

CORN, COWS, AND CASH: HOW FARMING SUBSIDIES WORK AND WHAT THEY COULD POTENTIALLY ACHIEVE

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Farming subsidies are a controversial tool the federal government has historically used to prop up crop prices since the Great Depression. Recent changes to the agricultural subsidy scheme in 1996 and 2014 have changed the way these subsidies are distributed, but the federal government could use these subsidies in a more beneficial way than it has before. This note identifies three goals that farming subsidies could encourage: promoting healthier diets, protecting the environment, and promoting small farming businesses. In addition to establishing potential goals, this note sets out which reforms would most likely achieve those goals and evaluates these reforms. Policymakers should consider potential beneficial uses of restructuring the farming subsidies, specifically regarding the 2018 Farm Bill.

I. INTRODUCTION

The United States Department of Agriculture (USDA) spends over twenty billion dollars a year on farming subsidies.¹ This

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1. Chris Edwards, *Agriculture Subsidies*, DOWNSIZING THE FED. GOV'T (Apr. 16, 2018), https://www.downsizinggovernment.org/agriculture/subsidies#_edn6.

funding is controversial because it is used to fund crops like corn, wheat, and cotton, and most of these benefits help larger farming corporations. There are better ways that Congress can distribute these twenty billion dollars to work towards several policy goals that are of national concern, such as promoting healthier lifestyle diet choices, protecting the environment, and stimulating small farming businesses.

This note will detail the history of agricultural subsidies, including an overview of the most recent Farming Bills and an introduction to the farming subsidy system that is currently in place. This note will then evaluate options available for using farming subsidies to attain these three different policy goals.

For the first policy goal, promoting healthier lifestyles, this note will evaluate the merits of removing farming subsidies that Congress provides to grains (corn, wheat, soybeans, and rice) in favor of subsidizing more nutritious food such as broccoli, carrots, and apples. This note will then evaluate whether farming subsidies can mitigate the environmental impact of farming, by incentivizing farmers either to move away from conventional farming toward alternative farming styles, or to adopt specific strategies that promote environmental responsibility. Finally, in regard to stimulating smaller farm business, this note will evaluate crop insurance reform and alternative programs that could be funded by the savings from crop insurance reform.

Some may argue that Congress should eliminate farming subsidies instead of repurposing them, but this note contends that eliminating farming subsidies is not politically viable. Then in closing, this note will determine which of these plans are most feasible in the current political context.

II. BACKGROUND

A. History of Agricultural Subsidies

Since the formation of the United States, there was strong opposition from states regarding federal government intervention in agriculture; until the mid-1800s most agricultural programs were state-funded.² After this time, the federal government started to

2. Monica Hughes, *A Brief History of U.S. Farm Policy and the Need for Free-Market Agriculture*, THE OBJECTIVE STANDARD (Jan. 26, 2014), <https://www.theobjectivestandard.com/issues/2009-summer/us-farm-policy>.

States strongly believed they should govern agriculture; in 1836, when the federal government opened a three hundred-thousand dollar program to collect potentially useful,

gain power in the agricultural arena. The USDA grew from having an annual budget of less than ninety thousand dollars in 1896 to over twenty-four million dollars in 1912.³ Beginning in the 1800s, the federal government grew increasingly involved in the agriculture industry, culminating in modern farming subsidies.⁴ Modern agricultural subsidies were introduced in the first Farm Bill⁵, the Agriculture Adjustment Act, as part of President Franklin D. Roosevelt's New Deal.⁶ In the 1930s, mechanization and increased production due to World War I led to large surpluses of crops that caused prices to plummet.⁷ This legislation attempted to boost crop prices by authorizing the federal government to pay farmers to farm less of their land and buy excess grain to sell in times of shortages.⁸

Five years later, Congress passed the Agricultural Adjustment Act of 1938, which made agricultural subsidies permanent.⁹ Since then, Congress had to renew the Farm Bills every five years.¹⁰ Most of the provisions of the original Agricultural Adjustment Act were adopted, except for a controversial processor's tax that funded the original legislation.¹¹ From 1933 to 1996, the federal government continued the policies of the original Agricultural Adjustment Act.¹² The federal government bought grains from farmers and released the grains into the market to prop up crop prices.¹³

foreign plants for agriculture, Senator John C. Calhoun deemed it an enormous abuse of federal power. *Id.*

3. *Id.*

4. See Morrill Act of 1862, 7 U.S.C. §§ 301-309 (2012) (establishing land grant colleges); Hatch Act of 1887, 7 U.S.C. §§ 361-386 (2012) (funding agricultural research and establishing the U.S. Department of Agriculture); Smith-Level Act of 1914, 7 U.S.C. §§ 341-349 (funding agricultural education).

5. Modern farm bills are large bills that include a wide variety of topics including land use, energy, forestry, and nutrition. See Scott Neuman, *Why the Farm Bill's Provisions Will Matter to You*, NAT'L PUB. RADIO (June 13, 2012), <http://www.npr.org/2012/06/13/154862017/why-the-farm-bills-provisions-will-matter-to-you>. This paper will address farm bills only in the context of agricultural subsidies.

6. Kathleen Masterson, *The Farm Bill: From Charitable Start to Prime Budget Target*, NAT'L PUB. RADIO (Sept. 26, 2011), <http://www.npr.org/sections/thesalt/2011/09/26/140802243/the-farm-bill-from-charitable-start-to-prime-budget-target>.

7. Neuman, *supra* note 5.

8. Masterson, *supra* note 6.

9. *Id.*

10. *Id.*

11. Compare Agricultural Adjustment Act of 1933, 7 U.S.C. §§ 601-627 (2012) (containing provisions that established processing taxes to pay for farming subsidies) with Agricultural Adjustment Act of 1938, 7 U.S.C. §§ 1281-1407 (2012) (appropriating fund from the federal government to be used for farming subsidies); see also *United States v. Butler* 297 U.S. 1, 84 (1936) (holding that the processing taxes set forth in the 1933 law were unconstitutional).

