



FARM Assistance



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Analyzing the Impact of Changing Farm Policy on Texas High Plains Agriculture

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FARM Assistance Focus 2013-3
October 2013

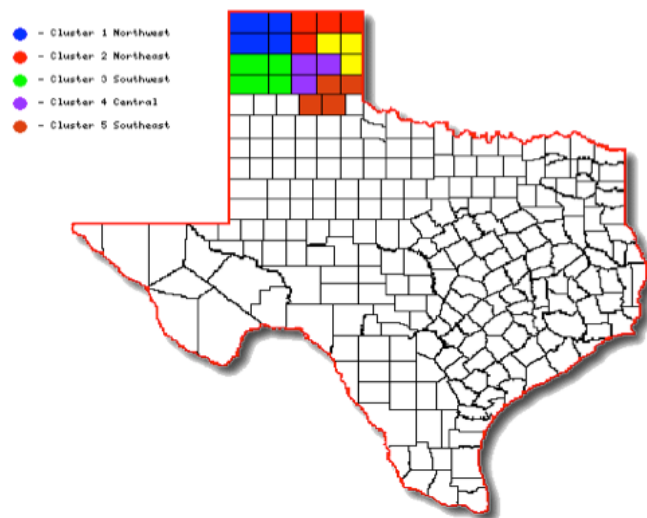


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Agricultural operators face a changing program environment with the likely elimination of direct commodity payments (DCPs). DCPs are fixed monetary compensations given annually to producers on a per acre basis as designated in the 2008 Farm Bill. Congress has been working toward the development of new agricultural policy legislation. All proposals being considered contain provisions to eliminate these payments, replacing them with some type of shallow loss system that supplements federal crop insurance. Abolishing traditional subsidies could negatively impact producer profit margins and affect their ability to obtain operating loans. While DCPs are a known receivable at the beginning of each financing cycle, the new safety net disbursements are not. A loss of guaranteed government support may also have an unfavorable economic impact on rural communities in the Texas High Plains. This study looks at the farm level effects of eliminating direct commodity payments, and discusses the potential implications relating to securing annual operating loans. Additionally, changes in local income are used as an input to the socioeconomic model, IMPLAN, to measure regional financial outcomes.

Figure 1. Texas High Plains Study Area



Model Farm Overview

To evaluate farm level impact, representative model operations were created by organizing focus groups and collecting industry data. The model farm process helps illustrate production agriculture in the northern panhandle. Texas A&M AgriLife Extension District 1 consists of 22 counties in this region. For study purposes, these counties were grouped into five clusters, each representing similar cropping and livestock systems (Figure 1). Risk management specialists then conducted focus groups for each cluster that consisted of county agents, area producers, Farm Service Agency employees, and agribusiness representatives. During these meetings, participants described the structure and characteristics of a realistic operation in their respective areas. Farm price data was gathered through Texas Cattle Feeders Association market summary reports and Chicago Board of Trade futures settlement sheets, and adjusted for local basis. Crop yields and cattle stocking rates came primarily from focus groups’ estimates, and are assumed to be below average in 2013 due to poor moisture conditions. Direct payment calculations are based on figures from the Farm Service Agency, the FARM Assistance database, and the Environmental Working Group (EWG) farm subsidy database.

Table 1 provides a summary of model farm characteristics for each cluster. Operational demographics varied greatly by county group, reflecting the diversity of Texas High Plains Agriculture. Overall, eight different crops are analyzed with both dryland and irrigated production practices. Leased stockers, owned stockers, and/or cow-calf herds are also incorporated into several entities.

