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The Influence of Agriculture Policy: The Effects of the Farm Bill on Farm Size, Crop Choice, and Trends in Agriculture

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ABSTRACT

The agricultural sector in the United States is accounts for a large portion of the economy as well as environmental degradation, yet agricultural policy is often overlooked. This paper will look at one longstanding piece of legislation known as the Farm Bill, specifically the 2008 and 2014 versions, and the way the Commodity and Crop Insurance measures steer the industry. Secondary data was taken from the United States Department of Agriculture (USDA), along with peer reviewed journals and studies.

Trends would suggest that while other factors are involved, the Commodity subsidies encourage larger farms as well as a shift towards single crop specialization. The Crop Insurance also supports the trend towards mono cropping, in addition to high-risk crop choices. Though it contradicts the U.S. approach of free market politics, this legislation is already causing change, so it should be used to guide the sector towards sustainability. In order to do this, the bill would need substantial changes, such as a regional rather than national approach, or separating sections not directly governing farms into a separate bill.

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1. Introduction

Agriculture is not only indispensible because it feeds the world's population; it is also a major sector in the United States and worldwide economy. As with any business sector, there is the challenge of balancing economic feasibility and success with environmental sustainability, especially as environmental degradation gains more political and societal attention. Whether through water use, pesticide use, soil erosion, or a variety of other farming practices, agriculture has caused negative impacts on the environment, and changes must be made (Evans, 2004; Vaheesan, 2010). There is a myriad of research on how farming practices are harmful, as well as initiatives and funding for more sustainable practices, but longstanding agricultural legislation is often left out of the analysis (Madden, 1979). It is also easily overlooked that agriculture is inseparable from economics, and just like any other business sector it is driven by money from big business and the government, just as much as money from consumers. So while consumers want sustainable, affordable food, it cannot be taken for granted that it is much easier to get government and private money for business as usual practices. Business as usual methods make sustainable farming practices less economically desirable, and regulating private industry and big business has also become increasingly difficult (USDA ERS). Therefore, rather than focus on private farming contracts, it is more beneficial to focus on government agricultural subsidies and how they are or should influence farming. Farming is a

difficult industry to make a living in, so government funding is necessary, but it could be done in a way that moves the sector towards more fair and sustainable practices.

This paper will focus on the legislation known colloquially as the Farm Bill, using it as an example of how legislation and money allocations play a part in perpetuating harmful agricultural structures rather than mitigating them. This will be assessed first by examining whether the subsidy and insurance programs have different effects on small versus large farms. In addition to this, it will be considered whether the subsidies have differing impacts depending on the crop, and conversely, if they guide crop choice for producers. Farm structure as well as crop choice for domestic farmers have been the focus of farm research in many studies, and are also well documented by government agencies, making them easy markers to measure impacts. From here, the paper will examine what these differing effects could mean at a larger scale, and how they are contributing to or mitigating environmental and economic issues in the agricultural industry. After identifying issues using the 2008 Farm Bill, the next research objective is whether the legislation has changed substantially for the 2014 version, and if the changes are positive or negative in terms of their effects on producers. Comparing the subsidy and insurance sections of the bills, as well as incorporating major stakeholder comments and opinions from the 2008 legislation will determine what the Farm Bill's flaws were and whether they were addressed in the 2014 amendments. A theme that can be examined across all the research questions is whether the government programs reinforce or oppose private

sector initiatives, though to examine this in depth would be beyond the scope of this paper.

2. Background

2.1 Agricultural Policy

Agricultural policy in the United States is an important issue in politics and research, but it is by no means a new topic. There is a variety of legislation that applies to the agricultural sector, such as conservation measures on pollution or soil erosion, but in general and in this paper, agricultural policy refers to bills regulating agriculture as an economic sector. While the United States tends to favor free market approaches to business, the agricultural industry is somewhat of an exception, particularly since President Roosevelt's introduction of the Agricultural Adjustment Act as a part of his New Deal programs (Vaheesan, 2010). This legislation was meant to help the industry after the Great Depression by raising market prices and producer incomes through limiting and subsidizing production. However, it aimed to curb production by limiting planted acreage, but did not consider new technology and practices, so ultimately as technology improved, production did not decrease as expected. This created a situation where the government was paying more to subsidize than they had initially intended because there was not a substantial difference in the amount of agriculture produced (Nelson et. al., 1996).

