Bulletin No. 613

The Economic Structure Of Blaine County, Idaho 1979

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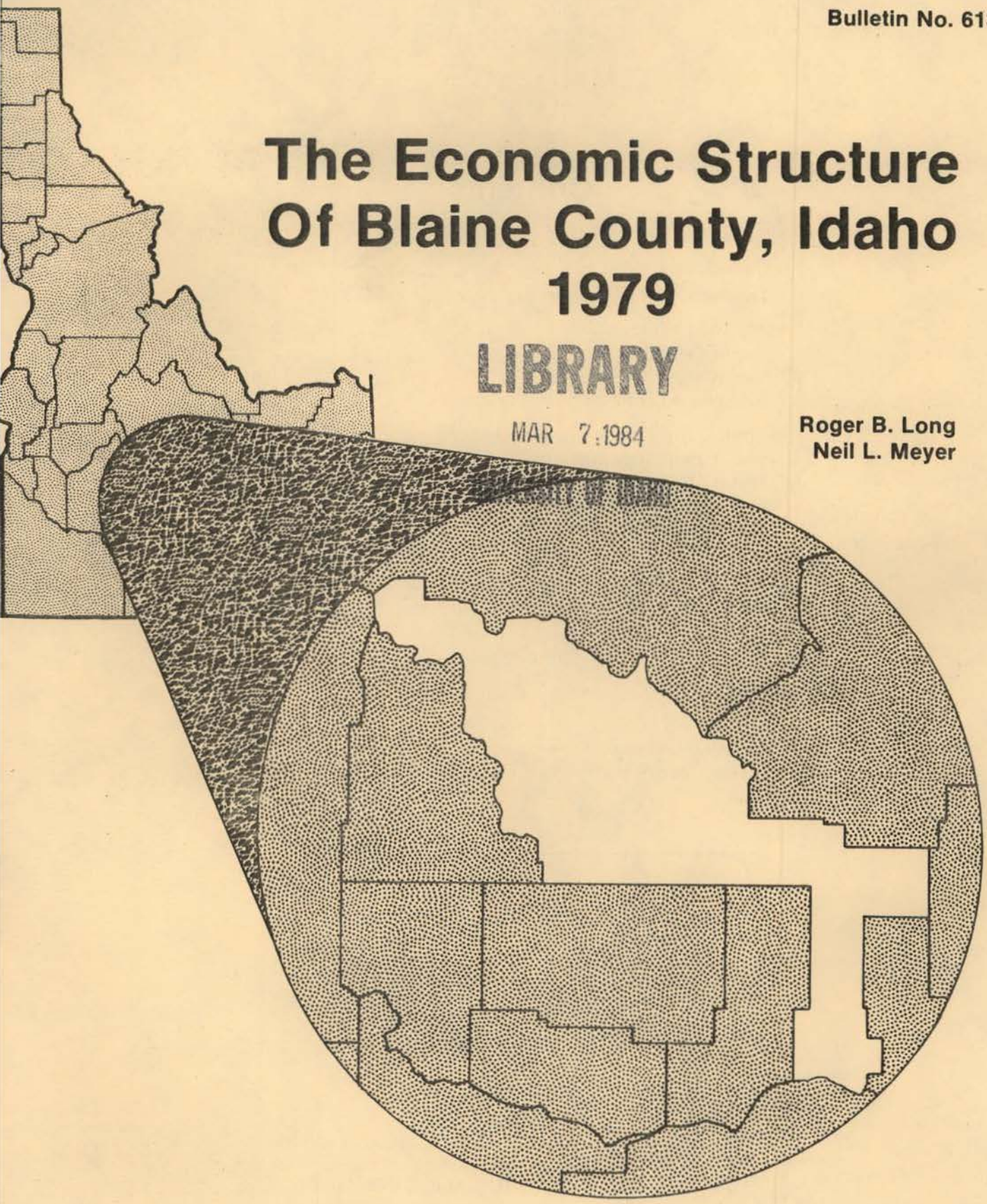
Roger B. Long
Neil L. Meyer



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Summary of Results

During 1980 a study was conducted to determine the economic structure of Blaine County during 1979. The major results of this study by economic sector were as follows:

Sector	Description	Gross output	Value added and household income	Output multipliers	
				with households	without households
1	Crop agriculture	$ 5,869,600	$ 1,572,300	1.86	1.49
2	Livestock agriculture	11,853,100	4,073,500	2.16	1.66
3	Construction	26,858,400	9,790,000	2.49	1.54
4	Manufacturing	9,043,500	5,023,900	2.26	1.34
5	Transportation	4,915,500	1,262,200	1.50	1.11
6	Communications, utilities, publications	7,185,000	1,774,700	1.57	1.12
7	Wholesale and retail trade	68,425,700	23,243,000	1.60	1.16
8	Finance, insurance, real estate	52,820,600	31,100,600	1.46	1.17
9	Personal and business services	14,463,600	6,873,000	2.29	1.26
10	Hotels and lodging	22,170,800	9,388,700	1.92	1.20
11	Health services	4,054,100	1,405,000	2.61	1.46
12	Local government	9,711,500	7,248,200	2.46	1.11
13	State government	3,450,300	1,897,500	1.59	1.18
14	Federal government	2,345,300	1,708,000	3.26	1.24
15	Households	43,507,400	—	2.70	—
	Total	$286,674,400	$106,360,600		

During 1979, Blaine County generated some $286,674,400 in sector output and $106,360,600 in income. The expansion of final demand in each sector by $1.00 would impact the total economy as shown in the two columns at right above. This publication provides a tool for economists to evaluate the impacts of internal and external forces and various public policies on Blaine County's economy.

The Economic Structure Of Blaine County, Idaho, 1979

Roger B. Long and Neil L. Meyer

Introduction

Blaine County, Idaho, is famous for its recreational activities which include winter skiing and summer outdoor activities. While it is not a typical Idaho county in terms of these activities, Blaine County is similar to most in that it is heavily dependent upon its natural resource base for economic growth. Without snow in the winter time, skiing is curtailed which adversely impacts the whole economy. On the other hand, if other ski areas in the United States lack snow and Sun Valley receives its normal amount, skiers flock to Blaine County in unusual numbers (as was the case during the 1980-81 winter season). The Sawtooth National Recreation Area in northern Blaine County attracts many sightseers, campers, hikers and fishermen each year. Because of its natural resource base, then, Blaine County has a great deal of economic activity concentrated in the construction, retail trade and service sectors. Also, farming and ranching are important resource-based activities in the southern part of the county.