Farm Level Impact Analysis

After developing model operations, risk management economists performed a study analysis using the Texas A&M AgriLife Extension Service’s Financial and Risk Management (FARM) Assistance Program. FARM Assistance is technically a ten-year pro forma financial analysis that incorporates the research methods of stochastic simulation. It is aimed at helping farmers and ranchers with strategic planning and risk management. Each model operation

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Table 1. Cluster Model Farm Characteristics

	Cluster 1 Northwest	Cluster 2 Northeast	Cluster 3 Southwest	Cluster 4 Central	Cluster 5 Southeast
Total Crop Acres	3000	3040	2040	3240	5000
Total Pasture Acres			1000		2000
% Owned Acres	40%	40%	75%	50%	20%
% Irrigated Acres	75%	50%	50%	33%	25%
% Grain Acres	84%	94%	51%	83%	0%
% Cotton/ Peanut Acres	16%	6%	16%	17%	71%
% Pasture Acres			33%		29%
Number Head Stockers		200	400		
Number Head Cows					50

was simulated under two scenarios. The first projected an economic environment from 2013-2022 that continued government support at levels outlined in the 2008 Farm Bill. A second analysis simulated the loss of direct program payments after 2013. Federal crop insurance subsidies are not projected to change under either scenario. Study results determined the long-term model farm financial outlook under both alternatives, and represent a general economic overview for area producers. This data is exemplified in Table 2, which exhibits the projected ten-year average financial performance for each northern Texas panhandle operation under continued versus eliminated government payment conditions.

Table 2. Model Farm Results Under Continued Versus Eliminated Government Payment Conditions

	Cluster 1 (in \$1000s)		Cluster 2 (in \$1000s)		Cluster 3 (in \$1000s)		Cluster 4 (in \$1000s)		Cluster 5 (in \$1000s)	
	Continue	Eliminate	Continue	Eliminate	Continue	Eliminate	Continue	Eliminate	Continue	Eliminate
Net Cash Farm Income	\$516	\$436	\$285	\$255	\$264	\$214	\$184	\$143	\$386	\$330
Real Net Worth	\$1,909	\$1,757	\$1,421	\$1,360	\$1,288	\$1,191	\$1,453	\$1,368	\$1,218	\$1,109
Prob Working Capital < 0	18.40%	32.00%	49.80%	56.10%	43.00%	57.80%	66.30%	74.80%	30.00%	40.20%
Government Payments	\$75.00		\$28.00		\$46.00		\$37.00		\$52.00	
Debt to Assets Ratio	42.53%	45.47%	50.38%	52.08%	47.82%	50.86%	51.72%	54.14%	47.50%	51.00%
Return to Assets Ratio	16.81%	14.88%	10.94%	10.07%	11.70%	10.06%	8.25%	7.15%	17.36%	15.39%
Operating Exp/Receipts	70.00%	73.00%	72.00%	74.00%	67.00%	71.00%	76.00%	79.00%	79.00%	83.00%
Net income /Receipts	21.00%	17.00%	13.00%	9.00%	19.00%	13.00%	0.07%	0.02%	14.00%	10.00%

Overall, results indicate that although direct payments account for only around 4% of total farm receipts, losing this guaranteed income source has unfavorable economic consequences. All five model operations show a drop in ten-year net cash farm income under the eliminated payment scenario, ranging from 10% to 22%. Each entity also indicates a smaller average equity due to larger operating loan balances and lower income values. Enterprise liquidity levels are measured by calculating the probability of each farm experiencing negative working capital (net cash flows), which increases by almost 11% when DCPs are abolished (Figure 2). Debt to asset ratios also rise by approximately 4% (Figure 3), and the amount of operating expenses relative to cash receipts grow by 3% among all farms.

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Figure 2. Probability of Working Capital <0