12. See Masterson, *supra* note 6.

13. *Id.*

The first major change to the farming subsidy scheme came in 1996. Congress passed the 1996 Farm Bill,¹⁴ the “Freedom to Farm Act,” which was the first major attempt to restructure agricultural subsidies. Here, the federal government pulled out of grain management and price support.¹⁵ The goal of the bill was to reduce commodity payments by setting fixed payments that declined each year.¹⁶ However, this made commodity prices drop, and Congress authorized recurring lump sum payments that started at the time commodity payments were supposed to be lowered and continued until the 2002 Farm Bill.¹⁷ This led to a new farm subsidy scheme that includes direct payments¹⁸ and crop insurance subsidies.¹⁹ This new structure made subsidies rise; by 1999 the United States government was paying over twenty billion dollars annually.²⁰ The 1996 Farm Bill also loosened many of the 1930s era conservation requirements that forced farmers to place up to fifteen percent of their land out of production.²¹

The 2002 Farm Bill, the Farm Security and Rural Investment Act of 2002, continued many of the policies that Congress set with the 1996 Farm Bill and formalized the lump sum payments now known as counter-cyclical payments.²² The 2002 Farm Bill not only formalized the counter cyclical payments, but also increased the amount of money authorized for this program.²³ The 2002 Farm Bill was widely criticized for not meeting trade standards set out in by the World Trade Organization (WTO) because it provided an unfair advantage to certain United States crops in the international market.²⁴

The 2008 Farm Bill, the Food, Conservation, and Energy Act of 2008, worked to bring United States agricultural law into closer conformity with the standards set out by the WTO by revising credit

14. The official name of the 1996 Farm Bill is the Federal Agriculture Improvement and Reform Act of 1996.

15. See Masterson, *supra* note 6.

16. Doug O'Brien, *World Trade Organization and the Commodity Title of the Next Farm Bill: A Practitioner's View*, THE NAT'L AGRIC. L. CTR. 1, 5 (2006), http://nationalaglawcenter.org/wp-content/uploads/assets/articles/obrien_wto.pdf.

17. *Id.*

18. Direct payments are payments made to farmers per acre of land regardless of crop yield.

19. Masterson, *supra* note 6.

20. *Id.*

21. O'Brien, *supra* note 16, at 5-6.

22. *Id.* at 5.

23. Zixuan Yen-Yen Gao, *The Impact of United States Agricultural Subsidies on World Trade in Context of the Brazil Cotton Dispute*, U. OF PA. WHARTON PUB. POL'Y INITIATIVE (Sept. 8, 2015), <https://publicpolicy.wharton.upenn.edu/live/news/851-the-impact-of-united-states-agricultural-subsidies>.

24. *Id.*

guarantees program.²⁵ These revisions eliminated three key support programs: a short term export credit guarantee known as the supplier credit program, the intermediate export credit guarantee program, and a direct export subsidy known as the Export Enhancement Program.²⁶ The 2008 Farm Bill was passed under pressure from international actors that questioned United States support and legality of farming subsidies.²⁷

Congress was supposed to pass a new Farm Bill in 2012, but Congress failed to do so in both 2012 and 2013, leaving the legislators to extend the 2008 Farm Bill as a stopgap measure.²⁸ Congress had trouble passing this Farm Bill because of contentious partisan issues.²⁹ In 2012, Speaker Boehner and Majority Leader Cantor refused to bring the Farm Bill to a vote because they did not have the necessary votes to pass the bill and did not want the vote to fail during an election year.³⁰ In 2013, the Senate passed the Farm Bill but could not find bipartisan support in the House, and the bill ultimately failed.³¹

B. Current Farming Subsidies System

The 2014 Farm Bill, the Agricultural Act of 2014, restructured farming subsidies and did away with direct payments, instead favoring subsidies as the commodity price declines.³² Direct payments were controversial because they were granted based on acreage and historical yield, meaning that farmers received them regardless of whether their farms had a difficult or profitable year.³³

25. *Id.*; U.S. CONG. RES. SERV., 2008 FARM BILL: MAJOR PROVISIONS AND LEGISLATIVE ACTION at 20 (2008) [hereinafter 2008 FARM BILL].

26. 2008 FARM BILL, *supra* note 25, at 22.

27. *Id.* at 1.

28. Allison Crissman, *Senate Approves New Farm Bill*, THE DAILY IOWAN (June 12, 2013), <http://www.dailyiowan.com/2013/06/12/Metro/33464.html>. Congress temporarily sustained the 2008 Farm Bill through continuing resolutions and short-term deals. *See also* Brad Plumer, *The House Farm Bill Unexpectedly Failed. So What Happens Next?*, WASH. POST (June 20, 2013), https://www.washingtonpost.com/news/wonk/wp/2013/06/20/the-house-farm-bill-unexpectedly-fails-195-234-so-what-happens-next/?utm_term=.eddbfeb1c94d.

29. In both 2012 and 2013, the political struggle involved budget cuts to the Supplemental Nutrition Assistance Program (SNAP) also known as food stamps. *Why Did the Farm Bill Fail in the House?* NAT'L SUSTAINABLE AGRIC. COALITION (June 26, 2013), <http://sustainableagriculture.net/blog/why-farm-bill-failed/>.

30. *Id.*

31. David Weigel, *The House's Humiliating Farm Bill Fail, Explained*, SLATE (June 20, 2013), http://www.slate.com/articles/news_and_politics/roads/2017/11/fonio_could_this_forgotten_west_african_grain_be_the_world_s_next_trendy.html.

