



# FARM Assistance



TEXAS A&M  
**AGRI**LIFE  
EXTENSION



## Analyzing the Impact of Declining Farm Prices on Texas High Plains Producers

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FARM Assistance Focus  
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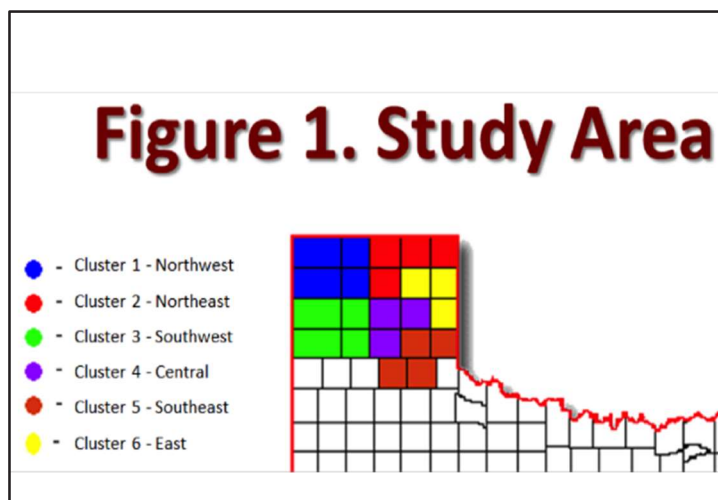
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## INTRODUCTION

Texas High Plains producers faced many challenges in 2022. Volatile crop and livestock prices posed marketing challenges, and supply chain uncertainties in a post pandemic economy resulted in shortages of agricultural production inputs and increased costs. In addition, producers experienced the worst year of drought in over a decade. According to Farm Bureau, nearly 75% of all U.S. farmers saw a reduction in harvest yields, and 66% of ranchers reported selling off animals due to dry pastures and soaring feed costs. While the 2022 growing season was suboptimal in many respects, producers did see above average prices. The United States Department of Agriculture (USDA) reports that the 2022 corn harvest price was \$1.37 per bushel higher than 2021, and wheat was \$3.32 per bushel higher than the previous year. Cattle markets experienced similar gains; June 2022 beef cattle were up \$19 per hundredweight over June 2021. These prices helped offset higher production costs, but many producers still struggled to remain profitable.

Looking ahead into 2023, the USDA February Outlook Forum projected a 23% decline in net cash farm income relative to 2022. This situation is due to lower crop prices, fewer government payments and continued high production expenses. The Food and Agricultural Policy Research Institute (FAPRI) forecasted similar outcomes in their August 2022 baseline report, expecting declines in commodity prices to outpace any drops in production costs. This study looks at the farm-level impacts of a cost price squeeze on six case study model operations in the Texas High Plains Region from 2022-2026. After a baseline scenario is projected, it then evaluates how price variability affects these model operations.



## MODEL FARM OVERVIEW

Texas A&M AgriLife Extension Risk Management Specialists developed model farms by organizing focus groups and collecting industry data. Texas A&M AgriLife Extension District 1 consists of 22 counties in the High Plains region. For study purposes, these counties were grouped into six clusters, each representing similar cropping and livestock production systems (Figure 1). Risk Management Specialists then conducted focus groups within each cluster, consisting of County Extension Agents, agricultural producers, Farm Service Agency employees, and agribusiness representatives. During these meetings, participants described the structure and characteristics of a typical operation in their area. Initial price data was obtained from the January 12<sup>th</sup>, 2023, USDA World Agricultural Supply and Demand Estimate (WASDE) Report and August 8<sup>th</sup>, 2022, FAPRI Baseline projections. Local basis information came from contacting grain elevators and cotton gins, discussions with focus groups, and referencing the Texas A&M AgriLife Extension Economics basis website. Crop yields and cattle stocking rates came primarily from focus group estimates.

Table 1 summarizes model farm characteristics by county cluster. Operational features vary greatly by county group, reflecting the diversity of Texas High Plains agriculture. Overall, six crops are analyzed with both dryland and irrigated production practices. Several entities also include leased stocker cattle, owned stocker cattle, and/or cow-calf herds. To incorporate farm program payments, all base acres are enrolled in the Price Loss Coverage (PLC) program, and all crops are eligible for marketing loan payments. AD Hoc financial support (WHIP, ERP, etc.) is not included in this analysis due to difficulties in accurately estimating producer eligibility. Finally, this study assumes that most farms will replace equipment during the analysis period, with market prices based on input from local dealers. After developing model operations, risk management economists ran financial outlook projections using Texas A&M AgriLife Extension Service's Financial and Risk Management (FARM) Assistance Program. FARM Assistance is a pro forma financial analysis that incorporates stochastic simulation to evaluate price and yield variability.