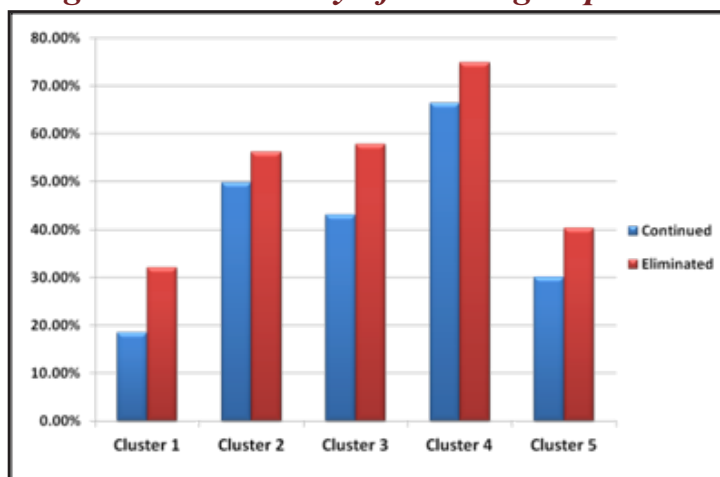
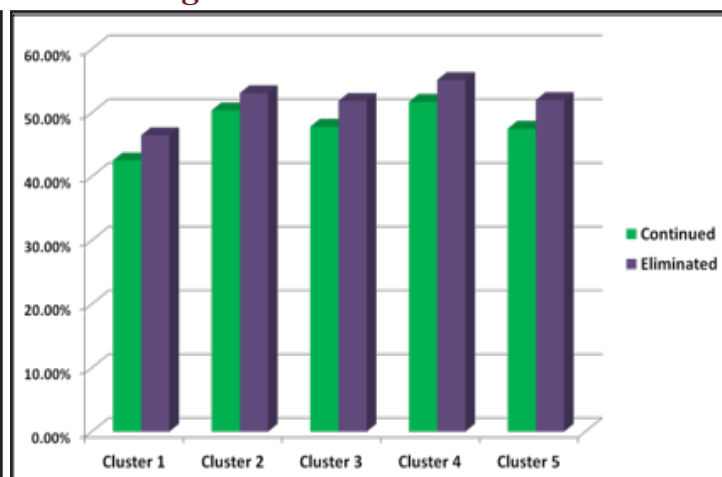


Figure 3. Debt to Asset Ratio



Regional Level Impact Analysis

After determining the farm level impact of direct program payment elimination, risk management economists utilized the IMPLAN model to perform a regional financial analysis. IMPLAN is an economic input-output tool that incorporates comprehensive data from the entire U.S. by county. Multipliers are generated that evaluate the response of a region's economy to a "shock" of some type. The two primary measures of economic activity calculated through IMPLAN are industry output, which represents the change in a region's total production value, and employment, which is simply the number of jobs affected. Farm Service Agency data estimates that the total annual DCPs paid to Texas High Plains producers in the 22 county study region is \$80.56 million. Model assumptions also predict that producers receive 75% of direct program payments, and landlords are paid the remaining 25% due to crop share lease agreements. It further estimates that approximately 75% of landlords reside within the study area. Results indicate that the effect of a direct payments loss of \$80.56 million would result in an economic impact of negative \$48.71 million in regional industry output and a loss of 428 jobs, assuming no change in production levels.

Summary and Conclusions

The farm level implications of eliminating direct program payments shows a potential increase in operational liquidity and solvency risk, which in turn may affect a producer's ability to obtain adequate financing. The regional economic impacts projected through this study appear smaller than typically seen when a significant loss in income is experienced. Normally the multiplier effect (regional industry output) leads to a number larger than the initial input value (total direct payments). A smaller result reflects the assumption that some of the DCP money is used for paying down debt, investing in savings, etc and not circulated through the region. Also, since 25% of landlords lived outside the area, a small portion of the proceeds are estimated to have left the Texas Panhandle. Finally, since DCPs are not directly tied to crop production, reducing that income source would have a far smaller effect on farmers' expenditures on seed, fertilizer, etc. Nevertheless, projections developed through FARM Assistance and IMPLAN models still show that eliminating direct program payments could decrease both individual and regional economic viability. These results identify the magnitude of loss associated with abolishing direct payments, but should be considered the worst case scenario. While all indications point to elimination, new programs will most likely take the place of direct payments. Although these policies will function differently from direct payments, the proposed shallow loss, price loss, and crop insurance supplements could fill some of the economic deficit to individuals and the region.