32. Dan Charles, *Farm Subsidies Persist and Grow, Despite Talk of Reform*, NAT'L PUB. RADIO (Feb. 1, 2016), <http://www.npr.org/sections/thesalt/2016/02/01/465132866/farm-subsidies-persist-and-grow-despite-talk-of-reform>.

33. Neuman, *supra* note 5.

The congressional authors of the 2014 Farm Bill promised these cuts would save taxpayer's over twenty-three billion dollars over the next 10 years.³⁴ However, the Congressional Budget Office (CBO) projected the United States would spend up to twenty-three billion dollars in crop subsidies this year, more than the original CBO projection.³⁵ The 2014 Farm Bill worked to further bring the United States in compliance with standards set out by the WTO.³⁶ The 2014 Farm Bill allowed the Secretary of Agriculture to make changes to the credit guarantee programs in order for these programs to comply with the WTO cotton case won by Brazil.³⁷

The 2014 Farm Bill emphasized the crop insurance program over traditional farming programs.³⁸ The 2014 Farm Bill eliminated many traditional farming programs such as direct payments, the counter-cyclical price program, and the average crop revenue election program.³⁹ Most of the savings created by eliminating traditional farming programs was invested in crop insurance and permanent disaster relief.⁴⁰ Currently, crop insurance is one of the primary sources of federal farming subsidies, increasing from two billion dollars in 2001 to nine billion dollars in 2011.⁴¹ The Risk Management Agency (RMA) of the USDA administers the crop insurance program.⁴² The USDA pays approximately sixty percent of the insurance premium costs for the farmers who qualify.⁴³ In addition to subsidizing farmers, the USDA subsidizes nineteen percent of the administrative cost of farming insurance programs.⁴⁴

34. Charles, *supra* note 32.

35. *Id.*

36. Yen-Yen Gao, *supra* note 23.

37. U.S. CONG. RES. SERV., THE 2014 FARM BILL (P.L. 113-79): SUMMARY AND SIDE-BY-SIDE at 10 (2014) [hereinafter 2014 FARM BILL, SUMMARY AND SIDE-BY-SIDE]. Brazil successful brought a claim against the United States through the WTO that concluded in a formal settlement in 2014. *See* Yen-Yen Gao, *supra* note 23.

38. U.S. GOV'T ACCOUNTABILITY OFF., GAO 15-356, CROP INSURANCE: REDUCING SUBSIDIES FOR HIGHEST INCOME PARTICIPANTS COULD SAVE FEDERAL DOLLARS WITH MINIMAL EFFECT ON THE PROGRAM at 3 (2015) [hereinafter GAO, CROP INSURANCE REDUCING SUBSIDIES].

39. 2014 FARM BILL, SUMMARY AND SIDE-BY-SIDE *supra* note 37, at 6.

40. *Id.*

41. Craig Cox & Scott Faber, *The Case for Crop Insurance Reform*, ENVTL. WORKING GROUP (June 11, 2011), <http://www.ewg.org/agmag/2012/06/case-crop-insurance-reform#.WeVJ5mhSzIV>.

42. GAO, CROP INSURANCE REDUCING SUBSIDIES, *supra* note 38, at 1.

43. Edwards, *supra* note 1.

44. *Id.*

In 2010, the average crop insurance subsidy received was over five thousand dollars per farmer.⁴⁵ Currently, most agricultural subsidies go to corn, wheat, soybean, and cotton crops.⁴⁶

III. ARGUMENT: FARMING SUBSIDIES CAN PROVIDE BETTER OUTCOMES

The United States government spends significant resources on agricultural subsidies.⁴⁷ These subsidies accomplish stability in crop prices and help many farmers but fail to accomplish other worthwhile goals. The current farming subsidy scheme over incentivizes the development of marginal lands, encourages the production of limited grain crops and allots most farming subsidies to large corporate farms. The annual twenty-five billion dollars used by the United States on farming subsidies could be better spent achieving federal policy goals. Three federal policies that farming subsidies can be used to accomplish are promoting healthier diets, protecting the environment, and encouraging small farming businesses.

A. Promoting Healthier Diets

One important federal policy should be improving public health by combating heart disease, obesity, and diabetes, among other illnesses. Farming subsidies can be used to incentivize healthier eating habits that could reduce these health problems. By allocating farming subsidies to healthier crops such as apples, broccoli, and carrots, rather than crops such as wheat and corn, the price of healthier foods could fall and the price for unhealthy foods could rise. Poorer families would be able to buy healthier products such as fresh vegetables and fruits if subsidies were allocated to those crops to lower prices.

Obesity is a pressing issue in the United States, with over a third of adult Americans and over twelve million children and adolescents

45. U.S. GOV'T ACCOUNTABILITY OFF., GAO 12-256, CROP INSURANCE: SAVINGS WOULD RESULT FROM PROGRAM CHANGES AND GREATER USE OF DATA MINING at 19 (2012) [hereinafter CROP INSURANCE SAVINGS].

46. Crops, U.S. DEP'T OF AGRICULTURE ECON. RESEARCH SERV. (May 8, 2008) <https://www.ers.usda.gov/topics/crops/>.

47. Between 1995 and 2005 the United States government paid out over 164.7 billion in farming subsidies; that is more than the government spends on other programs such as the financial aid Pell Grant program. See Tom Philpott, *Where Farm Subsidies Came from, and Why they are Still Here*, GRIST (Jan. 31, 2007), http://grist.org/article/farm_bill2/.

considered obese.⁴⁸ Obesity has also been linked to diseases such as stroke, heart disease, and type two diabetes.⁴⁹ Beyond the issue of obesity, a diet full of vegetables and fruits has many health benefits including prevention of cancer, diabetes, and coronary heart disease among other illnesses.⁵⁰ Scientific studies have further suggested that when the goal is weight loss, adding healthy foods such as vegetables and fruits to a person's diet is more impactful than cutting back on unhealthy foods that are high in fat or sugar.⁵¹