Moving forward, the program was still utilized, but there were attempts to change the way funds were distributed amongst producers. Although, with each new bill introduced, it seemed there were new unintended consequences. Policy makers attempted to structure the payment programs with limits or minimums such that farmers would not substantially alter their original practices in order to receive more

subsidies, but farms of varying structures could receive funding. For instance, while there was an effort to help save smaller farms, which have comparatively high production costs, politicians did not want other farmers to restructure their operations to meet small farm criteria and receive more funding (Collins, 1989). With agricultural policy, legislators are trying to achieve a balance in supporting producers without meddling too much into market behavior (Collins, 1989). This balance may not be possible, though, since subsidies have become an integral part of agricultural economics, making it more difficult to survive in the industry without some form of private or public assistance.

2.2 About the Farm Bill

While there is an abundance of legislation on agriculture in the United States, one important and longstanding piece of legislation is the Farm Bill. First introduced in 1933 and titled the Agricultural Adjustment Act of 1933, it has undergone content and title changes, but has always been known colloquially as the Farm Bill. This bill is under the jurisdiction of the United States Department of Agriculture (USDA), and has been referred to as a Swiss army knife because it encompasses so many different agricultural initiatives (USDA.gov). The most recent iteration was in 2014, and is known as the Agricultural Act of 2014, while before that was the Food, Conservation, and Energy Act of 2008. This paper will focus on these two pieces of legislation, with emphasis on the 2008 Farm Bill. The bill contains fifteen titles governing different aspects of agriculture beginning with Title I on commodity programs, Title II on

conservation, and Title III on trade. The next are Title IV on nutrition, Title V on credit, Title VI on rural development, Title VII on research and related matters, and Title VIII on forestry. The remaining are then Title IX on energy, Title X Horticulture and Organic Agriculture, Title XI on livestock, Title XII on crop insurance and disaster assistance programs, Title XIII on commodity futures, Title XIV miscellaneous, and finally, Title XV trade and tax provisions (H.R.6124, 2008). This differs form other agricultural legislation in that it is so comprehensive, incorporating a large variety of facets of agriculture, and implementing them as one bill. For instance, there are conservation measures within the bill, separate from Environmental Protection Agency (EPA) regulations on agriculture, and farms must meet these guidelines in order to participate in other financial programs within the bill (H.R.6124, 2008).

Surrounding any policy, there is debate amongst stakeholders and politicians on the effectiveness as well as the necessity, and this is no exception. While it has been passed in each renewal, President Bush was strongly opposed in both 2002 and 2008, and vetoed the bill in 2008. He felt that the legislation, especially in 2008, contained too many subsidies and insurance measures for farmers in a time when agriculture was at an economic high (Herzenhorn and Stout, 2008). Especially with the increased demand for grain, President Bush thought that passing the bill would be unnecessary spending and the commodity section, as well as other provisions, would only be creating breaks for those who are already wealthy (Walsh, 2008). While Bush did in fact veto this bill, Congress overruled his veto with more than the two-thirds majority required as the House voted 306-110 and the Senate voted 77-15 (Walsh, 2008). In its

entirety, the 2008 Farm Bill contains 300 billion dollars in spending, but not all contained in a specific program. Of this, approximately two-thirds goes not to farmers, but instead towards nutrition programs such as the Supplemental Nutrition Assistance Program (SNAP), which is formerly known as food stamps (Rosenbaum, 2008). Another 30 billion dollars goes towards conservation programs, for example, allowing farmers to keep land idle rather than overusing soil, and only 40 billion of the entire budget goes towards the subsidies Bush was against. In a bill with such variety in spending, politicians had diverse reasons for wanting it passed over Bush's veto, and many agreed that it needed to be implemented even if only for the nutrition and welfare aspects (Herzenhorn and Stout, 2008).

2.3 Commodity and Crop Insurance Sections

While commodity and crop insurance programs only make up a small portion of the bill, they will be the main focus of this paper, and will be used to examine the economic feasibility of sustainable farming practices. In the 2008 Farm Bill, Title I is Commodity Programs, which includes subtitles A-F that are Direct Payments and Counter-Cyclical Payments, Marketing Assistance Loans and Loan Deficiency Payments, Peanuts, Sugar, Dairy, and Administration respectively (H.R.6124, 2008). While all of these subtitles govern commodity crops, when thinking of crop subsidies, Subtitle A on the Direct and Counter-Cyclical Program (DCP) is most likely what comes to mind. These payments are available for barley, corn, grain sorghum, oats, canola, crambe, flax, mustard, rapeseed, safflower, sesame and sunflower, peanuts,

