

Contribution of Agribusiness to Idaho's Economy, 2010

by Garth Taylor, Ben Eborn, Philip Watson, and Abelardo Rodriguez

Executive summary

Agriculture in Idaho has grown from family farmsteads into a giant agribusiness industry, providing jobs for Idahoans and products for national and international markets. In 2010, the total output (sales of goods and services) of the Idaho economy was \$103 billion, Idaho's gross state product (GSP) was \$53 billion¹, and employment totaled 873,000 jobs.

Idaho's total economic pie can be sliced using a gross (accounting) measure or a base (export-driven) measure. Using the gross measure for 2010, Idaho agribusiness sold more than \$15 billion of goods and services, generated \$3.4 billion in GSP, and created 50,000 Idaho jobs.

Agribusiness exports ripple throughout Idaho's economy, creating indirect economic activity in many other sectors. Using base analysis, which takes into account these ripple effects, agribusiness contributed \$19 billion (18%) of total sales, over \$6.4 billion (12%) of the state's GSP, and over 100,000 (12%) of Idaho jobs. Agribusiness is Idaho's largest base industry as ranked by base sales and the second-largest base industry as ranked by base jobs and base value added.

What is agribusiness?

Agribusiness is a vertically integrated industrial complex engaged in the production and processing of food. The production and marketing channels of the agribusiness industry extend from farm suppliers to farmers and ranchers, then to food processors and to food retailers, and end with domestic consumers or international markets. The farm is the intermediate link in Idaho's agribusiness complex, with backward links to farm suppliers and service providers (of fertilizers, seed, farm equipment, etc.) and forward

links to food processors (of French fries, cheese, etc.). In turn, food retailers and even restaurants are linked to processors, but they are excluded from our measure of agribusiness's contribution to Idaho's economy. Following similar criteria, all of Idaho's industries were aggregated into 15 sectors (table 1).

Gross and base: Two ways to measure economic contribution

The contribution of agribusiness or of any other sector to the Idaho economy can be measured two ways: (1) using the gross measure, which simply counts the economic activity (sales or output, jobs, and value added) of an industry, and (2) using the base measure, which credits to an exporting industry the sales, jobs, or value added of its backward-linked businesses. Measuring the gross is an accounting task: tallying the number of people employed, the total sales, or the total valued added created by each indus-

Table 1. Sectors of the Idaho economy.

Sector	Examples
Agribusiness (Ag Biz)	Production agriculture, food and feed processing
Forestry and forest products (Forest Biz)	Forestry, logging, wood, and paper products
Mining and processing (Mining Biz)	Minerals, petroleum, extraction and processing
Construction and utilities	Utilities and construction
Other manufacturing	Manufacturing
Hi-Tech manufacturing	Electronics and computers manufacturing
Transportation	Air, railroad, and trucking
Trade	Wholesale and retail trade
F.I.R.E.	Financial, insurance, and real estate
Food and lodging	Dining, drinking, lodging
Other services	Other services
Government and miscellaneous (Govt & Misc)	The operations of any government service that employs people (i.e., public schools, Department of Transportation, etc.)
Professional services	Health care, legal, education, R&D
Households	Non-labor income (Social Security, dividends, etc.)
Government infrastructure and transfers (Govt I&T)	Federal dollars invested in Idaho and local government spending on infrastructure

try. Idaho's GSP (gross state product) and employment figures are regularly published measures of the state's gross economic activity.

Both the gross and base measures of economic activity tally every dollar of sales, every job, and every dollar of value added in the Idaho economy. While the gross and base measures of Idaho's total economic activity are equal, they differ in how they slice Idaho's economic pie.

Businesses in the Idaho economy can be divided into industries that primarily sell to other local industries and to consumers (non-base industries) and industries that sell to customers outside Idaho and therefore bring new dollars into the region (base industries). The output of any base industry is the sum of its exports (the direct contribution to output) plus sales of the non-base Idaho businesses that support the base industry (the indirect contribution). Non-base and base businesses are both essential to a thriving economy.

An example of a store selling a tire to a cattle rancher clarifies the difference between gross and base measures of economic activity. The gross measure would attribute the tire sale (and the associated job and value added) to the non-base tire store. The base analysis, however, credits the tire sale to the beef industry because the sale was possible only because the base industry rancher brought new dollars (from cattle exports) into the Idaho economy.