Obesity is often correlated with poverty. At times, fattening foods that are found in convenience stores and fast food restaurants are the only things available or affordable to poor consumers.⁵² Currently, farming subsidies are mostly for grains like corn and wheat. Critics of the current system argue that because farming subsidies suppress the commodity prices of these grains, many of the resulting products, such as high-fructose corn syrup, hydrogenated fats, and corn-fed meats, become more accessible and affordable than healthier foods that are not subsidized.⁵³

This is especially so in the case of corn.⁵⁴ Most of the corn produced for consumption in the United States is processed into the high-fructose corn syrup found in many processed foods.⁵⁵ High-fructose corn syrup has been linked to the same negative properties as other sugars.⁵⁶ Studies have shown that removing corn subsidies could lower corn production in the United States up to ten percent.⁵⁷

48. *Adult Obesity Facts*, CTRS. FOR DISEASE CONTROL & PREVENTION (Aug. 13, 2018), <https://www.cdc.gov/obesity/data/adult.html> [hereinafter *Adult Obesity Facts*]; *Childhood Obesity Facts*, CTRS. FOR DISEASE CONTROL & PREVENTION (Aug. 13, 2018), <https://www.cdc.gov/obesity/data/childhood.html>.

49. *Adult Obesity Facts*, *supra* note 48.

50. Sean B. Cash et al., *Fat Taxes and Thin Subsidies: Prices, Diet, and Health Outcomes*, 2 ACTA AGRICULTURAE SCANDINAVICA SECTION C167, 168 (2005).

51. *Id.* at 169.

52. Scott Fields, *The Fat of the Land: Do Agricultural Subsidies Foster Poor Health?*, 112 ENVTL. HEALTH PERSP. A821, A822 (2004); *see also Documentation*, U.S. DEP'T OF AGRIC. ECON. RES. SERV. (Dec. 5, 2017), <https://www.ers.usda.gov/data-products/food-access-research-atlas/documentation/>.

53. Fields, *supra* note 52, at A821.

54. There are also environmental reasons why Congress should reduce the amount of farming subsidies that are allotted to corn. *See discussion infra* Section II B.3.

55. Jonathan Foley, *It's Time to Rethink America's Corn System*, SCI. AM. (Mar. 5, 2013), <https://www.scientificamerican.com/article/time-to-rethink-corn/>.

56. John S. White, *Straight Talk about High-Fructose Syrup: What It Is and What it Ain't*, 88 AM. J. OF CLINICAL NUTRITION 1716S, 1717S (2017). High-fructose corn syrup has been linked to obesity and other illnesses but at the same rate as other sugars like sucrose. *Id.* at 470.

57. Julian M. Alston et al., *Farm Subsidies and Obesity in the United States: National Evidence and International Comparisons*, 33 FOOD POL'Y 470, 473 (2008), https://ac.els-cdn.com/S0306919208000523/1-s2.0-S0306919208000523-main.pdf?_tid=369fcce-c24c-11e7-b444-00000aacb360&acdnat=1509902005_e6b63f7dac72f92729b8b427673d688d.

Some are skeptical of the connection between obesity and farm subsidies, arguing that farm subsidies do not have a large effect on the price of subsidized crops.⁵⁸ Removing farming subsidies that support corn and grains will not have a large effect on price of fattening foods, skeptics say, because they are a small share of the input price of making fatty foods.⁵⁹ Farming commodity prices usually implicate less than twenty percent of the total cost of food products, especially heavily processed foods.⁶⁰

Using farm subsidies alone to promote a lower obesity rate may be unsuccessful, because there are many variables that affect food choices. Even if removing subsidies for grain crops increases the price of fattening foods, consumers might still pick these foods because they are easier to prepare, less time consuming, or are part of their normal routine. In addition, other factors beyond diet choices, like exercise and genetic predisposition, affect overall health.⁶¹ However, if both subsidies that support grain crops decrease and subsidies that support healthier vegetables increased, this policy in conjunction with other policies, such as food and exercise education campaigns, could improve the average American diet.

B. Protecting the Environment

Another federal policy that the government can pursue through farming subsidies is protecting the environment. Globally, agriculture creates an intense environmental footprint. Agricultural activities emit up to thirty-three percent of manmade greenhouse gases, occupy forty percent of Earth's land surface, and account for seventy percent of freshwater withdrawals.⁶² There are many environmental problems that farming exacerbates. For example, nitrogen run-off from farms into the Mississippi River and its tributaries has been implicated as a cause for the dead zone in the

58. Fields, *supra* note 52, at A821.

59. *Id.* at A823.

60. Alston et al., *supra* note 57, at 473. For example, Australia and the United States have similar rates of obesity and the consumption of soft drinks and fast food are similar, but Australia does not have a farm commodity program. See Julian M. Alston et al., *Are Agricultural Policies Making Us Fat? Likely Links between Agricultural Policies and Human Nutrition and Obesity, and their Policy Implications*, 28 REV. OF AGRIC. ECON. 313, 319 (2006).

61. *Physical Activity and Health*, CTRS. FOR DISEASE CONTROL & PREVENTION (June 4, 2015) <https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm>; *Genetics Basics*, CTRS. FOR DISEASE CONTROL & PREVENTION (Nov. 14, 2017) <https://www.cdc.gov/genomics/about/basics.htm>.

62. Michael Clark & David Tilman, *Comparative Analysis of Environmental Impacts of Agricultural Production Systems, Agricultural Input Efficiency and Food Choice*, 12 ENVTL. RES. LETTERS 1, 1 (2017), <http://iopscience.iop.org/article/10.1088/1748-9326/aa6cd5/pdf>.