rice, soybeans, upland cotton, and wheat. While payments are obtainable for a wide variety of crops, they are also contingent on compliance with land and wetland conservation provisions, erosion protection, and compliance with planting flexibility agreements. Producers must also ensure the use of all reported land for agriculture and report cropland acreage annually, since these payments are made based on base acreage rates reported in prior years. Direct payments are calculated by multiplying 85 percent of the base acreage times the direct payment rate set out in the bill for each crop times the direct payment yield. For example, a farmer could report a base acreage of 450 acres devoted to corn, with a payment yield of 150 bushels per acre. 85% of the acreage would be multiplied by the yield to get 57,375, which would be multiplied by the payment rate of $0.28 for corn to get a payment of $16,065 (H.R.6124, 2008). With a long list of available crops for covered in the program, each has its own set rate, and the subsidy can be received in two payments. The counter-cyclical payments are done more like a safety net when prices are low since they are made only when the market price of a commodity drops below the target price. These payments then equal the target price minus the effective price, which is the direct payment rate for the commodity plus either the national average market price or the national loan rate for that commodity. This value is then multiplied by 85 percent of the base acreage and the counter cyclical yield and can be received in up to three installments (Direct and Counter-Cyclical Program, USDA 2006) (H.R.6124, 2008). This helps farmers maintain their revenue levels, especially if they are operating small farms, which are more susceptible to market manipulation.

Subtitle B of this section is important since it contains guidelines for Market Assistance Loans and Loan Deficiency Payments. Market Assistance Loans are available to farmers for commodity crops and are calculated as 85 percent of the average market price of the commodity in the preceding five years, excluding the years with the highest and lowest market prices. In order to help maintain a standard, there are also established maximums and minimums for these loan rates. For those who are eligible for these loans**, another** option is loan deficiency payments. If these farmers do not take out market assistance loans, they can receive payments equaling the difference between their current per unit benefit and that of producers who opted to take out loans and repay them at the current marketing loan repayment rate. Subtitles C-E on sugar, dairy, and peanuts then contain information and rates on the price support and loan programs specific to these commodities, but have similar structures to the support programs for other commodities (H.R.6124, 2008).

In addition to subsidizing crops, there is also Title XII on Crop Insurance and Disaster Programs. This includes Subtitle A on Crop Insurance and Disaster Assistance and Subtitle B on the Small Business Disaster Loan Program, which entails disaster planning and response and disaster lending. Federal crop insurance is administered through the Federal Crop Insurance Corporation, which is under the USDA, along with 16 private companies. This insurance is available for a variety of commodities for yield loss and revenue loss, though not if it can be attributed to a farmer's negligence or malfeasance towards their practice. There is also a program called the Noninsured Crop Disaster Assistance Program (NAP), which provides

assistance for crops not insured under the federal crop insurance, and applies when natural disaster causes loss of inventory or low yield. There is also an Emergency Assistance Loan Program (EM) available only in counties that have been designated as a disaster area by the President or Secretary of Agriculture, as well as contiguous counties. Producers can then receive low interest loans to recover from either loss of production or physical losses. Lastly are five disaster assistance programs in the 2008 Farm Bill, and while funding ran out for these programs in September of 2011, all but one were eventually reauthorized in 2014 (H.R.6124, 2008; H.R.2642, 2014).

3. Methods

3.1 Justification for Case Selection

For this paper, the Farm Bill was chosen because it has been in effect for such a long period of time, and affects such a large number of producers. With each new version, it also garners substantial political attention across the country. It is easy to find information on this legislation through the USDA, in addition to archives available for all the previous versions of the bill. The 2008 bill was chosen as the focus since it had been enacted for six years before the next version was passed, which is enough time for its effects to have an impact on the agricultural sector and for enough data available for researchers to carry out studies on these effects. Since it is not the most recent bill, it made sense to use the 2008 version to subsequently compare it to the more recent 2014 Farm Bill for possible shifts in legislation.

3.2 Data Collection

Due to disclosure and reporting laws in the United States, it is easy to find numbers on spending through the government agency responsible for the Farm Bill, which in this case USDA. In addition, census data from the USDA agricultural censuses in 2007 and 2012 and USDA Economic Research Service reports were used in this paper to assess farm size and changes over time. With any regulation, there are also comment letters archived and summarized for each proposed set of regulations,. With this there is difficulty in sifting through copious comments, as well as in only relying on summaries since many are written by potentially biased government

officials. Past studies from peer-reviewed journals were also used to assess possible effects of the bill on farm size and structure, and there were sufficient articles that complimented each other and supported similar findings.

The Farm Bill is such a comprehensive piece of legislation that it would be too large to analyze all sections and their impacts of farms of different sizes. Therefore only the commodity and insurance sections are analyzed in this paper. These sections were chosen because they have economic aspects that are easily measurable and because they would presumably have the largest difference in impact since economics play into farm sizes. The impacts of agricultural legislation and farm size were chosen as variables because the size and structure of farms affect the agricultural system and the environment as a whole. The role policy plays in this is important because legislation helps to steer society and economics. Thus it is important to evaluate whether it is effectively supporting economic development, but also aiding producers as a subset of society.