In summary, the base measure is propelled by exports and could be more accurately labeled as the "contribution of exports." The base measure implies that the source of economic growth is exports; thus, the base analysis is useful for developing policies that increase sales, jobs, and

income through exports. For example, the governor has a goal of increasing Idaho's GSP to \$60 billion. The gross measure monitors the goal, and the base measure provides a policy prescription of export promotion of Idaho's base industries. Exports, however, are but one of four sources of regional economic growth, the others being substitution of local production for imports, technological advancement, and capital investment.

Gross and base contributions to Idaho's economy: Study findings

The contributions of agribusiness and other sectors to Idaho's economy were measured in terms of (1) output, (2) jobs, and (3) value added (GSP)². Industries whose gross exceeds the base measure are non-base or supporting industries. Conversely, industries whose base exceeds the gross form the export base of the economy. In 2010, the total output of the Idaho economy was \$103 billion, GSP was \$53 billion¹, and the state had 873,000 jobs.

At \$15 billion of gross output, agribusiness is the third-largest industry in Idaho, behind professional services and financial, insurance, and real estate (F.I.R.E.). At \$19 billion of base output, however, agribusiness is the largest industry in the state (table 2). Thus professional services and F.I.R.E. are largely non-base businesses that support the base industries in the state.

Households and government infrastructure and transfers have no direct contribution to sales, employment, or value added; however, they are responsible for bringing new monies into the state that are then used to create economic activ-

Table 2. Output, jobs, and value added in the Idaho economy, 2010.

Sector	Output (\$ billions)				Jobs (1,000s)				Value added or GSP (\$ billions)			
	Gross total	Base total	Direct base	Indirect base	Gross total	Base total	Direct base	Indirect base	Gross total	Base total	Direct base	Indirect base
Ag Biz	14.97	18.93	11.02	7.91	50.2	100.6	36.9	63.7	3.45	6.45	2.54	3.91
Govt I&T	0.00	15.07	0.00	15.07	0.0	163.5	0.0	163.5	0.00	9.53	0.00	9.53
Households	0.00	13.39	0.00	13.39	0.0	134.7	0.0	134.7	0.00	8.02	0.00	8.02
Professional services	17.04	11.39	6.24	5.15	175.2	116.2	64.2	52.0	10.12	6.81	3.71	3.10
Hi-Tech manufacturing	6.98	10.33	6.59	3.74	10.2	46.5	9.6	36.8	2.43	4.51	2.30	2.22
Other manufacturing	5.67	7.48	5.08	2.41	20.4	42.1	18.3	23.8	1.54	2.79	1.38	1.40
Trade	9.46	4.83	2.66	2.17	125.3	57.2	35.2	22.0	6.63	3.18	1.86	1.32
Govt & misc	8.72	4.45	2.59	1.86	130.1	57.3	38.6	18.7	7.80	3.43	2.31	1.12
Construction & utilities	8.21	3.91	2.42	1.49	59.6	32.5	17.6	14.9	3.83	2.02	1.13	0.89
Mining Biz	3.19	3.64	2.55	1.09	7.1	15.8	5.7	10.2	1.13	1.53	0.91	0.62
Other services	5.04	2.86	1.56	1.29	93.9	42.1	29.1	13.0	2.80	1.65	0.87	0.78
Forest Biz	2.50	2.82	1.69	1.14	17.8	23.2	12.0	11.2	0.96	1.29	0.65	0.64
F.I.R.E.	15.15	1.44	0.86	0.58	87.6	10.4	5.0	5.5	9.56	0.90	0.54	0.36
Food & lodging	3.39	1.22	0.67	0.55	71.1	19.5	14.1	5.4	1.75	0.67	0.35	0.32
Transportation	2.61	1.18	0.68	0.50	24.6	11.5	6.4	5.1	1.45	0.68	0.38	0.30
TOTAL	102.94	102.94	44.60	58.34	873.0	873.0	292.6	580.4	53.45	53.45	18.91	34.53

ity in other sectors. Households receive income from Social Security, dividends, etc., that do not require inputs (fertilizer, seed, labor, etc.) to produce. However, this income ripples throughout the economy to generate sales, jobs, and value added.

Similarly, government infrastructure and transfers receive money from the federal government and taxes that do not require direct inputs. These monies ripple throughout the economy to indirectly generate sales, jobs, and value added. Households and state and local governments are not business sectors, but they indirectly contribute to the state's jobs, GSP, and sales.

