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Analyzing A Forest, Resource-based Region Facing Economic Change

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Introduction

Benewah County, Idaho, is representative of many western communities because of its economic dependence upon a single industry that in turn is dependent upon a natural resource. In 1979, 40 percent of the county's employees and more than one half of the wages and salaries paid were directly related to the timber industry.

Because of its dependence upon a single natural resource to provide raw materials to its wood products sector, Benewah County is highly vulnerable to exogenous changes that potentially could disrupt its economy. For example, depressed lumber prices, reduced allowable cuts on national forests or environmental restrictions could have adverse impacts on the region's economy. As recently as 1979, the closure of the Milwaukee Road railroad line threatened the community because of higher costs for alternative transportation. A takeover of a local portion of the railroad by industry avoided many potential transportation problems.

When key industries in small, resource-based communities close their doors permanently, the impacts on the local region can spell economic disaster in income and employment. This has been true in many western, lumber-based communities in recent years because high interest rates have depressed housing demand and the need for many wood products. Because of this general problem, Benewah County was selected to be studied using input-output analysis to establish the economic ties among sectors in a region and provide a tool to evaluate potential periods of economic contraction or expansion. Inputoutput analysis allows the evaluation of potential impacts of shifts in consumer demand, reduced timber supply or any other phenomenon that would affect the economic stability of a single industry, resource-based community.

The Recent Recession

During 1981, high interest rates, reduced construction and the resulting reduced demand for lumber products adversely affected employment in the timber industry throughout the western United States. In Idaho, for example, from May of 1981 to May of 1982 lumber and wood products employment dropped from 15,500 to 11,200 workers, a decrease of 27.7 percent. Employment in logging camps and with contractors dropped from 2,500 to 1,200 over the same period. Some small communities were completely devastated when local mills were closed idling hundreds of workers. Similar conditions exist throughout the Pacific Northwest states and many other Western States. This recession is not unique to the forest industry; mining and agriculture are also impacted in many areas.

The loss or reduction of a central industry in a small community not only affects the workers who are employed by the industry but most all business activities in the region. So called secondary effects can cause additional losses in employment and income. The cumulative impacts of losing a key industry in a small community can impact nearly all facets of the economy, including government services and education.

Knowledge of a local economy and its structure may help alleviate shortrun problems by influencing policy decisions, if potential impacts can be measured. Input-output analysis allows researchers to measure the role of key resource industries in terms of impacts on income and employment. For example, the federal government might modify its policies regarding the money supply or allowable cuts on national forests if the impacts of these policies could be measured and the results known before specific policies were implemented.

Benewah County, 1979-81

While the wood products industry as a whole was depressed by economic conditions, not all facets of the industry suffered similarly. The market for plywood and white pine products was strong enough to actually support economic growth.

During 1980 and 1981, Benewah County was unique compared to many small, forest-based economies in that its resources sustained the economy. The local plywood plant and sawmills were not only able to continue operating but actually expanded in the process. Over the 2 year period, the forest products industry in Benewah County expanded employment at about 10 percent per year and wages and salaries by about 15 percent per year. Of course, not all firms in the county shared equally in the industry's growth.

Table 1 compares employment and salary data for Benewah County for 1979-81 as reported by the Idaho Department of Employment. Although Benewah County was a one-industry county, that industry was expanding. At the same time, many other single industry communities in northern Idaho were contracting or ceasing production. The differences can be attributed to the unique products from western white pine and to more efficient operations.

According to Table 1, total employment only dipped slightly between 1979-1980 but then increased considerably (13.9 percent) in 1981 over 1980. Total annual wages and salaries never declined over the period. They increased by 4.3 percent between 1979 and 1980 and by another 32.2 percent from 1980 to 1981. These data are remarkable considering that state employment in the lumber industry declined by 27 percent at the same time Benewah County was expanding

Table 1.	Employ	yment,	wages	and	salaries,	Benewah	County,	Idaho	1979-81.	•
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and the second		Employment			Wages and salari	es
Sector	1979	1980	1981	1979	1980	1981
				(t)	housands of dolla	ars)
Mining	15	24	26	\$ 226.4	\$ 375.5	\$ 456.3
Construction	62	50	78	848.7	538.1	1,105.8
Lumber manufacturing	1,007	943	1,140	18,472.1	18,720.5	24,179.2
Transportation, communications and utilities	93	101	182	1,911.3	2,217.7	3,294.6
Wholesale and retail trade	323	346	361	2,290.7	2,544.6	2,935.6
Finance, insurance and real estate	49	44	77	401.1	418.6	413.1
Service and miscellaneous	319	336	336	3,035.9	3,218.2	3,528.5
State government	52	55	43	639.7	745.0	791.7
Local government	388	402	407	3,179.7	3,526.1	3,883.1
Federal government	139	139	130	2,468.5	2,278.8	2,351.3
Total	2,447	2,440	2,780	\$31,152.1	\$32,482.4	\$42,940.0

*Source: Idaho Department of Employment.

Potential Growth and Contraction in Benewah County

From a 1979 survey constructed input-output model of Benewah County, projections were made to 1981 based on the expansion of the overall economy (Model 1) and the expansion of just the wood products industry (Model 2). Results of the two model projections illustrate the importance of the wood products industry since they are nearly identical.