During the past 10 years, Blaine County's population increased from 5,749 in 1970 to 9,825 in 1980, an increase of 70.9 percent and the highest growth rate of any Idaho county. Most of this growth is associated with the county's recreational attractions. New home construction in the Ketchum-Sun Valley area continued at a rapid pace even during periods of high interest rates and scarce long-term money for housing. Such rapid growth is causing problems in providing eating and hotel services during peak ski season periods and also problems for the local government (county) in providing adequate educational, health, water and sewer services.

Economically, Blaine County is changing so rapidly that local government officials and Chamber of Commerce employees have a very difficult time trying to plan for future growth. Certain bottlenecks to future growth are fairly obvious, but the solutions to these problems are not easily met. This study provides a tool for economists and planners to help public officials in making decisions regarding anticipated growth.[1]

One of the perplexing problems is that the area is growing so rapidly that a study may be out-of-date before it is completed. Nevertheless, some information about the nature of the local economy is much better than none when it comes to making decisions about the future.

In brief, then, this study developed an economic input-output model of Blaine County. This model should help in evaluating the effects of changes in the local economy, especially as they apply to its natural resource-based industries including recreation and agriculture.

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[1]Persons who wish to become more familiar with input-output analysis should read the bibliography references to Miernyk's *Input-Output Analysis* and Chenery and Clark's *Interindustry Economics*.

Description of Blaine County

Blaine County is located in southcentral Idaho (Fig. 1), and its topography varies from rolling rangeland to high mountains. The land area of the county is comprised of 1,694,080 acres of which 261,698 acres (15.4 percent) is in farms. Much of the county is controlled by the U.S. Forest Service and Bureau of Land Management. Agricultural activities include cattle and sheep ranching and some irrigated farming. Crops grown include wheat, barley, hay and lesser amounts of potatoes and sugarbeets. The southern part of the county also has some dairy farming.

Employment location quotients developed for Blaine County help describe the nature of the county's economy and show which sectors provide the greatest employment opportunities by comparing county and state employment percentages. Table 1 shows, for example, that construction activities in Blaine County were nearly double the state average. Wholesale and retail trade, finance, real estate, insurance and service sectors all had employment location quotients that were greater than one. On the other hand, food processing, manufacturing, transportation, communications and utilities and state and federal government had quotients less than one (below the state average). Sectors with coefficients larger than one indicate greater than average employment caused by the county's recreational opportunities.

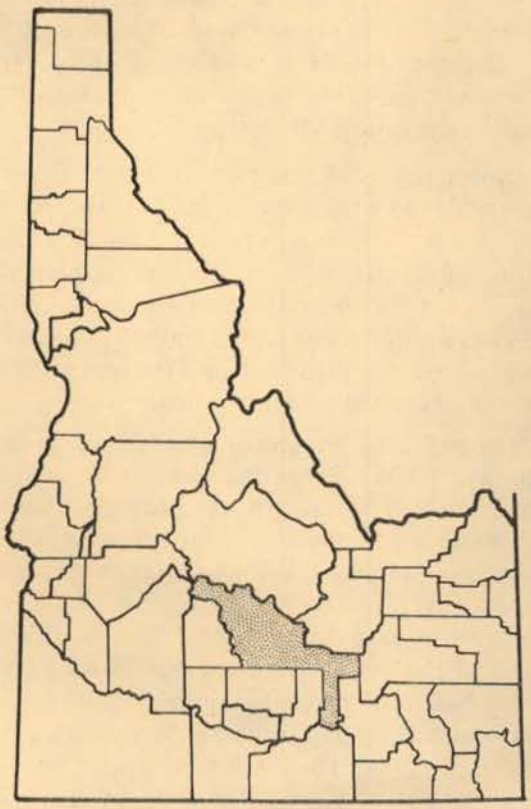

Fig. 1. Blaine County, Idaho.

The wholesale trade sector in Blaine County was larger than average in response to the recreational activities. Table 2 shows that of all Idaho counties with less than 10,000 population, Blaine County has more than twice the employment in trade than the next highest county. Blaine County wholesale and retail trade employed 1,354 persons in 1980, while Washington County had only 590. Average employment in wholesale and retail trade for the 20 counties with less than 10,000 population was 333 persons, while Blaine County employed 1,354 persons (nearly four times that average). Above average employment in construction, trade, finance, insurance and real estate, services and county government are the result of recreational activities that include skiing, summer homes and the Sawtooth National Recreation area.

Table 1. Employment location coefficients for Blaine County, Idaho, 1979.

Economic sector	Employment location quotient*
Mining	N.A.
Construction	1.99
Food processing	.13
Lumber manufacturing	N.A.
Other manufacturing	.42
Transportation, utilities, communications	.61
Wholesale and retail trade	1.12
Finance, insurance, real estate	1.23
Services and miscellaneous	1.65
Local government	1.09
State government	.13
Federal government	.58

N.A. = not available

Source: Department of Employment, State of Idaho, Average Monthly Employment in Idaho, 1979.

*Employment location quotient $= \frac{\%\text{ employed in an industry (county)}}{\%\text{ employed in an industry (state)}}$

Table 2. Wholesale and retail trade in counties with less than 10,000 population, Idaho, 1979.

County	Population	Wholesale and retail trade employment
Adams	3,347	63
Bear lake	6,946	373
Benewah	8,295	323
Blaine	9,825	1,354
Boise	2,998	91
Boundary	7,302	416
Butte	3,351	187
Camas	809	47
Caribou	8,689	504
Clark	798	41
Custer	3,392	119
Franklin	8,892	515
Lemhi	7,444	491
Lewis	4,084	297
Lincoln	3,439	117
Oneida	3,233	163
Power	6,879	344
Teton	2,907	114
Valley	5,633	503
Washington	8,815	590

Study Methodology

When economic change is anticipated by a small rural county, little basic information is usually available about the nature of the local economy and how growth or contraction will impact the area. Input-output tables and their analysis provide tools for evaluating future economic changes.