4. Findings

When analyzing farm policy, it is important to note that not all farms are the same in size or crop choice. Consequently, one policy may having varying effects on different farms. According to data from the 2007 agricultural census, there are 922,095,840 acres of farmland in the United States, which is approximately 40% of all land. Equally, this is broken into 2.2 million farms with an average of 418 acres per farm. Yet in reality, there are not 2 million equally sized farms (USDA NASS, 2014). In fact, 11% of farms are 1-9 acres, 28% are 10-49 acres, and 30% are 50-179 acres, but these account for merely 9% of farmland combined. Meanwhile, farms with 180-499 acres represent 16% of farms and 500-999 acres 7% of farms, but each account for 11% of total farmland. The large scale farms then hold 14% of farmland for 1000-1999 acres and 55% of farmland for farms over 2000 acres, despite the fact that each category represents only 4% of the total number of farms (USDA NASS, 2014). This shows that large-scale farms take up most of the acreage, meaning they own most of the 40% of land in the United States used for farming. The 2012 census data then showed a clear consolidation of farms as overall acreage decreased to 2.1 million, but average farm size increased to 434 acres (USDA NASS, 2014). Looking at both sets of statistics shows how misleading it can be to base analysis and policy on only number of farms or percent of farms without looking at how much cropland they actually constitute. Looking at trends can create a more accurate picture, since census data has shown a steady increase in the number of large farms, as well as an increase in the average acres per farm and the midpoint in acres per farm. Even beyond these apparent shifts,

there are less small farms than it would appear, since of the number of farms exiting and entering agriculture, the majority are small. This indicates that it is more difficult for them to stay in business. It has been shown that large farms do tend to turn a better profit comparatively, and within census data, many of the small farms either break even or hardly make a profit, and it is through non-farm incomes that these families are able to subsist.

At a glance, the subsidy and insurance systems would benefit farms of all different sizes. Yet it seems that they do the most for mid-level farms rather than the small farms that need assistance. The commodity payments are calculated using base acreage in previous years rather than the current production rates, so they tend to favor producers who are already established. This offers little support for producers who are just starting in their business, and often farmers will wait several years to build up their base acreage before they apply for direct payments (Coble, 2008). This creates a system where producers are rewarded for expanding their cropland rather than for what practices they use or how efficient they are. While it makes sense to create a payment system based on the size of the farm, this does not account for the fact that there are costs such as equipment or technology that will cost roughly the same amount no matter what size the property is (MacDonald et. al., 2013). This also deters farmers away from sustainable practices that use less acreage. Some have argued that while larger farms obviously receive larger payments, they are proportional to cost and therefore are still fair, but this may not be accurate. On a larger farm, there is a tendency to use labor and capital more extensively, so costs of

labor and technology do not increase proportionally to farm size. Additionally, farm owners then use the commodity payments to raise the value of their land, increasing the rent if they have farmers renting plots or keeping the wealth rather than distributing it amongst all the producers involved in the cropland. This is important since approximately 40% of farmland is rented or leased, so the subsidy programs could be hurting rather than helping this portion of producers (USDA NASS, 2014).

Aside from the obvious benefit of receiving a larger payment, the commodity programs have subtler ways of increasing farm sizes. Cochrane and Ryan had a theory, which could still hold true, which is that these payments create price stability and insurance for large farms to be able to invest in new technology and expand (De Gorter, 1993). Conversely, farms with comparatively low or mid-level incomes pale in comparison, and consequently have difficulty in getting enough money, even through loans, to be able to build up their business. There are other factors involved, but a study by Key and Roberts (2007) used census data on cropland and government payments to show that cropland consolidated most rapidly in areas with higher government payments. Between 1987 and 2007, zip codes with the highest payments showed a 46.3 percent increase in midpoint acreage for farm size while the zip codes with lowest payments showed a 23.6 percent increase and areas with no payments showed only an 11.2 percent increase.