<b>TABLE 1. MODEL FARM CHARACTERISTICS</b>						
	<b>Cluster 1</b> Northwest	<b>Cluster 2</b> Northeast	<b>Cluster 3</b> Southwest	<b>Cluster 4</b> Central	<b>Cluster 5</b> Southeast	<b>Cluster 6</b> East
Total Crop Acres	3,000	3,000	2,040	3,240	5,000	260
Total Pasture Acres			1,000		1,000	4,270
% Owned Acres	40%	40%	75%	50%	20%	100%
% Irrigated Acres	75%	50%	50%	33%	25%	
Corn Acres	775	500	230	400		
Silage Acres	225	-	105			260
Sorghum Acres	485	350	420	724	-	-
Wheat Acres	590	900	575	994	-	-
Cotton Acres	675	750	710	1,122	4,688	-
Peanut Acres	-	-	-	-	312	-
Fallow Acres	250	500	-	-	-	-
Stocker (#Head)		200	300	-	-	160
Cows (#Head)	-	-	-	-	50	200

## FARM LEVEL IMPACT ANALYSIS

Study results show the projected outcomes for each model operation from 2022-2026 and represent a general economic overview for area producers. Poor financial results do not necessarily indicate an operational demise, but rather identify problem areas that require attention. Table 2 exhibits performance indicators by county cluster. Several measures evaluate economic viability. The percent change in net cash farm income (NCFI) shows the difference in income between the first and last year of analysis. Clusters 1, 2, and 3 experienced losses in profitability from 2022 to 2026 of 17%, 12%, and 24%, respectively. This situation is due to commodity prices falling faster than input costs. In contrast, Clusters 4 and 5 showed increases in profitability of 43% and 40%. These clusters are predominantly dryland operations which had failed crops in 2022. Even though projected prices fell from 2023-2026, more favorable projected yields during this time offset these price decreases. Cluster 6 exhibited the greatest improvement in profitability over the five-year projection period, averaging 59%. The typical type of operation in this cluster is cattle production, which experienced excessively high feed costs in 2022 due to extreme drought conditions. In 2023-2026, the analysis assumes normal rainfall and increased grazing availability. Cattle price projections are also more favorable than crop prices during this time due to inventory shortages created from herd liquidations in 2022.

Working capital (WC) is the difference in current assets and current liabilities. It measures liquidity and indicates an operation's ability to meet short-term financial obligations. If a company's working capital is low or negative, the business may not have enough capital to cover operating expenses. The second financial measure analyzed in this study was the probability of working capital being less than zero. Clusters 1, 2, 4, and 6 exhibited relatively