Current problems in Blaine County are concerned with how to plan for future growth with its population increasing at a 7 percent rate (double the biological maximum) according to 1970 and 1980 census data. The adequacy of water, sewage and school systems in the distant future will depend on what is done in the near future. Community leaders need good, basic information to make sound decisions. This input-output study was proposed and conducted for Blaine County to help in making future decisions concerning possible changes in the economy.

Sector Delineation

Blaine County's economy is relatively small, employing some 4,579 persons in 602 firms during 1979. Since the economy is small, dividing the economy into sectors could not be done in great detail without disclosure kinds of problems relative to individual firms. For this reason and because of the nature of the local economy, the decision was made to divide Blaine County into 15 economic sectors (Table 3).

The sectors were selected to represent the local economy. Hotels and lodging were separated from the rest of the economy because they are such a major part of the recreational activities. For the most part, skiing activities are included in the hotel and lodging sector since this sector handles the majority of the services that go along with this sport (rope tows, chairlifts, etc.). Skiing also heavily impacts the retail trade sector because so many people come to Sun Valley to enjoy the sport. As was pointed out earlier, skiing and recreation heavily impact all the service type activities in the county.

Because of recreation, there are greater than average economic activities in construction, trade, finance, insurance, real estate, services and county government. If recreational activities continue to grow, so will the demands on these sectors.

Except for agriculture and a few small sawmills, Blaine County has little in the way of basic manufacturing. Mining activities tend to be rather erratic, but they could be important in the future.

State and federal government activities in the county are relatively unimportant. This is surprising considering the Sawtooth National Recreation Area and the great numbers of tourists the area attracts.

Table 3. Sector delineation of Blaine County, Idaho, 1979.*

Sector number	Description
1	Crop agriculture (wheat, barley, hay, potatoes, sugarbeets)
2	Livestock agriculture (cattle, sheep, dairy)
3	Construction
4	Manufacturing and mining
5	Transportation (ground and air)
6	Communications, utilities, publications
7	Wholesale and retail trade
8	Finance, insurance, real estate
9	Personal and business services
10	Hotels and lodging (including skiing)
11	Health services (doctors, hospitals, rest homes)
12	County government (including schools)
13	State government (liquor stores, highways, etc.)
14	Federal government (Forest Service, Bureau of Land Management
15	Households (wages paid and consumption)

*Appendix gives more specific definitions for each sector.

Survey Approach

The Idaho Department of Employment provided the names of firms and numbers of employees for each sector. When appropriate, firms in each sector were divided into large and small employers (by number of employees), and an attempt was made to sample each group for data.

A minimum goal was to obtain data from firms that employed about two-thirds of the people in each sector, and cooperation varied widely by sector. Some firms were unable to provide the desired data for one reason or another. About 120 firms were initially contacted, and 80 percent of that number provided information. Alternate firms were randomly selected where possible.

Data gathered by sector also varied greatly — from nearly 100 percent of some sectors to only one firm in another sector. Since both purchases and sales data were collected from cooperators, information for each table cell was estimated twice from cooperating firms. Two gross flows tables were estimated from data collected, one based on sales data and the other based on purchases data. The gross flows table presented in this report represents what was felt to be the best information available from both tables. This approach tends to overcome weak data in a particular sector. Appendix 1 contains the questionnaire used in conducting the survey.

Background Information

Idaho Department of Employment data concerning sector employment and wages paid were particularly important in putting together the gross flows table. Published employment and wage data by sector provided a check on survey results and also served as a basis to estimate sector output or sales. Sector outputs were estimated using survey results in terms of dollars of output per dollar of wages and dollars of output per employee.

Sector totals were also estimated using Department of Employment wage and employment data and were then compared with survey results. If a large discrepancy occurred between the two estimates, the data were evaluated for consistency and what was felt to be the most accurate estimate was used. In other words, total output estimates based on output per dollar of wages and output per employee based on survey data and Department of Employment data had to be consistent. For this to occur, survey results had to agree with Department of Employment wage and employment data.

In the gross flows table (Table 9), total wages paid are the same as those reported by the Department of Employment. Agricultural employment and wage data were compared with the 1978 Census of Agriculture. Total wages paid represents the combination of Department of Employment data and the 1978 Agricultural Census data for Blaine County.

Wages paid per employee as observed from the survey and reported by the Department of Employment were yet another source of comparison for consistency of results in constructing the gross flows table.

Economic Structure of Blaine County

Sector Employment

Blaine County's employment centers around the recreational activities provided by the Sawtooth National Recreation Area during the summer and skiing during winter. The wholesale and retail trade sector employed 25.4 percent of all county employees (1,354 employees, see Table 4) in 1979. Together, the major nongovernment service sectors (wholesale and retail trade; finance, insurance and real estate; personal and business services; and hotels and lodging) employed 56.1 percent of all workers in Blaine County during 1979. The proportion of workers in these sectors would be much smaller in most rural, natural resource-based counties of Idaho. By contrast, agriculture employed only 12.1 percent of all workers while manufacturing employed only 3.1 percent.

Health services and local (county) government employment was above average for a small, rural, Idaho county. However, state and federal government employment was not particularly large considering the nearby location of the Sawtooth National Recreation Area and National Forests. State government employed 31 persons in 1979 (0.6 percent of the total) while the federal government employed 108 persons (2.0 percent of the total).

Construction activities were quite large in terms of county employment with an average of 548 employees during 1979. Construction activities were closely tied to the recreational areas near Sun Valley and Ketchum. High interest rates did not reduce construction activities as much in Blaine County as they did in other parts of the state.

Sector Output

Wholesale and retail trade had total sales of $68,425,700 in Blaine County during 1979 (Table 5). The finance, insurance and real estate sector ran a close second with an estimated output of $52,820,600. Construction was third with $26,858,400 in sales. Hotels and lodging had $22,170,800 in sales. Again, these activities are more closely tied to recreation than the traditional agricultural and forestry orientation of most counties in Idaho. When regarded as an economic sector, households were important with $43,507,400 of wages or gross output.

Obviously, anything that would reduce recreational activities would adversely affect Blaine County's total economy. Poor snow in the winter or reduced travel to the national recreation areas could be two such factors. However, the demand for Blaine County recreational activities evidently is quite stable since high inflation rates, high interest rates and a low economic growth rate in the U.S. apparently has had less than average impacts on county economic activities.