Another trend in cropland and farming is the shift from producing several crops to specializing in one crop. While in 1900 the average number of commodities per farm was approximately five, it had shifted to only one by 2000. Just as with the

changes in farm size, commodity payments are not the sole driving factor, but they do contribute to this trend. Without any subsidy or insurance, planting only one crop is a risky business decision, since if it fails, it destroys the entire profit for the year. For this reason, historically, it was typical to plant several crops as a built in insurance mechanism regardless of weather conditions, they would at least retain a portion of their crops for the year. Since commodity payments focus on a small number of field crops such as wheat and soy, it is easier for producers of these crops to become specialists in one product, and then to expand production in general. While crop subsidy payments now account only for approximately 4 percent of crop production for the commodities covered, between 2000 and 2005 it accounted for around 30 percent (USDA). Despite the fact that the amount of payments has been lowered, they played a role in bringing crop production to where it is today, and still help to maintain it. As of 2007, 83% of all harvested acreage was of corn, hay, soybeans, and wheat while fruits. In contrast, vegetables made only 4% of harvested acreage, but 37% of industry profit (MacDonald et. al., 2013)

During the same period where commodity support declined, crop insurance programs became more widely utilized. By 2012, therefore under the 2008 Farm Bill provisions, approximately 80 percent of the acreage of corn, cotton, soybeans, and wheat were covered under crop insurance. In areas with disaster insurance measured in place, there became an opportunity for more acres to potentially benefit from crop insurance. Though farms of different sizes benefit from crop and disaster insurance, small and large farms benefit slightly differently. In both cases, crop insurance can

replace the need for diverse crop cultivation, but in small farms it is not always enough to replace other forms of insurance. Large farms tended to increase their farm labor and use the stability to expand, while small farms tended to increase off farm work. Off farm income serves as a measure of insurance for farmers where crop insurance is not enough. This contributes to the very small farms that have a greater amount of non-farm income than income from crops. A study done in North and South Dakota on federal crop insurance and subsidy conducted in 2011 also supported theories that these programs contribute to farm size increase (Macdonald et. al., 2013). This study focused specifically on the effect of disaster insurance, crop insurance, and commodity payments on an increased amount of grassland converted to cultivated farmland. Crop insurance can also impact crop choice, since it allows producers to make riskier choices, knowing that they are covered if harvests fail. This can mean choosing more water intensive—but more profitable— crops even in times or places with a low water supply. It can also mean planting in areas that may be prone to flooding or have bad soil, even if the crops are not likely to survive in this condition. Though these are extreme examples, crop insurance allows producers to choose high profit crops with less regard to risk. It similarly sways producers to choose from the crops that are covered under the program rather than one they cannot insure.

5. Discussion

5.1. Effects of the 2008 Farm Bill

Looking at statistics on agriculture in the United States, it is apparent that the way cropland is used is shifting, but it is not apparent why this is problematic (MacDonald et. al., 2013). Increased monocropping, paired with a move towards larger farms, has detrimental environmental and economic effects; therefore having legislation that supports these is problematic. Monocropping is an environmental issue since it increases the rate at which the soil becomes exhausted and is leached of nutrients, whereas if crops were varied, this would help replace nutrients and cause less erosion (Evans, 2004). With large-scale farms, each acre is correspondingly used more extensively, and practices tend to be more machinated and industrial, intensifying environmental issues such as nitrogen fertilizer overuse and runoff (Ahearn, 2005). By structuring programs in terms of outputs such as crop yield or acreage, programs cannot influence the way crops are produced. This means that policy cannot steer farms towards more environmentally friendly and economically equitable practices.

Though the commodity payments and crop insurance programs are not the biggest contributor to these changes, legislation should work towards correcting problems rather than reinforcing them. Especially because of the detrimental environmental effects, keeping the commodity and crop insurance section of the Farm Bill as they are would contradict other parts of the bill, such as the conservation measures. While the Farm Bill is not the only important legislation on agriculture, it is

certainly one of the largest, and its economic programs are longstanding and widely used. The measures in this bill do support farmers, but they also align with corporate views in many ways, as the economic programs resemble the private contracts that many farmers opt for instead (Lobao, 2008). In both cases, outputs such as crop yield are emphasized rather than farm structure or farming practices, so in order to succeed, farms become larger and more industrial.

Agriculture is important in every state and for every community, whether they are involved in it or just reap its benefits. Unfortunately, it has become increasingly less transparent where food comes from. People often have opinions on how food should be produced or the prices of food, but do not realize how difficult it can be for a producer to change their practices. Agriculture is a difficult business, dependent not only on market forces, but also on factors such as weather and soil conditions. This means that safety nets are necessary in order to protect producers. The issue then becomes that producers, especially new ones, need either federal or corporate assistance, and consequently have to abide by the guidelines set out in contracts or legislation. When the legislation then reinforces the same problems in the industry that corporations do, there is no way for individual producers to change (Lobao, 2008). On a smaller scale, producers have little choice in what they grow and how they operate their business unless they can rely solely on nonfarm income, and on a larger scale there is very little room for reform. Legislation such as the Farm Bill has now become a way that the government is maintaining the status quo in a dysfunctional sector. It could be argued that there is producer support for the Farm

Bill, and therefore it must be functional, but this only means that individuals must prioritize their immediate livelihood over a large-scale reform of the industry. This is a choice that producers should not be faced with, and which fixing legislation regarding agriculture could prevent.