Gulf of Mexico.⁶³ Bloated insurance subsidies make it lucrative to plow up wetlands, grasslands, and marginal lands that could be put to other uses with less deleterious environmental effects.⁶⁴

1. Promoting Organic or Conservation Agriculture over Conventional Agriculture

There is a recent trend in western nations to increase organic and conservation agriculture because it is perceived to lessen the environmental impacts of farming.⁶⁵ Organic agriculture removes synthetic farming inputs such as synthetic fertilizers and replaces them with natural alternatives.⁶⁶ Conservation agriculture is based on the principles of minimal soil disturbance, continuous soil coverage, and crop rotation.⁶⁷ Organic and conservation agriculture have some benefits like producing crops more resistant to natural threats such as chronic droughts, soil degradation, and disease.⁶⁸

Although organic and conservation agriculture has been championed to reduce the environmental impact of agricultural activities, studies conflict as to whether this is completely true.⁶⁹ Instead of concentrating on overhauling the style of farming that is being subsidized, farming subsidies can be used to promote individual strategies that help protect the environment. For example, crop rotations and allowing land to lie fallow are strategies that are generally accepted as ways to improve soil health.⁷⁰

63. Leo Horrigan et al., *How Sustainable Agriculture Can Address the Environmental and Human Health Harms of Industrial Agriculture*, 110 ENVTL. HEALTH PERSP. 445, 446 (2002), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240832/pdf/ehp01110-000445.pdf>.

64. Cox & Faber, *supra* note 41.

65. Clark & Tilman, *supra* note 62, at 3.

66. *Id.* at 2.

67. Ken E. Giller et al., *Beyond Conservation Agriculture*, 6 FRONTIERS IN PLANT SCI. 1, 1 (2015), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4623198/pdf/fpls-06-00870.pdf>.

68. Hossien Azadi et al., *Organic Agriculture and Sustainable Food Production System: Main Potentials*, 144 AGRIC., ECOSYSTEMS, & ENV'T 92, 92-93 (2011), https://ac.els-cdn.com/S0167880911002805/1-s2.0-S0167880911002805-main.pdf?_tid=515206c8-c192-11e7-9f43-00000aab0f6c&acdnat=1509822163_352f6bbfe69e56cadc76d66b7e3d7801.

69. Compare Horrigan et al., *supra* note 63 at 453 (describing conservation agriculture producing higher crop yields and maintaining soil health), and Azadi et al., *supra* note 68 (stating that organic agriculture provides more stable crop yields and lowers carbon emissions), with Clark & Tilman, *supra* note 62, at 4 (concluding that organic agriculture does not lower carbon emissions or acidification potential compared to more traditional farming methods) and Giller et al., *supra* note 67, at 9 (criticizing conservation agriculture for being too restrictive to work in different agricultural environments).

70. M.D. McDaniel et al., *Crop Rotation Complexity Regulates the Decomposition of High and Low Quality Residues*, 78 SOIL BIOLOGY AND BIOCHEMISTRY 243, 249 (2014).

2. Promoting New Technology that Mitigate Environmental Impacts

One strategy is to reward farmers for switching to technology that helps mitigate the environmental impacts of agricultural activities. Farmers could be rewarded through subsidizing a percentage of the cost of upgrading to this technology. Examples of technology that can mitigate environmental impacts include switching from flood irrigation mechanisms to other systems, like center pivots drip irrigation that helps conserve water.⁷¹ Another water-conserving technology is Low-Energy Precision-Application Irrigation System (LEPA), which works by delivering low pressure water in an efficient way.⁷² LEPA can also be modified to efficiently apply fertilizers and pesticides.⁷³ Other strategies can lessen nitrogen runoff, like matching the application of nitrogen to the nitrogen pattern of that crop or injecting the nitrogen into the ground.⁷⁴ Another option to reduce nitrogen runoff is controlled release fertilizers that have water-insoluble coatings preventing water-soluble nitrogen from dissolving.⁷⁵

Another option is for Congress to contribute more funds to USDA programs for agriculture research. Currently, although the USDA has research funding, it is not a priority under the current farming subsidy scheme.⁷⁶ In the next 10 years, all mandatory USDA research funding will increase by only a billion dollars.⁷⁷ This additional funding should be dedicated to research that would lessen the environmental impact of farming or roll out existing technological advances to farmers.

3. Discouraging the Production of Corn

Another potential environmental protection strategy is to discourage the growth of corn. As a crop, corn uses more fertilizer and water than other crops that could be grown in the Midwest, like

71. *The Environmental Risks of Corn Production*, NAT'L PUB. RADIO (June 11, 2014), <http://www.wbur.org/hereandnow/2014/06/11/corn-environmental-risks>.

72. NAT'L RES. COUNCIL OF THE NAT'L ACADS. WATER IMPLICATIONS OF BIOFUELS PRODUCTION IN THE UNITED STATES at 41-42 (2008).

73. *Id.* at 42.

74. *Id.* at 40.

75. *Id.*

76. Funding for USDA research comes from the sixteen percent of discretionary spending and account for less than three percent of annual spending. U.S. DEPT OF AGRICULTURE, BUDGET SUMMARY FISCAL YEAR 2019 at 1-2 (2015) <https://www.usda.gov/sites/default/files/documents/usda-fy19-budget-summary.pdf>.