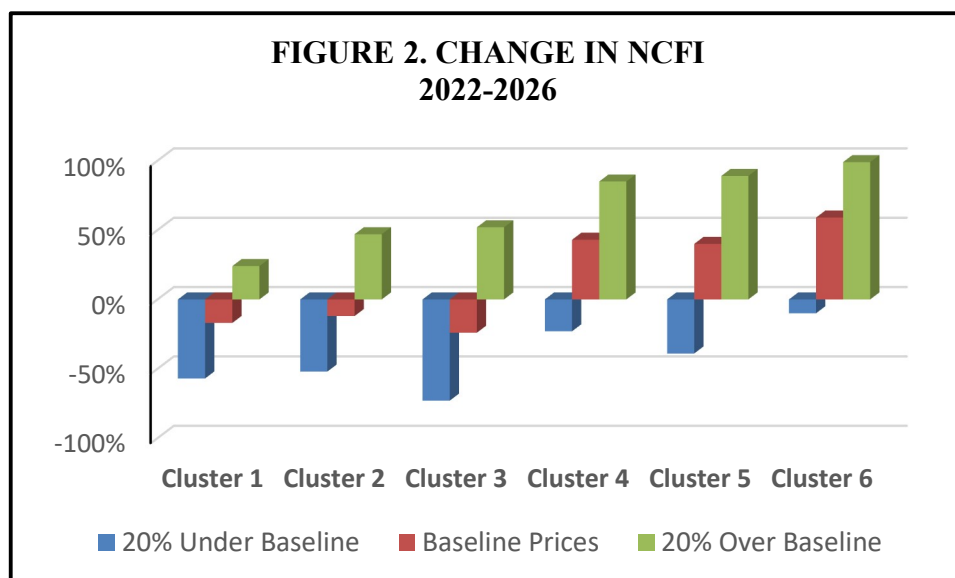


low probabilities of 15%, 36%, 27% and 8%, respectively. Since these operations also showed smaller levels of operating expenses relative to cash receipts (Table 2), a conclusion can be drawn that producers who control production expenses have decreased levels of liquidity risk. In contrast, Clusters 3 and 5 showed higher probabilities of negative working capital of 63% and 77%. These two clusters also exhibited the worst operating expense to receipts ratios, suggesting they do not manage expenses well.

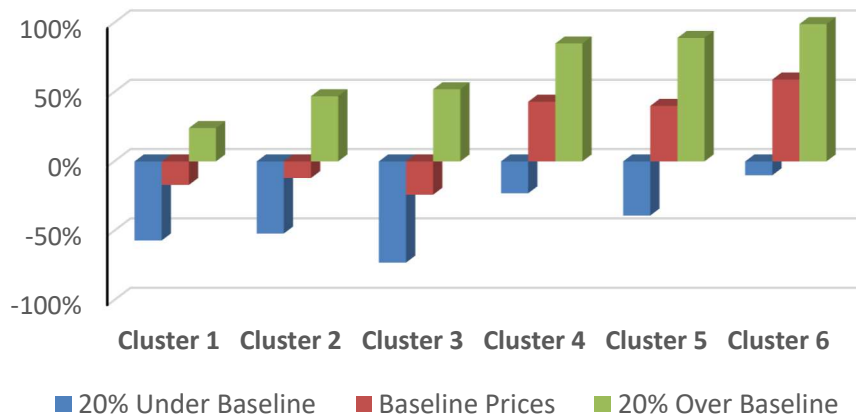
**TABLE 2. BASELINE PERFORMANCE INDICATORS FROM 2022-2026**

	<b>Change in NCFI</b>	<b>Probability of WC &lt; 0</b>	<b>Operating Expense to Receipts Ratio</b>	<b>Debt to Asset Ratio</b>
<b>Cluster 1</b> Northwest	17%	15%	64%	36%
<b>Cluster 2</b> Northeast	12%	36%	65%	41%
<b>Cluster 3</b> Southwest	24%	63%	80%	31%
<b>Cluster 4</b> Central	43%	27%	68%	24%
<b>Cluster 5</b> Southeast	40%	77%	86%	48%
<b>Cluster 6</b> East	59%	8%	48%	14%

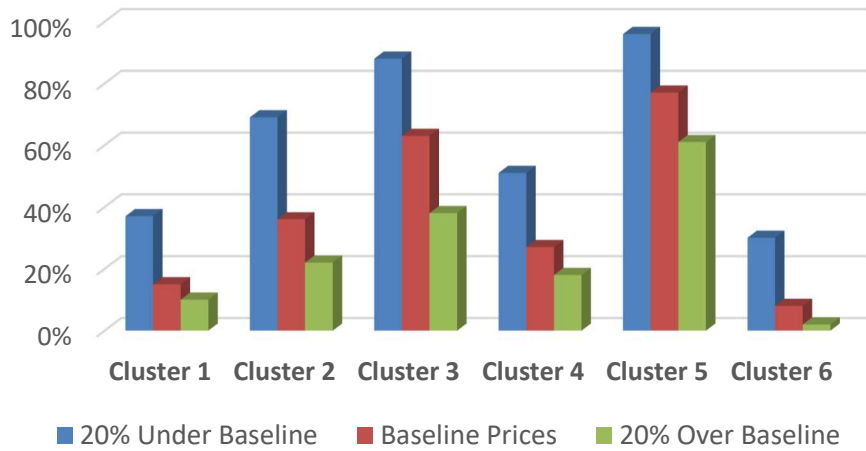
A final measure analyzed was the debt to asset ratio, which shows operational solvency. This ratio indicates how much of a business is collateralized to creditors. Any value less than 50% is generally preferred. The debt to asset ratios in this study averaged 33% among all operations. Cluster 6 had the smallest debt levels (14%), due primarily to high asset values from owning 100% of its land. Cluster 5 had the worst debt levels (48%), and consequently owned only 20% of its farmland. Once baseline financial performance indicators were determined, the study evaluated how volatile commodity markets could affect these model operations by simulating prices that were 20% below and 20% above FAPRI projections. As expected, substantial fluctuations in all financial measures occurred when subjected to more or less favorable pricing outcomes.