In contrast, all agriculture and manufacturing accounted for only 11 percent of the total gross output of the 14 sectors of Blaine County's economy. Of course, the economic activities of agriculture and manufacturing are important to those persons who rely on them to earn their living. However, they are greatly overshadowed by the service sector as it relates to recreation in the county.

Table 4. Employment and wages by sector, Blaine County, Idaho, 1979.

Sector	Description	Employment	Wages
1	Crop agriculture	647*	$ 392,800
2	Livestock agriculture		1,178,200
3	Construction	548	6,925,400
4	Manufacturing	167	2,407,800
5	Transportation	70	556,000
6	Communications, utilities, publications	118	1,049,600
7	Wholesale and retail trade	1,354	9,708,800
8	Finance, insurance, real estate	271	3,475,400
9	Personal and business services	456	4,853,600
10	Hotels and lodging	915	4,980,200
11	Health services	67	1,308,200
12	Local government	588	4,669,300
13	State government	31	335,700
14	Federal government	108	1,646,400
	Total	5,340	$43,507,400
	Average		$ 8,147

*Since many farms produce both crops and livestock, the employment data were combined for simplicity and because of a lack of information about how employees split their time between the two sectors.

Sources: Idaho Department of employment and 1978 Census of Agriculture.

Table 5. Sector outputs in Blaine County, Idaho, 1979.

Sector	Description	Gross output or sales
1	Crop agriculture	$ 5,869,600
2	Livestock agriculture	11,853,100
3	Construction	26,858,400
4	Manufacturing	9,043,500
5	Transportation	4,915,500
6	Communications, utilities, publications	7,185,000
7	Wholesale and retail trade	68,425,700
8	Finance, insurance, real estate	52,820,600
9	Personal and business services	14,463,600
10	Hotels and lodging	22,170,800
11	Health services	4,054,100
12	Local government	9,711,500
13	State government	3,450,300
14	Federal government	2,345,300
	1 to 14 total	$243,167,000
15	Households (wages)	$ 43,507,400
	1 to 15 total	$286,674,400

Table 6. Wages and value-added income, Blaine County, Idaho, 1979.

Sector	Description	Wages	Value added*	Total
1	Crop agriculture	$ 392,800	$ 1,179,500	$ 1,572,300
2	Livestock agriculture	1,178,200	2,895,300	4,073,500
3	Construction	6,925,400	2,864,600	9,790,000
4	Manufacturing	2,407,800	2,616,100	5,023,900
5	Transportation	556,000	706,200	1,262,200
6	Communications, utilities, publications	1,049,600	725,100	1,774,700
7	Wholesale and retail trade	9,708,800	13,534,200	23,243,000
8	Finance, insurance, real estate	3,475,400	27,625,200	31,100,600
9	Personal and business services	4,853,600	2,019,400	6,873,000
10	Hotels and lodging	4,980,200	4,408,500	9,388,700
11	Health services	1,308,200	96,800	1,405,000
12	Local government	4,669,300	2,578,900	7,248,200
13	State government	355,700	1,541,800	1,897,500
14	Federal government	1,646,400	61,600	1,708,000
	Total	$43,507,400	$62,853,200	$106,360,600

*Value-added income as used in this study represents returns to management and the fixed factors of production.

Income

Table 6 shows wage and value-added income estimates by sector for Blaine County during 1979. Value-added income includes payments for taxes, interest, rent, profits, reserves for depreciation and compensation to management and other employees including Social Security. Total wage and value-added income was estimated to be $106,360,600. Of this total, $43,507,400 was paid in wages and salaries while $62,853,200 was other value-added income. In terms of the welfare of Blaine County, most wages and salaries stayed in the county after being paid to local employees. On the other hand, the other value-added income may well have gone to nonresident persons who owned factors of production.

In terms of total value-added income, four sectors stand out: finance, insurance and real estate; wholesale and retail trade; construction; and hotels and lodging. Together, these four sectors accounted for 69.1 percent of all income earned in the county during 1979. These statistics reveal that wage income per employee averaged $8,147 while value-added income on a per capita basis was $10,825 (somewhat below the $11,000 per capita income in the U.S. during 1980). Basic agriculture and manufacturing is credited with 10 percent of the total income earned in Blaine County. The three government sectors — county, state and federal — were only responsible for about 10.5 percent of the total income earned. Income data for Blaine County also emphasize the importance of recreation-related sectors.

Sector Imports and Exports

Like most small, resource-based counties, Blaine County imports relatively large proportions of its total inputs and exports large proportions of its output. Imported inputs are those purchased outside the county, and exported output is that product sold outside the county. Transportation; communications, publications and utilities; and wholesale and retail trade sectors imported more than half their total inputs (including the labor portion of inputs). Table 7 summarizes sector inputs and export ratios for 1979. Including all sectors, 21.1 percent of all inputs was imported; 14.2 percent was labor, and 64.7 percent was purchased within the county.

With regard to exports, 10 of the 14 sectors exported more than 50 percent of their production to buyers outside Blaine County. In total, $156,389,300 of total output of $243,167,000 (64.3 percent of total output of the first 14 sectors) was sent outside the county. The government sectors' output is primarily for local consumption except where capital improvements represents exports in that they are for future instead of current consump-

Table 7. Import and export ratios, Blaine County, Idaho, 1979.

Sector	Description	Import ratios	Export ratios
1	Crop agriculture	.33	.60
2	Livestock agriculture	.18	.78
3	Construction	.21	.60
4	Manufacturing	.18	.56
5	Transportation	.65	.53
6	Communications, utilities, publications	.65	.23
7	Wholesale and retail trade	.54	.54
8	Finance, insurance, real estate	.28	.84
9	Personal and business services	.31	.49
10	Hotels and lodging	.40	.94
11	Health services	.32	.50
12	Local government	.16	.25
13	State government	.31	.66
14	Federal government	.09	.85

[1]Ratio of imports to total purchases.

[2]Ratio of exports to total sales.

tion. Livestock agriculture; finance, insurance and real estate; and hotels and lodging had the highest export ratios.