77. 2014 FARM BILL, *supra* note 37, at 14.

wheat.⁷⁸ The current trend has been to plant more acres of corn instead of less. Between 2006 and 2011, over thirteen million new acres were added to the total acres growing corn in the United States.⁷⁹ There are over ninety-seven million acres used to grow corn, an area close to the size of California.⁸⁰

Although corn has a very high yield compared to other crops, a small percentage of that yield reaches the American dinner plate.⁸¹ Most corn is used for either biofuel (forty percent of corn production) or animal feed (thirty-six percent of corn production), and much of the corn that is left is exported to other countries.⁸² The two most prevalent uses of corn are also very inefficient and energy intensive.⁸³

However, limiting the amount of farming subsidies that are used on corn will have its own set of challenges. Placing different environmental requirements on farmers to get farming subsidies could work, but it might hurt smaller farmers, who do not have the funds to comply with new regulations. Smaller corn farms could also have a hard time adapting to growing other crops. Another issue Congress must address is the artificial demand for corn created by the Energy Act of 2005, which requires a certain percentage of all fuel come from ethanol.⁸⁴

C. Promoting Small Farming Businesses

Farming subsidies can promote small farming businesses that could stimulate our economy and provide more farming jobs in places hurt by globalism. Under the current farming subsidy system, large farm owners reap a disproportionate amount of the financial benefits, especially in the realm of crop insurance. In 2011, of the eight hundred and seventy-five thousand farmers who benefit from crop insurance premium subsidies, almost four percent receive

78. Foley, *supra* note 55; *Agriculture in the Midwest*, U.S. DEP'T OF AGRIC.: CLIMATE HUBS (Oct. 19, 2017) <https://www.climatehubs.oce.usda.gov/hubs/midwest/topic/agriculture-midwest>.

79. *Id.*

80. *Id.*

81. As discussed previously, the comestible corn that reaches American consumers is mostly high-fructose syrup, not the vegetable itself or other healthy alternatives. See discussion, *supra* Section II A.

82. Foley, *supra* note 55.

83. James Conca, *It's Final – Corn Ethanol if of No Use*, FORBES (Apr. 20, 2014), <https://www.forbes.com/sites/jamesconca/2014/04/20/its-final-corn-ethanol-is-of-no-use/#1b74df2667d3>; *U.S. Could Feed 800 Million People with the Grain Livestock Eat* *Cornell Ecologist Advises Animal Scientists*, CORNELL CHRON. (Aug. 7, 1997), <http://news.cornell.edu/stories/1997/08/us-could-feed-800-million-people-grain-livestock-eat>.

84. 109 Pub. L. 58, Section 1501.

over thirty percent of the financial benefit.⁸⁵ From 1995 to 2010, around ten percent of the farmers received seventy-five percent of the farming subsidy benefits.⁸⁶ A different distribution of farming subsidy dollars could encourage small farming businesses.⁸⁷

1. Crop Insurance Subsidy Reform

Reforming crop insurance subsidies to ensure a more equitable distribution of benefits could lead to savings that can stimulate small farming businesses. There are two main kinds of crop insurance policies: those that are production-based, and those that are revenue based.⁸⁸ Production-based policies compensate farmers if their production falls lower than their historical production levels, while a revenue-based policy protects against both fall of production or price.⁸⁹ The administrative overhead costs that the government covers and the crop insurance subsidies are both financial benefits to farmers because the subsidies help lower the cost to farmers directly, and the administrative overhead is typically priced into private insurance.⁹⁰

In 2012, the Government Accountability Office (GAO) recommended that the USDA impose a forty thousand dollar⁹¹ crop insurance subsidy limit per farmer to lower program costs.⁹² Crop insurance premium subsidy costs have increased from an average of three and a half billion dollars⁹³ to eight and a half billion dollars⁹⁴ annually.⁹⁵ If the crop insurance subsidy limit was implemented earlier, the GAO estimates that savings in 2010 would have been up to three hundred and fifty-eight million dollars, and in 2011, that number would have increased to a billion dollars.⁹⁶

85. *Key Issues: Farm Programs*, U.S. GOV'T ACCOUNTABILITY OFF., https://www.gao.gov/key_issues/farm_programs/issue_summary (last visited Jan. 16, 2019).

86. Masterson, *supra* note 6.

87. *Last Week Tonight with John Oliver* (HBO television broadcast Sept. 24, 2017), <https://www.hbo.com/last-week-tonight-with-john-oliver/2017> (pointing out that politicians often speak of promoting small businesses and claim that small businesses are the backbone of America).

88. *See* CROP INSURANCE SAVINGS, *supra* note 45, at 5.

89. *Id.*

90. *Id.*

91. GAO advocated for a \$40,000 limit because that was the limit on direct payments at the time. *Id.* at 40.

92. *Id.*

93. Average annual cost from 2004 to 2008. *See* GAO, CROP INSURANCE REDUCING SUBSIDIES, *supra* note 38, at 1.

94. Average annual cost from 2009 to 2014. *See id.*

95. *Id.*

96. CROP INSURANCE SAVINGS, *supra* note 45, at 15.

This limit would also prevent a small number of farmers from obtaining a large share of premium subsidies and would only affect less than five percent of all farmers who rely on the program.⁹⁷ Only thirty-seven farmers received more than half a million dollars in premium subsidies, the largest of which was a farming corporation that received close to two million dollars in premium subsidies.⁹⁸ The GAO also advocated for a limit of forty thousand dollars per farmer in administrative costs, noting that this would almost double savings from a billion dollars to close to two billion dollars.⁹⁹

According to data from the USDA, large farmers¹⁰⁰ are in a better position to pay higher premiums than smaller farms, as signaled by higher annual gross sales, higher return on equity, and higher ability to service debt.¹⁰¹ The GAO suggested methods of self-insuring for large farms to compensate for the limit on premium subsidies, including marketing contracts, future contracts, crop diversification, liquid credit reserves, and private insurance.¹⁰² This suggests that larger farms would continue to be profitable without the large amounts of crop insurance subsidies that they currently receive.

Congress considered placing limits on crop insurance subsidies when passing the 2014 Farm Bill.¹⁰³ The Senate version of the Farm Bill included a provision that would reduce crop insurance subsidies by fifteen percent for participants who averaged three-quarter million dollars gross income over three years.¹⁰⁴ Congress debated this topic in 2012 and 2013 and considered the crop insurance reduction a “controversial” provision.¹⁰⁵ Many congressional members, particularly those in the agricultural committee, viewed the crop insurance subsidy program as the most important aspect of the farm safety net while other congressional members considered the program too generous.¹⁰⁶ The crop insurance reduction provision passed in the Senate but ultimately did not make it into the final version of the bill.¹⁰⁷

97. *Id.* at 35, 15.