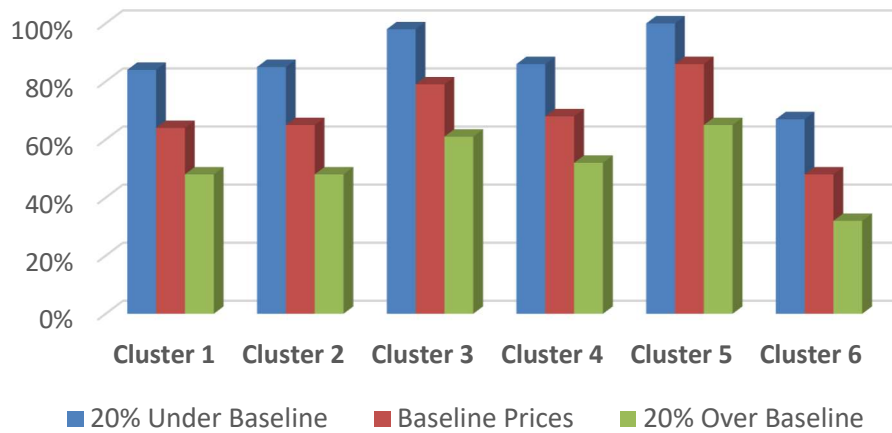
**FIGURE 2. CHANGE IN NCFI  
2022-2026**

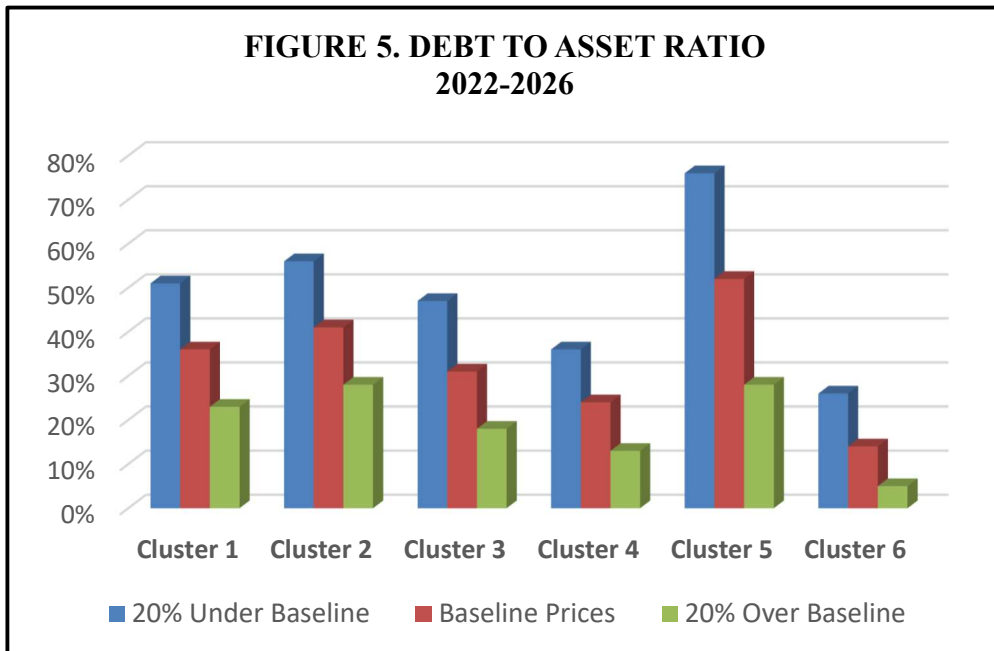


**FIGURE 3. PROBABILITY OF WC < 0  
2022-2026**



**FIGURE 4. OPER EXPENSE TO RECEIPTS RATIO  
2022-2026**





## SUMMARY AND CONCLUSIONS

Six model operations representing 22 Texas High Plains Counties were developed to evaluate the impact of crop prices falling faster than input costs from 2022-2026. Overall, results varied widely by county cluster and depended on type of operation, irrigation levels, and number of acres owned. While all farms showed some level of profitability and liquidity risk, those that failed to control operating expenses appeared more susceptible to negative financial outcomes. Furthermore, when subjected to additional market price volatility, substantial fluctuations in all financial measures occurred. Producers need to market effectively and control expenses to remain economically viable during these uncertain times.

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