Output (sales) contribution of agribusiness

Idaho's 2010 farm cash receipts were more than \$5.7 billion. In 2010, Idaho ranked 22nd in the nation in cash receipts of agricultural products. Idaho has some "superstar" crops, ranking first nationally in potato production, second in barley, and third in alfalfa and sugar beets. Idaho's huge dairy industry ranks third behind California's and Wisconsin's.

What gives Idaho agribusiness its huge contribution to the economy is not sheer size, but rather the magnitude of its forward linkages. Idaho's principal agricultural products—potatoes and milk—create additional economic benefits in the processing industries. When the gross sales of processing are added, the total output of agribusiness in Idaho in 2010 was close to \$15 billion (table 2). The gross output of agribusiness is 14.5% of Idaho's total output, third behind professional services and F.I.R.E.

The base contribution of agribusiness to output is \$19 billion, over 18% of the total output of Idaho's economy (figure 1). Of that total output, \$11 billion is from direct sales to export markets and \$8 billion is from domestic indirect sales from the non-base businesses that support the agribusiness industry. In other words, the \$11 billion of exports rippled

Figure 1. Base output, by sector of the Idaho economy, 2010.

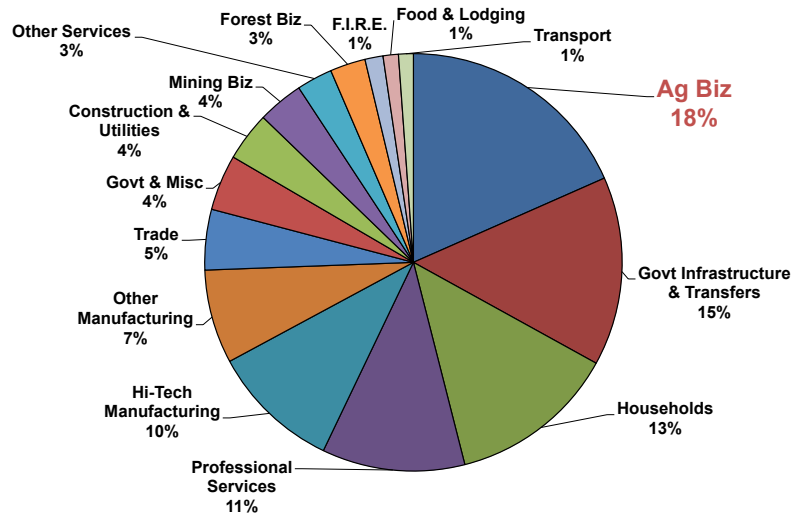


Figure 2. Base value added, by sector of the Idaho economy, 2010.

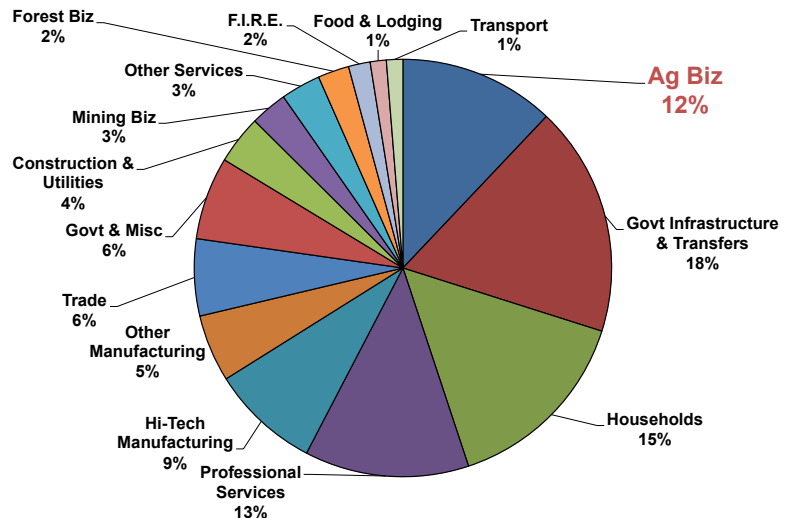
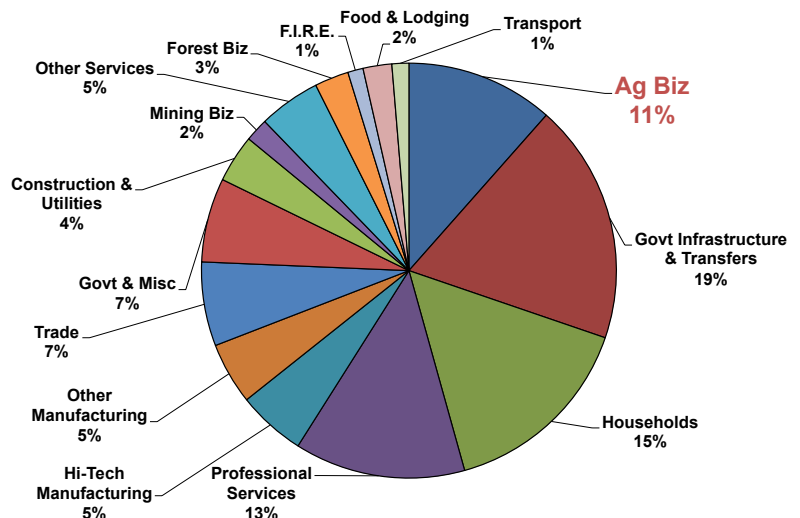