98. *Id.* at 19.

99. *Id.* at 20.

100. Large farms are defined as those that gross over a million dollars a year. *Id.* at 21.

101. *Id.* at 21-22.

102. *Id.* at 22-23.

103. GAO, CROP INSURANCE REDUCING SUBSIDIES, *supra* note 38, at 8.

104. *Id.*

105. U.S. CONG. RES. SERV., CROP INSURANCE PROVISIONS IN THE 2014 FARM BILL (P.L. 113-79) at 11 (2014).

106. *Id.* at 3-4.

107. GAO, CROP INSURANCE REDUCING SUBSIDIES, *supra* note 38, at 8.

2. Funding Programs with Crop Insurance Reform Savings

The GAO projected that their recommended crop insurance subsidy reform could save up to a billion dollars a year.¹⁰⁸ Congress could invest these savings in small farming businesses. A potential program could provide low-interest loans to farmers trying to buy farms under a certain acreage or meet qualifications the USDA deems important. This could stimulate the amount of small farming businesses in the United States and the USDA could use this as an opportunity to experiment with different farming methods. Farms under this program would have to follow specifications sent out by the USDA and allow the USDA to collect measurements such as soil health, yield, and fertilizer and water consumption for the USDA to develop new farming techniques. These small farms could be the farming laboratories of America.

Another option is to use the crop insurance subsidy reform savings to provide grants for technology improvement for small farming businesses. Equipping smaller farms with better technology could make them more efficient and environmentally friendly. The USDA could implement this program by identifying useful technologies for small farming businesses and could have a streamlined application for these technologies. The USDA could have a second process where small farms petitioned for a grant for other technological innovations by explaining the merits of these technologies and how it would be implemented on their farm. This kind of program would both help small farming businesses and protect the environment.

IV. CONSIDERATION OF COUNTER ARGUMENTS

A majority of this paper concentrates on what kind of effects Congress can create by distributing farm subsidies in other ways, but so far, it has not considered the question of whether subsidies should exist at all. Some argue Congress should eliminate farming subsidies or that Congress should create change using other tools, not farming subsidies. However, these arguments do not provide good reasons for why Congress should eliminate farming subsidies or leave them unchanged.

A. Farming Subsidies Should Be Removed

Some argue that Congress should not redistribute farming subsidies but instead should eliminate farming subsidies.

108. *Id.* at 42.

Proponents of smaller government argue that instead of redistributing subsidies, the government should cut subsidies altogether, because they have a negative effect on the economy and are costly to tax payers.¹⁰⁹ Critics of Farm Bills, such as the Cato Institute's Chris Edwards, characterize this legislation as a "bipartisan pork barrel spending spree" that provides taxpayer dollars to well-off farmers.¹¹⁰

Another concern with farming subsidies are the ramifications they hold for foreign agricultural trade. When the World Trade Organization replaced the General Agreement on Tariffs and Trades (GATT), the WTO created stringent standards in the agriculture trade industry with the goal of reducing export subsidy competitions.¹¹¹ In 1995, the WTO passed the Agreement on Agriculture, with goals of limiting export subsidies, reducing tariffs and scaling back domestic policies that directly affect agricultural trade and production.¹¹² Spending on large farming subsidies brings negative attention to the United States in the international arena.¹¹³

Although farming subsidies raise questions as to why legislators support farming subsidies, pose a risk to trade, and provide examples of inefficient spending, Congress implemented farming subsidies for a good reason. Farming subsidies were implemented to protect both the American people and farmers from the natural boom and bust cycle of markets.¹¹⁴ However, even if removing farming subsidies would be better for these reasons, there does not seem to be political will to do this.

A good example of Congress attempting to eliminate farming subsidies is the "Freedom to Farm" Act, also known as the 1996 Farm Bill. The 1996 Farm Bill cut price support and stopped buying grains abruptly; Speaker of the House Newt Gingrich stated this was the first major step to phasing out farming subsidies completely.¹¹⁵ However due to the Asian financial crisis in 1998, commodity prices dropped, putting pressure on Congress to provide financial support to farmers.¹¹⁶ The 1996 Farm Bill ended up being one of the costliest Farm Bills to date.¹¹⁷ It seems that the

109. Edwards, *supra* note 1.

110. Neuman, *supra* note 5.

111. Yen-Yen Gao, *supra* note 23.

112. *Id.*

113. *Id.*

114. See *What is the Farm Bill?*, NAT'L SUSTAINABLE AGRICULTURE COALITION, <http://sustainableagriculture.net/our-work/campaigns/fbcampaign/what-is-the-farm-bill/>.

115. Masterson, *supra* note 6.

116. Yen-Yen Gao, *supra* note 23.

117. Masterson, *supra* note 6

congressional will to do away with farming subsidies evaporates with any signs of instability in the agricultural market.

In addition, it is important to consider the nature of the 5-year renewal plan. By the time a Farm Bill starts creating savings in farming subsidies, a new Farm Bill could replace the old one and negate those savings. For example, the 2014 Farm Bill was supposed to create farming subsidy savings by eliminating direct payments, but CBO projections show that farming subsidies stayed the same because of the decline in crop prices.¹¹⁸ Crop insurance favors farmers when the prices of crops fall.¹¹⁹ Many expected prices to fall when the Congress was passing the 2014 Farm Bill because the prices of crops had been unusually high in those years.¹²⁰ When Congress drafts the next Farm Bill and crop prices rise, leading to less farming subsidies, Congress can change the way farming subsidy are distributed to provide more subsidies to farmers.

