoupled, they are welfare payments unrelated to whether incomes are high or low.
123. Government Accountability Office, *Reducing Subsidies for Highest Income Participants Could Save Federal Dollars with Minimal Effect on the Program*, and see latest CBO baseline, March 2016, <https://www.cbo.gov/publication/44202> (accessed July 26, 2016).
124. The American Farm Bureau Federation, letter to the House and Senate Agriculture Committees, October 17, 2011, [http://farmpolicy.com/wp-content/uploads/2011/10/101711\\_FarmBureau\\_FarmBillShallowLoss.pdf](http://farmpolicy.com/wp-content/uploads/2011/10/101711_FarmBureau_FarmBillShallowLoss.pdf) (accessed March 21, 2016). This letter was written when the discussion regarding shallow loss revenue coverage was at 90 percent. While the numbers have been reduced slightly, the same general concerns about shallow loss highlighted in this paper would still apply. See also Jim Wiesemeyer, "Farm Bureau Sends Letter to Ag Panel Members Re: 'Shallow Losses,'" AgWeb, October 18, 2011, [http://www.agweb.com/article/farm\\_bureau\\_sends\\_letter\\_to\\_ag\\_panel\\_members\\_re\\_shallow\\_losses/](http://www.agweb.com/article/farm_bureau_sends_letter_to_ag_panel_members_re_shallow_losses/) (accessed March 21, 2016).
125. Congressional Budget Office, "CBO Score of HR2642, The Agricultural Act of 2014," January 28, 2014, <https://www.cbo.gov/publication/45049> (accessed March 31, 2016).
126. Congressional Budget Office, "CBO USDA Mandatory Farm Programs – Baseline Projections," March 2016, <https://www.cbo.gov/about/products/baseline-projections-selected-programs#25> (accessed July 26, 2016).
127. Congressional Budget Office, "CBO Score of HR2642, The Agricultural Act of 2014," January 28, 2014, <https://www.cbo.gov/publication/45049> (accessed March 31, 2016). Spending outlays 2016-2020 for ARC and PLC (accessed March 31, 2016).
128. Even if comparing direct payments, ACRE, and CCP combined (\$26.9 billion) to ARC and PLC (\$30.6 billion), the ARC and PLC programs would cost \$3.7 billion more.
129. The MPP makes payments when the national operating margin—which is national average milk price minus national average feed cost—drops below \$4.00 per cwt. Producers can insure at higher guaranteed margins in \$0.50 increments up to \$8.00 per cwt and pay. The guarantee can cover up to 90 percent of historic production. The cost to participate is a \$100 annual fee and a subsidized premium based on the level of coverage; free for a margin guarantee of \$4.00 per cwt with progressively less subsidy the higher the guaranteed margin.
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132. Congressional Budget Office, "CBO's March 2016 Baseline for Farm Programs," March 24, 2016, <https://www.cbo.gov/publication/44202> (accessed July 26, 2016).
133. Mark A. McMinimy, "Sugar Program: The Basics," Congressional Research Service *Report for Congress*, R42535, April 1, 2014, <http://nationalaglawcenter.org/wp-content/uploads/assets/crs/R42535.pdf> (accessed March 21, 2016).
134. Bakst, "Why Are We Paying \$300 Million to Help the Brazilian Cotton Industry?"
135. Pelc, "Why the Deal to Pay Brazil \$300 Million Just to Keep U.S. Cotton Subsidies Is Bad."
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137. See, e.g., U.S. Department of Agriculture, "1990 Farm Bill: Proposal of the Administration," February 1990, <http://babel.hathitrust.org/cgi/pt?id=umn.31951d00271337v;view=1up;seq=76> (accessed March 31, 2016); Barry Goodwin and Vincent Smith, *The Economics of Crop Insurance and Disaster Aid* (Washington: American Enterprise Institute, 1995); and General Accounting Office, *Disaster Assistance: Crop Insurance Can Provide Assistance More Effectively Than Other Programs*, GAO/RCED 89-211, September 20, 1989, p. 3, <http://gao.gov/assets/220/211636.pdf> (accessed March 21, 2016).
  138. U.S. Department of Agriculture, "The Importance of Federal Crop Insurance Premium Subsidies," October 20, 2014, <http://www.ers.usda.gov/amber-waves/2014-october/the-importance-of-federal-crop-insurance-premium-subsidies.aspx> (accessed March 21, 2016).
  139. Numbers were adjusted to 2014 dollars using median years since amounts were based on averages of multiple years: 1978 was used for the disaster payment program and 2011 was used for crop insurance. For example, the average annual cost of disaster payments was \$510 million from 1975-1981. Adjusting for inflation from 1978 to 2014 dollars converts to \$1.488 billion. Crop insurance converted to \$8.933 billion in 2014 dollars.
  140. Government Accountability Office, *Reducing Subsidies for Highest Income Participants Could Save Federal Dollars with Minimal Effect on the Program*, and Congressional Budget Office, "CBO's March 2016 Baseline for Farm Programs."
  141. American Association of Crop Insurers, "The Importance of Crop Insurance in the United States," March 9, 2012, [https://www.cropinsurers.com/images/pdf/focus-on-congress/Importance\\_of\\_Crop\\_Insurance\\_in\\_the\\_US.pdf](https://www.cropinsurers.com/images/pdf/focus-on-congress/Importance_of_Crop_Insurance_in_the_US.pdf) (accessed March 31, 2016).