Obviously Blaine County is heavily dependent upon markets outside its own borders to buy its products. This is especially true of the recreation-based sectors such as construction, trade, finance, insurance, real estate, personal and business services and hotels and lodging. Agriculture and manufacturing also had relatively high export ratios.

Aggregate County Measures

In total, $443,063,700 circulated or turned over throughout the Blaine County economy during 1979. Nearly one-third of this total, $157,800,700, came from activities in the trade; finance, insurance and real estate; personal and business services; and hotel and lodging sectors. Altogether the 11 non-governmental sectors and nonhousehold sectors (sectors 1 to 11) accounted for $227,659,900 in total output. The income-producing sectors accounted for $106,360,600 (24.0 percent) in wages and value-added income. Of the total dollars in circulation, some $156,389,300 (35.3 percent) was exported while $93,536,100 (21.1 percent) worth of goods was imported. Comparing various sector totals with total dollars in circulation gave the following results:

Table 8. Income-output ratios by sector, Blaine County, Idaho, 1979.

Sector	Description	Income-output ratio[1]
1	Crop agriculture	.27
2	Livestock agriculture	.34
3	Construction	.36
4	Manufacturing	.55
5	Transportation	.26
6	Communications, utilities, publications	.25
7	Wholesale and retail trade	.34
8	Finance, insurance, real estate	.59
9	Personal and business services	.48
10	Hotels and lodging	.42
11	Health services	.35
12	Local government	.75
13	State government	.55
14	Federal government	.73

[1]Ratio of household and value-added income in each sector to total purchases.

Portion of the economy	Proportion of total turnover
Purchases	
Sectors 1 to 11	.51
Wages and value-added income	.24
Government (sectors 12 to 14)	.04
Imports	.21
or	1.00
Sales	.65
Sectors 1 to 15	.35
Exports	1.00

The above data indicate that Blaine County is dependent upon outside sources for 21 percent of its inputs and 35 percent of its output. Without outside inputs and purchases, Blaine County's economy would not exist in its present form. Table 8 relates county income to output in a ratio form and shows which sectors create the most income per dollar of output.

Economic Results and Impact Analysis

Gross Flows Table

Table 9 presents the survey results in terms of economic activities that took place in Blaine County during 1979. Gross flows input-output tables account for sector sales across the rows, and the sector purchases are accounted for down the columns. Consequently, interactions between sectors within the county are shown as well as purchases from outside the county (imports) and sales outside the county (exports).

Table 9 is a static, one-year accounting of the economic activity that took place in Blaine County in 1979. The gross flows table is an annual picture of the county economy in tabloid form.

Since the recreation-oriented sectors dominate the economy — trade; finance, insurance and real estate; personal and business services; and hotels and lodging — it is also clear from Table 9 that these sectors are heavily dependent upon both markets and inputs that originate outside the county. Together these four sectors exported $109,360,000 of their output and imported $65,039,400 of inputs during 1979. Roughly two-thirds of the county's exports and imports result from the activity of these four sectors.

Table 9 shows that $130,285,100 was traded among the 15 sectors of the economy (column BC total and row BC total). Interaction of county

Table 9. Blaine County: Input-output gross flows, 1979 (in thousands of dollars).

Purchases - sales	1	2	3	4	5	6	7	8	9
1. Crop agriculture	285.3	1,865.4	0	0	0	0	191.3	0	0
2. Livestock agriculture	86.5	1,168.7	0	810.0	0	0	349.7	36.7	0
3. Construction	0	47.4	3,107.5	0	20.6	41.0	1,135.9	5.3	107.0
4. Manufacturing	0	0	16.1	0	0	25.9	13.7	3,914.0	0
5. Transportation	132.6	96.0	539.8	0	0	63.2	191.6	84.5	287.8
6. Communications, utilities, publications	383.0	385.2	119.3	693.6	59.0	117.8	848.5	612.7	523.6
7. Wholesale and retail	1,108.8	1,408.8	6,589.3	47.9	2.0	135.1	3,017.6	266.8	514.9
8. Finance, insurance, real estate	251.2	227.6	523.7	0	50.2	298.2	1,881.7	31.7	546.7
9. Personal and business services	72.3	149.3	392.1	0	45.2	50.3	260.0	413.6	749.2
10. Hotels and lodging	0	17.8	16.8	29.8	37.4	12.9	574.2	137.3	334.1
11. Health services	13.5	54.5	0	36.3	0	0	6.8	994.5	0
12. Local government	41.2	176.6	0	693.6	236.0	12.9	102.6	153.2	15.9
13. State government	0	1.3	188.0	0	0	-	0	0	21.7
14. Federal government	0	71.1	0	36.6	0	5.0	1.4	15.8	0.2
15. Household	392.8	1,178.2	6,925.4	2,407.8	556.0	1,049.6	9,708.8	3,475.4	4,853.6
BC total	2,767.2	6,847.9	18,418.0	4,755.6	1,006.4	1,811.9	18,283.8	10,141.5	7,954.7
Imports	1,922.9	2,109.9	5,575.8	1,671.8	3,202.9	4,648.0	35,607.7	15,053.9	4,489.5
Value added	1,179.5	2,895.3	2,864.6	2,616.1	706.2	725.1	13,534.2	27,625.2	2,019.4
Total purchases	5,869.6	11,853.1	26,858.4	9,043.5	4,915.5	7,185.0	68,425.7	52,820.6	14,463.6

Table 9. cont'd.