The Farm Bill has so many diverse sections, which has resulted in it becoming too easy for the legislation not to be updated as thoroughly as it should be. Regarding the 2008 Farm Bill, members of Congress considered the nutrition measures, such as increased SNAP benefits, extremely important (Herzenhorn, 2008). They insisted on passing the bill solely for these sections without regard to improvement of the other sections (Rosenbaum, 2008). While there were also calls from constituents to pass the bill for its farm support measures, this was not the priority for the politicians who controlled the editing of the legislation (Coalition Letter, 2008). Crop insurance and commodity payments are not high profile issues for campaigning politicians or the majority of constituents, so there is less pressure to perfect these policies or to enact major changes. Politicians would also not want to create a policy that opposes the big business entities that fund and support their campaigns. After each iteration of the bill, there is a comment period in addition to public meetings where constituents can give their feedback, and based on these, there is opportunity for improvement within the bill. Many agreed with President Bush that the legislation provided too many tax breaks for the wealthy, such as racehorse owners or large farms. Consequently, there were some harsher suggestions, such as getting rid of the safety nets completely to let producers succeed on their own or else fail. Looking at the stakeholder comments sent

in to USDA, some are clearly from constituents not involved in the agricultural sector, but that feel their tax dollars are being wasted to support producers. As with any social safety net, there are people who do not think they should have to work hard to support others, but in regards to agriculture, hard work is not always enough to succeed.

5.2. Stakeholder Opinions

The changes to the Farm Bill between 2008 and 2014 took place after years of deliberation and debate, but the decisions on what to revise and how were made by members of Congress, and not by the producers that the legislation will apply to. However, in addition to access to data and reports on the previous versions of the bill, the USDA held public meetings around the country to compile citizen feedback. This was to supplement the stakeholder letters that are submitted during the comment period after the legislation is passed, but before it is enforced. Though it is not possible to know the opinions of every stakeholder, these letters and forums provide a general picture of attitudes towards the 2008 Farm Bill, and can be used to assess whether or not the revisions will be more or less favorable to producers.

With regard to the insurance sections of the bill, comments from forums were synthesized to show a variety of opinions on what should be changed. Within this, there was overall support for the insurance programs, and only a few who felt the insurance should be decreased. A large number of comments did criticize the structure of the insurance, however, asserted that basing insurance only on yields is

less effective than using whole farm revenue or production costs. Similar criticisms were that the current structure is flawed since there are ways to make a profit using the insurance, and that for large farms the coverage should be reduced. In addition to this reduction, there were suggestions for higher coverage levels for young or new producers as well as increased production cost insurance for the producers who are still establishing themselves. There were also state specific complaints with an overall suggestion of more diversity in the insurance depending on the area, for instance changing the regulations so that they do not encourage planting crops with a high water intake in a semi-arid region (USDA 2006). Many producers called for less complicated regulations, which would allow them to more fully understand the program, and make better decisions on their insurance. While that may not be possible, more realistic recommendations were to better educate the people enforcing these regulations, as well as better disseminate information to producers (Farm Program Integrity, USDA 2006). There was far less critique of the Disaster Assistance than the general Federal Insurance, and most of the comments were in favor of increasing disaster insurance in some way. Other comments were in favor of eliminating payments for crops lost in high-risk areas such as wetlands or drainages with the aim of discouraging plantings and redirecting the money towards supporting less risky, failure prone producers (Federal Crop Insurance, USDA 2006).

In contrast to the support for the insurance sections, there were numerous suggestions to completely restructure the commodity programs or even get rid of them altogether. Most producers agreed that a safety net was necessary, but did not

believe that the current commodity payments were efficient (Farm Safety Net, USDA 2006). There were arguments that payments on base acreage did not reflect the current status of production, and that there were too many instances where farmers were not able to build up acreage and benefit from these payments (Direct and Counter-Cyclical Program, USDA 2006). Another critique was that the structure of the payments encouraged overproduction rather than low input production. While the Farm Bill and its subsections have been updated numerous times, the commodity programs did not adequately adapt to changes in farming and in farm structure. During public forums there were suggestions to create entirely new programs to replace the direct payment and counter cyclical payments, such as to help small and beginning farmers rather than all farms. Another idea was to create a program that guaranteed a minimum yearly income to producers and allowed them to keep a portion of money in an untaxed account, ensuring they can stabilize their yearly income even if crop yield changes (Direct and Counter-Cyclical Program, USDA 2006). Programs such as these would be structured to benefit those who use the land, whereas there is a general consensus that the current commodity payments often benefit only the landowner and are not distributed among all those involved, sometimes even hurting the tenants financially. In some cases, particularly in states without laws against corporate farming, the landowners are large corporations rather than individuals that actually work the land.