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  144. Numbers were adjusted to 2014 dollars using median years since amounts were based on averages of multiple years: 1978 was used for the disaster payment program and 2011 was used for crop insurance. For example, the average annual cost of disaster payments was \$510 million from 1975-1981. Adjusting for inflation from 1978 to 2014 dollars converts to \$1.488 billion. Crop insurance converted to \$8.933 billion in 2014 dollars.
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  147. Joseph Glauber, "Crop Insurance Reconsidered," *American Journal of Agricultural Economics*, Vol. 86 (2004), pp. 1179-1195.
  148. U.S. Department of Agriculture, "1990 Farm Bill: Proposal of the Administration," p. 64.
  149. Government Accountability Office, *Reducing Subsidies for Highest Income Participants Could Save Federal Dollars with Minimal Effect on the Program*.
  150. Numbers were adjusted to 2014 dollars using median years since amounts were based on averages of multiple years: 1984 was used for crop insurance and ad-hoc disaster assistance from 1981-1988, and 2011 was used for crop insurance from 2009-2014. For example, the average annual cost of crop insurance and ad hoc disaster assistance was \$1.1 billion from 1981-1988. Adjusting for inflation from 1984 to 2014 dollars converts to \$2.155 billion. Crop insurance converted to \$8.933 billion in 2014 dollars.
  151. U.S. Department of Agriculture, Risk Management Agency, "History of the Crop Insurance Program," <http://www.rma.usda.gov/aboutrma/what/history.html> (accessed March 22, 2016).
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  154. *Ibid.*, p. 10.
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  158. J. Glauber and K. Collins. "Crop Insurance, Disaster Assistance, and the Role of the Federal Government in Providing Catastrophic Risk Protection," *Agricultural Finance Review*, Vol. 62 (2002), pp. 81-102.
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160. U.S. Department of Agriculture, "Crop Insurance Providers List for 2016," March 2016, <https://www3.rma.usda.gov/tools/agents/companies/indexCI.cfm> (accessed March 22, 2016).
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162. Gilbert M. Gaul, Dan Morgan, and Sarah Cohen, "Crop Insurers Piling Up Record Profits," *The Washington Post*, October 16, 2006, <http://www.washingtonpost.com/wp-dyn/content/article/2006/10/15/AR2006101500585.html> (accessed March 22, 2016).
163. U.S. Government Accountability Office, *Reducing Subsidies for Highest Income Participants Could Save Federal Dollars with Minimal Effect on the Program*.
164. There may be certain challenges in providing such a product. Insurers have to address the problem of adverse selection where they have less information than the insured regarding the level of risk; this becomes a problem when the insurer charges as much to the less risky farmer (an amount not appropriate for the level of risk) as for the higher risk farmer. The lower risk farmers will simply drop out of the program. Moral hazard exists when a farmer takes risky actions after purchasing crop insurance that can lead to greater indemnities. The insurer will want to monitor production activities, which could be costly. Risk can also be positively correlated because the insured suffer the same harm, making it more difficult to diversify. However, as explained by Joseph Glauber and Keith Collins, "The problems of adverse selection, moral hazard, and correlated risks are certainly not unique to crop insurance." Glauber and Collins, "Crop Insurance, Disaster Assistance, and the Role of the Federal Government."
165. Jeffrey R. Brown, *Public Insurance and Private Markets*, p. 203 (Washington: AEI Press, 2010)
166. U.S. Department of the Treasury, Federal Insurance Office, *The Breadth and Scope of the Global Reinsurance Market and the Critical Role Such Market Plays in Supporting Insurance in the United States*, December 2014, p. 6, <https://www.treasury.gov/initiatives/fio/reports-and-notice/ Documents/FIO%20-%20Reinsurance%20Report.pdf> (accessed March 31, 2016).
167. For more discussion regarding the myth of market failure with crop insurance, see, e.g., Barry Goodwin and Vincent Smith, *The Economics of Crop Insurance and Disaster Aid* (Washington: AEI Press 1995), [http://www.aei.org/wp-content/uploads/2014/07/-the-economics-of-crop-insurance-and-disaster-aid\\_10212473810.pdf](http://www.aei.org/wp-content/uploads/2014/07/-the-economics-of-crop-insurance-and-disaster-aid_10212473810.pdf) (accessed March 31, 2016). This report also addresses the question of whether private markets can handle the size of the losses incurred. See also Glauber and Collins, "Crop Insurance, Disaster Assistance, and the Role of the Federal Government," and Jeffrey R. Brown, *Public Insurance and Private Markets* (Washington: AEI Press, 2010).
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169. U.S. Department of Agriculture, "Structure and Finances of U.S. Farms: Family Farm Report, 2014 Edition," December 2014, Table 10, <http://www.ers.usda.gov/media/1728096/eib-132.pdf> (accessed March 16, 2016).
170. For a more comprehensive discussion on regulatory issues, see Daren Bakst, "Eliminating and Reducing Regulatory Obstacles in Agriculture," Heritage Foundation *Backgrounder* No. 3135, June 28, 2016, <http://www.heritage.org/research/reports/2016/06/eliminating-and-reducing-regulatory-obstacles-in-agriculture>.
171. Dennis A. Shields, "Federal Crop Insurance: Background," Congressional Research Report to Congress, August 13, 2015, p. 10.
172. See e.g. Federal Emergency Management Agency, DisasterAssistance.gov, Assistance by Category, <https://www.disasterassistance.gov/get-assistance/assistance-by-category> (accessed August 4, 2016).
173. This recommendation is in no way making any evaluation of the existing disaster programs. It is merely indicating that to the extent that there is assistance to businesses, agricultural producers should receive similar levels of assistance.



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