Purchases - sales	10	11	12	13	14	15	BC total	Exports	Total output
1. Crop agriculture	0	0	0	0	0.7	0	2,342.7	3,526.9	5,869.6
2. Livestock agriculture	0	0	0	42.7	74.7	28.4	2,597.4	9,255.7	11,853.1
3. Construction	0	433.8	66.9	80.6	99.0	5,506.7	10,651.7	16,206.7	26,858.4
4. Manufacturing	0	0	10.7	0	0	0	3,980.4	5,063.1	9,043.5
5. Transportation	148.5	6.1	0	0	7.5	753.4	2,311.0	2,604.5	4,915.5
6. Communications, utilities, publications	1,257.2	68.9	213.7	11.7	10.1	258.2	5,562.5	1,622.5	7,185.0
7. Wholesale and retail	396.8	253.4	163.2	3.4	152.4	17,206.8	31,267.2	37,158.5	68,425.7
8. Finance, insurance, real estate	792.3	97.3	207.8	0	15.3	3,724.3	8,648.0	44,172.6	52,820.6
9. Personal and business services	332.6	111.1	75.8	274.8	1.4	4,473.5	7,401.2	7,062.4	14,463.5
10. Hotels and lodging	0	0	0	5.9	7.7	30.4	1,204.3	20,966.5	22,170.8
11. Health services	13.3	385.2	129.7	0	0.7	380.0	2,014.5	2,039.6	4,054.1
12. Local government	496.6	0.4	0	52.4	56.3	5,241.3	7,279.0	2,432.5	9,711.5
13. State government	294.9	0	0	0	0	665.8	1,171.7	2,278.6	3,450.3
14. Federal government	161.6	0	8.7	0	0	45.7	346.1	1,999.2	2,345.3
15. Household	4,980.2	1,308.2	4,669.3	355.7	1,646.4	0	43,507.4	0	43,507.4
BC total	8,874.0	2,664.4	5,545.8	827.2	2,072.2	38,314.5	130,285.1	156,389.3	286,674.4
Imports	8,888.3	1,292.9	1,586.8	1,081.3	211.5	5,192.9	93,536.1	0	93,536.1
Value added	4,408.5	96.8	2,578.9	1,541.8	61.6	0	62,853.2	0	62,853.2
Total purchases	22,170.8	4,054.1	9,711.5	3,450.3	2,345.3	43,507.4	286,674.4	156,389.3	443,063.7

Table 10. Technical coefficients, Blaine County, Idaho, 1979.

Sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Crop agriculture	.04861	.15738	0	0	0	0	.00280	0	0	0	0	0	0	.00030	0
2. Livestock agriculture	.01474	.09860	0	.08957	0	0	.00511	.00069	0	0	0	0	.01238	.03185	.00065
3. Construction	0	.00400	.11570	0	.00419	.00571	.01660	.00010	.00740	0	.10947	.00689	.02336	.04221	.12657
4. Manufacturing	0	0	.00060	0	0	.00360	.00020	.07410	0	0	0	.00110	0	0	0
5. Transportation	.02259	.00810	.02010	0	0	.00800	.00280	.00160	.01990	.00670	.00150	0	0	.00320	.01732
6. Communications, utilities, publications	.06525	.03250	.00444	.07670	.01200	.01640	.01240	.01160	.03620	.05671	.00170	.02200	.00339	.00431	.00593
7. Wholesale and retail trade	.18891	.11885	.24533	.00530	.00041	.01880	.04410	.00505	.03560	.01790	.06250	.01680	.00099	.06498	.39549
8. Finance, insurance, real estate	.04280	.01920	.01950	0	.01021	.04150	.02750	.00060	.03780	.03574	.02400	.02140	0	.00652	.08560
9. Personal and business services	.01232	.01260	.01460	0	.00920	.00700	.00380	.00783	.05180	.01500	.02740	.00781	.07965	.00060	.10282
10. Hotels and lodging	0	.00150	.00063	.00330	.00761	.00180	.00839	.00260	.02310	0	0	0	.00171	.00328	.00070
11. Health services	.00230	.00460	0	.00401	0	0	.00010	.01883	0	.00060	.09501	.01336	0	.00030	.00873
12. Local government	.00702	.01490	0	.07670	.04801	.00180	.00150	.00290	.00110	.02240	.00010	0	.01519	.02410	.12047
13. State government	0	.00011	.00700	0	0	0	0	0	.00150	.01330	0	0	0	0	.01530
14. Federal government	0	.00600	0	.00405	0	.00070	.00002	.00030	.00001	.00729	0	.00090	0	0	.00105
15. Households	.06692	.09940	.25785	.26625	.11311	.14608	.14189	.06580	.33557	.22463	.32269	.48080	.10309	.70200	0
BC total	.47145	.57773	.68574	.52586	.20474	.25218	.26712	.19200	.54998	.40026	.65721	.57106	.23975	.88355	.88064
Imports	.32760	.17800	.20760	.18486	.65159	.64690	.53500	.28500	.31040	.40090	.31891	.16339	.31339	.09018	.11936
Value added	.20095	.24427	.10666	.28928	.14367	.10092	.19779	.52300	.13962	.19884	.02388	.26555	.44686	.02627	0
Total	1.0000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

Table 11. Interdependency coefficients, Blaine County, Idaho, 1979.

Sector	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Crop agriculture	1.05523	.01978	.00302	.00600	.03015	.07978	.29690	.07549	.03706	.00412	.00659	.03185	.00304	.00047	.17629
2. Livestock agriculture	.18533	1.11514	.04862	.00521	.02092	.05944	.29450	.06546	.04805	.00594	.01066	.04996	.00436	.00712	.24468
3. Construction	.00219	.00424	1.20856	.00709	.03557	.02149	.50583	.08263	.07366	.00760	.00713	.05901	.01568	.00069	.45765
4. Manufacturing	.01757	.10211	.07233	1.00488	.01311	.09538	.23138	.05806	.05516	.00749	.01251	.13384	.00748	.00541	.44273
5. Transportation	.00044	.00102	.03542	.00270	1.00525	.01887	.09245	.03395	.03300	.00948	.00365	.07214	.00335	.00038	.19148
6. Communications, utilities, publications	.00067	.00187	.04091	.00877	.01473	1.02368	.12255	.06747	.03347	.00414	.00398	.02975	.00368	.00106	.21503
7. Wholesale and retail trade	.00460	.00733	.05390	.00443	.00918	.02024	1.15490	.05487	.03060	.01086	.00386	.02924	.00388	.00045	.21620
8. Finance, insurance, real estate	.00170	.00892	.02511	.07562	.00566	.02249	.07511	1.01864	.02580	.00434	.02333	.02637	.00241	.00088	.13992
9. Personal and business services	.00130	.00296	.08820	.00775	.03426	.05360	.27504	.09950	1.11488	.02913	.00795	.06523	.01031	.00093	.49878
10. Hotels and lodging	.00096	.00252	.05624	.00622	.01633	.06814	.18315	.07864	.05874	1.00370	.00669	.06668	.01913	.00786	.34631
11. Health services	.00166	.00350	.22318	.00754	.01938	.03607	.36707	.09613	.10019	.00643	1.11348	.06993	.01030	.00081	.55550
12. Local government	.00153	.00348	.11220	.00858	.01679	.03889	.32453	.09606	.08563	.00573	.02435	1.08132	.01097	.00181	.65180
13. State government	.00276	.01482	.05878	.00217	.00746	.01279	.10625	.02735	.10833	.00547	.00319	.04047	1.00369	.00040	.19881
14. Federal government	.00860	.04054	.20204	.00937	.02903	.03093	.53858	.11968	.11676	.01202	.01470	.14589	.01664	1.00159	.97289
15. Households	.00276	.00598	.20300	.01117	.03199	.02988	.60225	.14362	.15208	.01036	.01806	.16115	.02167	.00174	1.29911

activities can be summarized from Table 9 as follows:

Area of activity	Total dollars	Percentage
Fifteen sector total	$130,285,110	29.4
Exports	156,389,300	35.3
Imports	93,536,100	21.1
Value added	62,853,200	14.2
Total activity	$443,063,700	100.0

Technical Coefficients

Table 10 presents technical coefficients for each sector in Blaine County. Technical coefficients are determined by dividing total purchases into respective sector purchases and are read up or down the column. For example, sector 1 (crop agriculture) purchased the following proportions of its input from the sectors named below:

Sector	Total purchases	Technical coefficient
1. Crop agriculture	$ 285,300	.04861
2. Livestock agriculture	86,500	.01474
5. Transportation	132,600	.02259
6. Communication, utilities, publications	383,000	.06525
7. Wholesale and retail trade	1,108,800	.18890
8. Finance, insurance, real estate	251,200	.04280
9. Personal and business services	72,300	.01232
11. Health services	13,500	.00230
12. Local government	41,200	.00702
15. Households	392,800	.06692
Imports	1,922,900	.32760
Value added	1,179,500	.20095
Total	$5,869,600	1.00000

Technical coefficients represent average input requirements necessary to expand (or contract) the sector by $1.00 of output. An expansion of the crop agriculture sector by $1.00 would cause the sector to purchase 47 cents more of goods within the county economy which in turn would cause these other sectors to expand. These so-called secondary or indirect impacts are reflected throughout the economy. Generally, the larger and more numerous the linkages within the county, the greater will be the direct and indirect impacts of any expansion. Construction and trade had the most interaction with the other sectors of the economy according to Table 10.

Inverse Matrix and Multipliers

What happens to the local economy if one or more sectors expands or contracts? This question is often raised in times of crisis — such as the loss of a major industry or, in the case of Blaine County, the lack of winter snow. Input-output analysis allows economists to evaluate the impacts of changing output levels in the economy. Table 11 presents a Leontief inverse matrix which shows what the total impact would be if final demand (exports) of one sector were to change by $1.00. Column one of Table 11 shows the total impact of increasing the demand for crop agriculture by $1.00. For example, this change would increase the sector to $1.05523, the livestock sector by $.01978, the construction sector by $.00302 and so on. In total, a $1.00 increase in final demand for crop agriculture would increase total economic activity by $1.86 of which 2 cents would be purchased from livestock agriculture (the sum of row one).

Depending on the interdependencies between sectors within the county, changes in output would impact other sectors of the economy differently. Table 11 shows the total impact of a $1.00 sector expansion for each sector of Blaine County in 1979.

Table 12 lists the 15 sectors of Blaine County in terms of their total impact on the economy if each sector were to increase or decrease output by $1.00. These results can be expected to hold as long as the economy is not restricted to the point that local needs are no longer met or as long as there are no major structural changes in the economy. Table 12 shows the construction and service sectors as having unusually large impacts on the local economy if output were expanded by $1.00. This result could have been anticipated to a degree because of the large number of people employed in the trade and service sectors relative to other counties of comparable size. Because these two sectors may be closely related, the results may also be biased in an upward direction. If recreational activities were to contract, the results may be closer to those in Table 13 where similar multipliers were calculated without the household sector in the calculations. These results may better represent Blaine County if it were not expanding rapidly to meet the demand for recreation from outside sources.

Table 12. Total, direct and indirect effects of changing ouput by $1.00, Blaine County, Idaho, 1979 (with households).

Sector	Description	Total effect	Direct effect	Indirect effect
1	Crop agriculture	$1.86	$1.00	$ .86
2	Livestock agriculture	2.16	1.00	1.16
3	Construction	2.49	1.00	1.49
4	Manufacturing	2.26	1.00	1.26
5	Transportation	1.50	1.00	.50
6	Communications, utilities, publications	1.57	1.00	.57
7	Wholesale and retail trade	1.60	1.00	.60
8	Finance, insurance, real estate	1.46	1.00	.46
9	Personal and business services	2.29	1.00	1.29
10	Hotels and lodging	1.92	1.00	.92
11	Health services	2.61	1.00	1.61
12	Local government	2.46	1.00	1.46
13	State government	1.59	1.00	.59
14	Federal government	3.26	1.00	2.26
15	Households	2.70	1.00	1.70

Table 13 shows multiplier results without the household sector included in the economy. If the unusually strong ties between the trade and household sectors were broken, the impact of increasing output by $1.00 would be considerably less. Based on the results shown in Tables 12 and 13, it may be concluded that economic ties between sectors in Blaine County are relatively weak (small direct impacts) except for those sectors associated with recreation (construction; trade; finance, interest and real estate; personal and business services; and households).

Whether Blaine County continues to expand in the future or starts to contract (economically speaking), the greatest impact will be on those sectors with large multipliers because they will probably gain or lose the most. These same sectors, in the case of continued expansion, could be bottlenecks to growth.

Table 13. Total, direct and indirect effects of changing output by $1.00, Blaine County, Idaho, 1979 (without households).