5.3. Comparison to the 2014 Farm Bill

While the Farm Bill was set to expire in 2012, it was extended and a new bill was authorized in 2014 after revisions and deliberation. Changes were made throughout the bill, and there were significant differences between the 2008 and 2014 versions of the bill within the commodity and insurance sections. Within the commodity section, one of the biggest changes was that the direct payments were completely eliminated. However, the counter-cyclical payments were retained, and payment disaster assistance was added to this section. Despite being in effect since 1996, politicians made the decision to cut out the direct payment program because farmers did not need to suffer any financial loss to receive payments, therefore they felt it was unnecessary spending (USDA, 2009). The Marketing Assistance Loan Program was retained, as well as the Counter-Cyclical Program since it can only be utilized if market prices drop below a set target price outlined for each crop. In the new bill, this program is called the Price Loss Coverage, or PLC, and has slightly higher target prices than in 2008, but is still calculated from a rolling five-year average, excluding the highest and lowest year. The prices will stay calculated on 85 percent of base acreage from planting 2009-2012. However the House advocated for payments with the same percentage, but based on current planted acreage. Debates over this assert that using base acreage will reduce the impact the program has on planting choices, but that using planted acreage will help the payments to align with the actual producer risk (USDA, 2009). If producers do not participate in the PLC

program, there is a similar program called Agricultural Risk Coverage (ARC), which can be utilized for small losses, or whenever crop revenue falls below 86 percent of historical crop revenue. However, both the House and Senate proposed that this be based on planted acreage rather than historical base acreage (H.R.2642, 2014).

While cuts were made in this commodity section, approximately 35 of the 47 billion dollar savings went towards enhancing crop insurance programs under Titles I and XI of the bill. The insurance programs under Title XI cover over 100 crops, rather than the smaller selection covered under the commodity programs in Title 1, and was expanded by 5.7 billion dollars when compared to the 2008 bill. Under the Federal Crop Insurance Act, this insurance is permanently authorized and if farmers choose to purchase the subsidized insurance, it comes into effect if prices fall below established minimums or when crop revenue is lower than recent levels (Highlights and Implications, USDA 2015). Notable expansions are the Stacked Income Protection Plan (STAX), which covers cotton, a crop not covered under the commodity programs, and a Supplemental Coverage Option (SCO) that applies to shallow losses and can be used when the ARC under Title I is not applicable. There were also changes to expand insurance on specialty crops and to increase rates for organic crops to reflect the difference in market price and higher levels of producer inputs. One provision that was adopted by the Senate, but not included in the final bill, was the reduction of insurance subsidies by 15 percentage points for producers with a gross income of over $750,000. The rationale for this was that these high income farmers had less need for financial safety nets. Though under Title I rather than Title XI, an expansion of crop

insurance in the Farm Bill was the addition of permanent disaster assistance (USDA 2015). The 2008 bill had five disaster programs that expired in 2011, and four of these were reauthorized with no expiration date. The program that was not continued in the 2014 version was Supplemental Revenue Assistance (SURE). However parts of it were incorporated into ARC, as well as the miscellaneous title that covers tree fruit producers, and the Noninsured Crop Assistance Program (NAP) (H.R.2642, 2014).

Looking at changes between the 2008 and 2014 versions of the Farm Bill as well as the comments and letters, it seems that these pieces of legislation are becoming more favorable to the average producer, but much too slowly. There were positive changes, such as cutting parts of the commodity payment program to create more funding for crop insurance, but the general structure of the commodity and insurance programs were kept the same. The direct payments were eliminated, which is a step forward, but in the remaining payment programs, the same base acreage system, rolling five year averages, and percent coverage are still in effect. Similarly, the crop insurance programs were expanded, but maintained largely the same format. These changes create a bill much like in 2008, which is functional enough to be worth keeping, but that needs major changes beyond what has already been done (Farm Safety Net, USDA 2006). These shifts do little to move the legislation towards looking at farms as a whole. The subsidies still reward output and acreage without thoroughly taking into account practices, inputs, and costs.

