Sherman County

July 2015

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

A total of 12 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Sherman County economy.[1] These 12 sectors have a total direct output of approximately $290 million and support 479.8 jobs in Sherman County. Running the model for all 12 sectors simultaneously produces the following results:

Agriculture Contribution in Sherman County

Impact Type[2]	Employment	% of Total Employment	Total Value Added[3]	% of Gross Regional Product[4]	Output[5]	% of Gross Regional Product
Direct Effect	479.8	13%	$31,922,597	14%	$290,160,909	127%
Indirect Effect	291.1	8%	$29,394,273	13%	$50,426,738	22%
Induced Effect	123.1	3%	$7,955,954	3%	$13,642,910	6%
Total Effect	893.9	24%	$69,272,824	30%	$354,230,557	155%

As shown in the above table, agriculture, food, and food processing supports 893.9 jobs, or 24% of the entire workforce in the county. These industries provide a total economic contribution of approximately $354 million, roughly 155% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 12 agriculture, food, and food processing sectors is approximately $69 million, or 30% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 30% of the total economy.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

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1 Article on building a contribution analysis in IMPLAN that avoids double counting:
https://implan.com/index.php?option=com_content&view=category&id=19

2 Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

3 Value Added = Labor Income + Indirect Business Taxes + Other Property Type Income

4 GRP = Final Demand of Households + Governments Expenditures + Capital + Exports - Imports - Institutional Sales

5 Output = Intermediate Inputs + Value Added

In the top ten by employment, Grain farming is the top employer in the agriculture industry with 259.4 employees. This table also shows the amount of jobs that are created by the agriculture industry in Sherman County.

Top 10 Industries Affected by Employment

Sector Description:	Total Employment	Total Output
Grain farming..	259.4	$117,976,898
Wholesale trade...	120.8	$25,904,935
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming..	97.7	$32,880,664
All other crop farming..	43.2	$7,118,977
Truck transportation...	35.0	$6,561,225
Monetary authorities and depository credit intermediation	27.6	$4,535,491
Animal production, except cattle and poultry and eggs.................................	26.9	$3,544,251
Soybean and other oilseed processing	21.9	$113,497,482
Real estate...	15.6	$2,487,794
Support activities for agriculture and forestry..	15.3	$744,377

The Grain farming industry directly contributes approximately $118 million to Sherman County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

Top 10 Industries Affected by Output

Sector Description:	Total Employment	Total Output
Grain farming..	259.4	$117,976,898
Soybean and other oilseed processing	21.9	$113,497,482
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming..	97.7	$32,880,664
Wholesale trade...	120.8	$25,904,935
All other crop farming..	43.2	$7,118,977
Truck transportation...	35.0	$6,561,225
Oilseed farming	2.1	$5,950,306
Monetary authorities and depository credit intermediation	27.6	$4,535,491
Roasted nuts and peanut butter manufacturing..	6.5	$4,059,459
Animal production, except cattle and poultry and eggs.................................	26.9	$3,544,251

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Sherman County's economy.

Sector Description:	Employment	Output
Oilseed farming	2.1	$5,950,306
Grain farming	259.4	$117,976,898
All other crop farming	43.2	$7,118,977
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	97.7	$32,880,664
Poultry and egg production	0.3	$174,450
Animal production, except cattle and poultry and eggs	26.9	$3,544,251
Soybean and other oilseed processing	21.9	$113,497,482
Bread and bakery product, except frozen, manufacturing	3.7	$403,666
Frozen cakes and other pastries manufacturing	0.2	$35,924
Roasted nuts and peanut butter manufacturing	6.5	$4,059,459
Spice and extract manufacturing	6.4	$3,395,987
Veterinary services	11.4	$1,122,845
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All 105 counties in Kansas have IMPLAN models with an agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.