Figure 3. Base jobs, by sector of the Idaho economy, 2010.



throughout Idaho's economy to create an additional \$8 billion in sales of domestic goods and services. The indirect \$8 billion are the hidden sales of the agribusiness industry through its backward linkages to tractor dealers, tax accountants, etc. Idaho agribusiness's 2010 base output exceeded its gross output by \$3.9 billion; thus, agribusiness is a net export industry, forming the export base that drives Idaho's economy.

Value added (GSP) contribution of agribusiness

Wages, profits, and taxes, the returns to agribusiness, have historically been low. Low returns are reflected in agribusiness's gross contribution to Idaho's GSP in 2010—\$3.4 billion or 6% of Idaho's GSP, the sixth largest in the state (table 2).

Being an export base industry, however, agribusiness is the second-ranked value added industry, behind professional services. The base contribution of agribusiness to GSP was \$6.4 billion in 2010, over 12% of the total value added (figure 2). Of agribusiness's contribution to GSP, \$2.5 billion is value added by exports and \$3.9 billion is the domestic indirect value added from non-base businesses that support the agribusiness industry. Total base value added is \$3 billion more than agribusiness's gross value

added; thus, agribusiness is a net base industry, forming the export base that drives Idaho's economy.

Employment contribution of agribusiness

Agribusiness has always been a very efficient employer and will continue to become more efficient. A decreasing number of farmers continue to produce more crops and livestock. Simplot recently announced the layoff of 1,000 employees, to be replaced by 200, while continuing to process the same amount of potatoes.

Low employment is reflected in agribusiness's gross contribution to Idaho's employment. Gross jobs in agribusiness are 6% (50,000 jobs) of the total jobs in Idaho, making agribusiness the seventh-largest employer in the state (table 2). Using the base measure, agribusiness rises to be the second-ranked employer, behind professional services (figure 3). The base contribution of agribusiness to employment is 101,000 jobs or close to 12% of total industry employment in Idaho's economy. Agribusiness is a hidden employer. Of those total jobs, 37,000 are attributable to direct sales to export markets and 64,000 are indirect jobs from non-base businesses that support the agribusiness industry. Total base jobs are 51,000 more than agribusiness's gross jobs; thus, agribusiness is a net base industry, forming the export base that drives Idaho's economy.

The authors—Garth Taylor, Extension Economist; Ben Eborn, Extension Educator, Teton County; Philip Watson, Economist; and Abelardo Rodriguez, Extension Economist.

• Definitions •

Direct effect. Economic activity generated by exports of any industrial sector.

Exports. Sales of goods and services to customers outside Idaho—to other states as well as international markets.

Indirect effect. Economic activity generated by industries purchasing inputs from other local businesses to support the sales of exports.

Jobs. Full and part-time employment, including business proprietors.

Value added or gross state product (GSP). The sum of (1) wages and salaries, (2) proprietor's income, (3) indirect business taxes, and (4) dividends, interest, and rents.

Sales or output. The term output, however, is more accurate than sales because some businesses use goods of their own manufacture. For trade businesses, gross sales are defined as the mark-up, net of the cost of goods.

Notes

¹Total GSP of \$53 billion was from IMPLAN, versus the \$55 billion from the U.S. Bureau of Economic Analysis. The difference between them is an accounting discrepancy from the national income and product accounts.

²The methods follow: E, Waters, B. Weber, and D. Holland. 1999. The role of agriculture in Oregon's economic base: Findings from a social accounting matrix. *Journal of Agricultural and Resource Economics* 24(1):266-280.

Data sources

Micro IMPLAN Group. Dec. 2011. IMPLAN Professional User's Guide. Minnesota IMPLAN Group, Inc. Stillwater MN.

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