

Briefing Paper

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THE IMPACT OF AGRICULTURAL DROUGHT LOSSES ON THE TEXAS ECONOMY, 2011

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Introduction

Extreme drought conditions in the state of Texas, including hot temperatures and dry weather, have led to unfavorable growing conditions for agricultural production. The updated agricultural losses for the state, as reported by the Texas AgriLife Extension Service (Fannin, 2012), have reached a record high of \$7.62 billion. Direct losses by commodity include 3.23 billion for livestock, \$750 million for hay, \$2.2 billion for cotton, \$736 million for corn, \$314 million for wheat, and \$385 million for sorghum. If the drought persists through 2012, the economic impacts will be significant. The purpose of this briefing paper is to estimate the “ripple effect” of production losses stemming from the drought through the Texas economy.

Method

The regional economic impact model, IMPLAN, was used to examine the impacts of agricultural drought losses on the Texas Economy. IMPLAN accounts for the direct impacts of lost gross income and how these losses lead to indirect and induced effects from the decrease of expenditures in the local economy (referred to as the “multiplier effects”) (Minnesota IMPLAN Group, 2009). For example, if farmers’ cotton crops fail, they will not harvest the crop (direct effect). As a result, the cotton gin will not run as many trucks (indirect effect). Finally, the truck driver that was not hired cannot spend money at the local grocery store (induced effect). The impact of the estimated loss of \$7.62 billion in 2011 agricultural production through the Texas economy is analyzed and reported as a loss in overall economic activity in the region.

Gauging the exact impact of the reduced production is sensitive to assumptions made about what expenditures have occurred on the estimated lost production. This analysis is based on all production inputs being applied to irrigated crop production (excluding any new equipment purchases and harvest expenses) and 15%² being applied to dryland crop production to account for expenditures that have already occurred. The forward-linked impacts of reduced crops on processing industries are also included in estimations. For the livestock sector, all regional economic impacts occur as a result of reduced producer net income.

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² This 15% represents an assumption about applied inputs. However, readers should note that applied inputs would have varied widely across the region early in the season depending on planting time and other factors. We assume 15% here, which includes seed costs and early season field preparation.

Results

The total impact of the \$7.62 billion agricultural production loss is an estimated \$12.5 billion³ to the Texas economy. This includes the impact to businesses ranging from fertilizer dealers, cotton gins, elevators, and processing plants to car dealerships and grocery stores. The negative impacts on the Texas economy will continue to increase as long as the drought persists.

References

Fannin, Blair. 2012. "Updated 2011 Texas agricultural drought losses total \$7.62 billion." Texas A&M AgriLife Today.
<http://today.agrilife.org/2012/03/21/updated-2011-texas-agricultural-drought-losses-total-7-62-billion/> March 21, 2012.

Minnesota IMPLAN Group. 2009. IMPLAN Professional Version 3.0. Stillwater, Minnesota.

³ The reader should be aware here that this figure does not include any potential income from insurance or disaster payments. These payments have helped to mitigate the impacts of the drought to the Texas economy.