B. Farming Subsidies are too Remote to Create Change

Others would argue that changing the distribution of farming subsidies does not create enough of an impact in the three areas discussed in this note. Some would argue that instead of concentrating on changing the agricultural production of food, the focus should be on encouraging Americans to make different food choices. Making food choices such as eating more plants and less ruminant meat would significantly lower the environmental impacts of farming.¹²¹

In addition, the same products that are the most harmful to the environment (ruminant meats, corn products, etc.) are also the most harmful to our diet.¹²² This means that by avoiding the food products that most hurt the environment, consumers would also be improving their diets; this would meet two of the three objectives set out by this note. As for promoting small farming business, the argument is that consumers could favor food products from smaller farms if they would like to support small businesses.

It is true that consumers can choose to follow principled approaches when purchasing food and the market would likely respond to these changes. A good example of this is the organic food

118. Charles, *supra* note 32.

119. *Id.*

120. *Id.*

121. Clark & Tilman, *supra* note 62, at 9.

122. *Risk in Red Meat?*, U.S. DEP'T OF HEALTH & HUMAN SERV.: NAT'L INST. OF HEALTH (Mar. 12, 2012) <https://www.nih.gov/news-events/nih-research-matters/risk-red-meat>; *Know your Limits with Added Sugar*, CTRS. FOR DISEASE CONTROL & PREVENTION (Sept. 9, 2016) <https://www.cdc.gov/nutrition/data-statistics/know-your-limit-for-added-sugars.html>.

industry. The organic food industry started to retail products three decades ago, and because of growing demand for organic products, these items are now found in three out of four conventional grocery stores in the United States.¹²³

However, after three decades, organic products only account for four percent of United State food sales.¹²⁴ Waiting for consumers to care for these goals enough to change their food product choices can be too little too late. This is especially the case in issues involving environmental protection that are time sensitive and perceived as political. The government has the expertise and resources to encourage these policies of national interest to develop more quickly than if we allow consumers to make these choices with no help. The idea that consumers can affect change through food choice also assumes that consumers are free to make these choices. As stated earlier, consumers might not have access to the education or money needed to make these choices every time they go to the grocery store.¹²⁵

V. OTHER CONSIDERATIONS

This note outlines three federal policy goals and different strategies that Congress could use to achieve these goals. However, many of these strategies could conflict with each other or support one goal while undermining another. For example, larger farms with more capital are more likely to afford technologies that are more environmentally friendly than small farms. At the same time, studies show that large industrial farms are worse for the environment.¹²⁶ In some scenarios, providing environmentally friendly technology to larger industrial farmers could be less beneficial than providing it to smaller farmers. This shows that applying these strategies would require more thought to not only individual strategies, but also how these strategies would function together.

Congress can apply some of these strategies by themselves and create an immediate positive impact. Of the strategies proposed in this note, the one that would provide the largest immediate impact is reforming the crop insurance subsidy program, which could lead

123. *Organic Market Overview*, U.S. DEP'T OF AGRIC., ECON. RESEARCH SERV., <https://www.ers.usda.gov/topics/natural-resources-environment/organic-agriculture/organic-market-overview.aspx> (last visited Jan. 16, 2019).

124. *Id.*

125. *See supra* Section II A.

126. *See generally Hidden Costs of Industrial Agriculture*, UNION OF CONCERNED SCIENTISTS, http://www.ucsusa.org/food_and_agriculture/our-failing-food-system/industrial-agriculture/hidden-costs-of-industrial.html#.Wh-WpEqnGUk (last visited Jan. 16, 2019).

to over a billion dollars in savings annually.¹²⁷ The savings could be used to further any of the three policy goals mentioned in this note.¹²⁸ Another strategy that could be very effective on its own is to cut subsidies given to corn. Cutting subsidies to corn would help achieve both the policy goal of protecting the environment and encouraging a healthier diet. The benefits of subsidizing corn do not outweigh the detrimental effects.¹²⁹

Some of the other strategies mentioned in the note would work better as a part of a comprehensive strategy. For example, subsidizing healthier crops over traditional crops could accomplish its goal more effectively if used within a comprehensive plan. Congress could use this strategy in conjunction with SNAP reform, nutritional education campaigns, and nutritional research grants. Subsidizing healthier crops could be a piece of an effective framework although it does not function as a stand-alone strategy. This is also true for the strategy of subsidizing environmentally friendly technology.

VI. CONCLUSION

The United States government is spending over twenty billion tax dollars annually on farming subsidies.¹³⁰ There is no consensus on how beneficial these programs are or who they benefit. Part of this could be because the federal government conceived the 1933 Agricultural Adjustment Act as a stopgap measure to protect farmers and as one piece of a broader legislative plan outlined by the New Deal. Although current farming subsidies have some positive effects like stabilizing crop prices, they also have negative impacts like encouraging environmentally problematic practices and the growth of crops that are not feeding Americans.¹³¹

Distributing farming subsidies in a different way could provide more benefits to the American people than the farming subsidy scheme currently in place. Some of the policy goals and strategies work together, but others conflict. Of the strategies discussed in this note, the two most beneficial would be to reform crop insurance subsidy and to discourage the production of corn. Congress can use other strategies mentioned within larger plans to accomplish policy goals.

127. GAO, CROP INSURANCE REDUCING SUBSIDIES, *supra* note 38, at 42.

128. *See supra* Sect. II A–C.

129. *See* Foley, *supra* note 55.

130. Edwards, *supra* note 1.

131. This is an especially important issue with the growing global population and the projected food shortage as food supply does not keep up with demand.

Whether Congress decides to encourage one of the policy goals articulated within this note or it decides to follow a different agenda, Congress can make farming more efficient. Congress should critically evaluate and pass a Farm Bill that makes better use of the twenty billion dollars currently spent on farming subsidies.