Sector	Description	Total effect	Direct effect	Indirect effect
1	Crop agriculture	$1.49	$1.00	$ .49
2	Livestock agriculture	1.66	1.00	.66
3	Construction	1.54	1.00	.54
4	Manufacturing	1.34	1.00	.34
5	Transportation	1.11	1.00	.11
6	Communications, utilities, publications	1.13	1.00	.13
7	Wholesale and retail	1.16	1.00	.16
8	Finance, insurance and real estate	1.17	1.00	.17
9	Personal and business services	1.26	1.00	.26
10	Hotels and lodging	1.20	1.00	.20
11	Health services	1.46	1.00	.46
12	Local government	1.11	1.00	.11
13	State government	1.18	1.00	.18
14	Federal government	1.24	1.00	.24

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No. _____

Appendix

Input-Output Questionnaire

(Blaine County, Idaho)

Firm Name: _____

Interviewee: _____

Sector: _____

Date: _____

Interviewer: _____

STRICTLY

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Department of Agricultural Economics
and Applied Statistics
College of Agriculture
University of Idaho
Moscow, Idaho

Purchases ($ total purchases)

	Sector	Total	Blaine County	Imported	Comments
1.	Crop Agriculture				
2.	Livestock Agriculture				
3.	Construction				
4.	Manufacturing, Mining, and Logging				
5.	Transportation				
6.	Communications, Utilities, and Printing and Publishing				
7.	Wholesale and Retail Services				
8.	Finance, Insurance, and Real Estate Services				
9.	Personal and Business Services				
10.	Hotels and Lodging				
11.	Health Services and Hospital				
12.	Local Government				
13.	State Government				
14.	Federal Government				
15.	Households				

Sales or Output ($ total sales)

	Sector	Total	Blaine County	Exported	Comments
1.	Crop Agriculture				
2.	Livestock Agriculture				
3.	Construction				
4.	Manufacturing, Mining, and Logging				
5.	Transportation				
6.	Communications, Utilities, and Printing and Publishing				
7.	Wholesale and Retail Services				
8.	Finance, Insurance and Real Estate Service				
9.	Personal and Business Services				
10.	Hotels and Lodging				
11.	Health Services and Hospital				
12.	Local Government				
13.	State Government				
14.	Federal Government				
15.	Households				

EXOGENOUS INFORMATION

1. What was the total employment of your firm in 1979?

   Full Time _____ employees

   Part Time _____ employees

2. What were your total payments to the Federal Government in 1979 including business taxes, excise taxes, and employer's share of social security? _____ dollars

3. What were your total payments to the State Government in 1979 including sales taxes, excise taxes, corporate and business taxes, unemployment compensation and other taxes?

   _____ dollars

4. What were your total payments to Local Governments in 1979 including city, county, and special districts (school, irrigation, etc)?

   _____ dollars

5. How did your inventory situation change in 1979?

   _____ -$ increase or decrease

6. What was your capital depreciation allowance (expense) in 1979?

   _____ dollars

7. What were your total expenditures for capital items in 1979?

   _____ dollars

Blaine County Sectors (15)

1. **Crop Agriculture** — Establishments (farms, ranches, dairies, greenhouses, nurseries and orchards) primarily engaged in the production of crops, plants, vines and trees.
2. **Livestock Agriculture** — Establishments (farms, ranches, dairies and hatcheries) primarily engaged in the production of or keeping, grazing or feeding of livestock for the sale of livestock or livestock products (including serum) for livestock increase or value increase. Livestock includes cattle, sheep, goats, hogs and poultry.
3. **Construction Sector** — Establishments primarily engaged in general construction, nonresidential buildings, highways and streets, electrical work, steel erection, masonry, stone setting and other stone work, excavating and foundation work, plumbing, heating, air conditioning and carpentry.
4. **Manufacturing, Mining and Logging Sector** — Establishments primarily engaged in the manufacturing of food products, apparel and fabrics, lumber, wood and paper, furniture and fixtures, metal products, sporting goods, rubber and plastic products, nonmetallic metal mining and the harvesting of forest products.
5. **Transportation Sector** — Establishments primarily engaged in aviation, busing, trucking, taxi service and railroad transportation.
6. **Communications, Utilities and Printing and Publishing Sector** — Establishments primarily engaged in providing telephone services, radio broadcasts, cable television, electrical service, refuse systems, newspapers and other publications.
7. **Wholesale and Retail Trade Services Sector** — Establishments primarily engaged in providing automotive parts and supplies, fresh fruits and vegetables, petroleum products, farm supplies, beer and ale, groceries and related products, hardware, building materials, paint, glass, wallpaper, general merchandise, new and used cars, motorcycles, clothing, appliances, drinking and eating places, drugs, mail order services, flowers, jewelry and sporting goods.
8. **Finance, Insurance and Real Estate Sector** — Establishments primarily engaged in providing banking services, credit or loan services, title insurance real estate sales, rental units, subdivisions and real estate development.
9. **Personal and Business Services Sector** — Establishments primarily engaged in personal services, funerals, laundries, detective work, credit information, general repair, car and truck rental and leasing, recreation and amusement services, landscaping, legal services, child care, fraternal organizations and bookkeeping services.
10. **Hotels and Lodging Sector** — Establishments primarily engaged in providing hotel, motel and tourist court services.
11. **Health Services and Hospital Sector** — Establishments and individuals primarily engaged in providing services associated with physicians, dentists, nursing care, out-patient care and hospitalization.
12. **Local Government Sector** — Units of local government involved in providing public schooling, city and county government and public water, cemetery, irrigation and library districts.
13. **State Government Sector** — Units of state government involved in operating liquor stores, state department of employment, law enforcement, health and welfare service, fish and game management, land management and highway repair and construction.
14. **Federal Government Sector** — Units of federal government involved in forest management, postal service, land, mineral and wildlife conservation, and regulation of transportation, agricultural markets and commodities and agricultural credit institutions.
15. **Household Sector** — Family units living within Blaine County.

SERVING THE STATE

Teaching . . . Research . . . Service . . . this is the three-fold charge of the College of Agriculture at your state Land-Grant institution, the University of Idaho. To fulfill this charge, the College extends its faculty and resources to all parts of the state.

Service . . . The Cooperative Extension Service has offices in 42 of Idaho's 44 counties under the leadership of men and women specially trained to work with agriculture, home economics and youth. The educational programs of these College of Agriculture faculty members are supported cooperatively by county, state and federal funding.

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Teaching . . . Centers of College of Agriculture teaching are the University classrooms and laboratories where agriculture students can earn bachelor of science degrees in any of 20 major fields, or work for master's and Ph.D. degrees in their specialties. And beyond these are the variety of workshops and training sessions developed throughout the state for adults and youth by College of Agriculture faculty.