6. Final Recommendations

In addition to incorporating the aforementioned recommendations made by producers, there are more ways that subsidies and insurance can be improved. Since its inception, the subsidies have been calculated based on acreage and yield rather than farming practices, yet this may not be the most efficient way. Currently, there are conservation measures for soil and water that producers must abide by in order to receive federal funding. Though it would be better to use subsidies to guide practice rather than only having minimum conservation measures. For instance, funding generally goes to commodity crops, however the government could shift producers to grow more sustainable crops depending on the region if they subsidized their production. Similarly, many stakeholders took issue with subsidy and insurance because they allowed producers to make riskier crop choices, such as water intensive crops or planting in areas that are flood prone. Therefore, structuring insurance around better crop choices would be beneficial as well. This would most likely include the same commodity crops already covered, but spending would be distributed differently based on geographic region (Farm Program Integrity, USDA 2006). Likewise, more emphasis could be placed on insuring small farms that have less of a net profit, and therefore less of their own safety net. This would help small farmers subsist on their own, reducing the number of farms sold to large corporations.

The Farm Bill has been in effect for decades, and even in its first form it did not perform as anticipated. While the goal was for legislation to function as a safety net without interfereing in the market, it may be time to acknowledge that this legislation

does have a significant impact on the market, and to use that influence as a tool. Moving away from standardized, corporate farming towards smaller, more sustainable farms across the country would have positive environmental and economic impacts for the large number of small farms in business. However, executing federal legislation differentiating by region or by a larger variety of attributes other than price and acreage would be much more intense. Therefore, it would make more sense to enforce the legislation at state or local levels. While the funding and authority could come from the same department and laws, perhaps each state could be given more leeway on how to structure their subsidies. This would make sense especially since in some, but not all, states there are laws against types of corporate ownership or participation in agriculture. In such a large country with diverse ecosystems and weather, it is not reasonable to regulate and subsidize agriculture in such a homogenous way and on such a limited number of crops. Especially when this money could be used differently to create positive changes in agriculture.

One way to ensure that the programs receive attention from politicians would be to separate initiatives from the Farm Bill into separate legislation. While each section of the bill would not need to stand on its own, the larger sections should be made separate. Currently, the Nutrition measures account for the majority of funding, and are at the center of political debates surrounding the Farm Bill. These measures are important, but do not directly affect producers the way programs such as Crop Insurance do. In order to give producers a better chance at seeing the reforms they

want, Nutrition measures should not be part of the same legislation. If this is not done, farmers will continue to have to compromise on their needs so that the needs of those covered under the Nutrition programs can be met.

7. Conclusion

In a difficult and unpredictable sector like agriculture, safety nets are necessary, and the crop insurance and subsidies in the USDA Farm Bill provide important coverage to producers. In addition to being a valuable support, these programs have the ability to influence the industry, and are already causing changes. While not intended, the commodity subsidies have contributed to a shift in farm structure towards larger operations. Crop insurance reinforces this trend, and both programs encourage the shift to planting one crop rather than several, or towards making risky crop choices in general. While insurance and subsidies impact crop choice, which crop is planted does not necessarily change the way those payments will be structured, as long as the crop is one covered under the legislation. To the contrary, not only do the measures in the bill actively encourage a change in farm size, smaller farms do not benefit as much as large farms do. Though the payouts are proportional, the farms do not have costs and needs that are necessarily proportional to acreage, so the impact is not equal.

Looking at the difference from the 2008 bill to the 2014 version, there were steps made in the right direction as the crop insurance was expanded in terms of crops covered and funding. However, the problematic acreage based structure of the subsidies was not changed, and all the positive changes were fairly small. After the 2008 bill, stakeholders had a variety of suggestions and critiques, most of which were centered around changing programs to look at the farming operation as a whole rather than only acres planted. There were detailed ideas on how to restructure these

measures to help new and small farms, as well as more accurately assess the needs of different types of producers. Despite this, little was changed as not even all the edits proposed in Congress were accepted, and the emphasis in editing the legislation was on the nutrition measures.

The 2008, and now 2014, Farm Bill is essential to the sector, but allows and supports problems in agriculture. It mirrors private industry in the way it emphasizes outputs over inputs and practices, and ultimately contributes to trends that play a part in environmental damage and economic inequality. As sustainable agriculture has become a prominent and mainstream issue, smaller pieces of the picture, such as these Farm Bill subsections, must be addressed. In order to create a functioning industry, all influences must be pushing producers in the same direction, which means the legislation should not enforce trends that are unsustainable or unequal. Fixing this legislation could have a positive impact on producers and consumers in the United States. By addressing these issues, the transition to healthier and more sustainable food could be easier, and could alleviate the need for larger scale initiatives. Further research should also address the ways that these trends and this legislation impacts agricultural trade internationally, and how the bill could be adjusted to have a more positive international impact as our food system shifts towards a globalized structure.

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