Employment — Fig. 1 depicts the resulting change in overall employment of the county's economy for the above models under both expansion and contraction conditions. For example, if either the county's economy or the wood products industry's export demand grew at a rate of 5 percent per year for 5 years, employment would increase from 3,000 to 3,500 employees. On the other hand, if export demand fell at the rate of 5 percent per year, employment would decrease from 3,000 to 2,500 by the end of 5 years.

Wages and Interest Income — Fig. 2 shows how reductions or growth in export demand would impact income. Growth in the overall economy by 5



Fig. 1. Projected employment, two models, Benewah County, Idaho, 1981.

percent per year would increase income from \$42 to \$50 million, while an expansion of the wood products industry would increase income from \$44 to \$52 million. The projections in Fig. 2 and 3 are separated by the growth in the forest industry between 1979 and 1981 to avoid problems with plotting the results. Projections from the two models are nearly identical. Contraction of the economy (by either model) would decrease income by about \$6 million.

Model 2 (expansion of the wood products industry—has such a large impact in income because the industry is so closely tied with other economic activity in the county. Clearly, the wood products industry is the income generating leader in the county, and the people's welfare is closely tied to its success or failure. Fig. 3 summarizes how total county output would expand or contact at 5 percent per year growth rates for the two models.



Fig. 2. Projected wages, salaries and interest income, two models, Benewah County, Idaho, 1981.

Projecting Economic Change

Tables 2 through 5 show how shifts in exogenous demand could alter the Benewah County economy. Table 2 presents a static economic picture of the economy as it was observed from survey data in 1979. Table 3 is an estimation of how the economy changed from 1979 to 1981 given the actual expansion in employment in wood products manufacturing and the structure observed in 1979. Tables 4 and 5 present two possible scenarios should the demand for wood products contract, first by 50 percent and then by 100 percent.

1979 Economy — Benewah County, as depicted by Table 2, is a natural resource based economy with 41 percent of its employment and 59 percent of its wage and salary income emanating from wood products manufacturing. Like many counties with a



Fig. 3. Projected output, two models, Benewah County, Idaho, 1981.

similar economic structure, most inputs are purchased outside the county, and most products are sold to outside markets which is shown by the import row and export column. The interrelationships among sectors within the county are based primarily upon the services of people. Should the economy expand or contract, the local population receives the benefit or suffers.

1981 Economy — Table 3 gives an estimate from the input-output model of how the Benewah County economy adjusted to the growth that took place from 1979 to 1981. The total employment in the county expanded by 333 persons while the wood products employment increased by 133 persons. The percentage of people employed in wood products manufacturing stayed the same as it was in 1979 (41 percent).

While wood products manufacturing increased employment by 13 percent between 1979 and 1981, wage and salary income increased by 31 percent (from \$18.472 million to \$24.179 million). Over the 2-year period, wood products manufacturing maintained its importance in the local economy in both employment and income.

1981 Economy: 50 Percent Decline in Wood Products Manufacturing — All over the western United States, sawmills have closed in response to high interest rates and lack of effective demand for construction. Benewah County is unusual in that it expanded from 1979 to 1981. Whether such expansion can continue at the same pace seems highly unlikely. Table 6 summarizes estimated impacts of changes in lumber manufacturing on local income. Between 1979 and 1981, total county wage, salary and interest income was estimated to increase by 25 percent, while value added increased by 24 percent. Thus, a 31 percent increase in lumber manufacturing wages and salaries resulted in a 25 percent income increase for the county as a whole.

What would happen if lumber manufacturing declined? Table 6 summarizes the impact of a 50 percent decline in wood products manufacturing. Wage, salary and interest income would decline from \$44 to \$28 million (36 percent), while value added income would decline from \$19 to \$13 million (31 percent).

1981 Economy: 100 Percent Decline in Wood Products Manufacturing — Should the ultimate disaster occur — the complete closure of the wood products industry — wage and salary incomes would decline nearly 70 percent in the county, and value added income would decline by 54 percent. Overall, total county income would decline by 64 percent. While wood products firms only employ 41 percent of the employees directly, the loss of these workers would directly and indirectly impact nearly 70 percent of all wages and salaries. Table 2. Benewah County input-output tables, 1979 (in thousands of dollars).

Sectors									Sales	_			_				BC		Total
(purchases)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	total	Exports	output
1. Crop Ag.	0	61.0	0	0	36.3	72.5	0	0	0	19	127.1	0	0	0	0	3.8	302.6	9,237.7	9,540.3
2. Livestock Ag.	3.8	70.5	0	0	0	0	0	0	0	16.2	0	0	0	0	0	62.1	152.6	1,113.8	1,266.4
3. Construction	0	0	109.3	892.5	840.9	18.0	20.0	20.0	177.0	12.9	13.6	15.0	0	0	0	1,301.7	3,420.9	273.9	3,694.8
4. Logging Cont.	0	0	0	7,692.7	25,651.4	0	0	0	2.3	32.5	166.2	0	0	9.4	537.2	0	34,091.7	5,398.3	39,490.0
5. Lumber Manu.	12.4	12.4	31.2	7.9	137.0	0.3	0	0	49.8	26.8	1.8	0	0	0	0	105.8	385.4	61,875.4	62,260.8
6. Transport.	0	0	1.5	473.9	3,007.2	0	1.1	1.0	0	23.0	21.5	0.3	0.6	0.5	0	0	3,530.6	0	3,530.6
7. Comm./Pub	33.4	0	18.2	31.6	18.7	2.3	15.4	3.0	163.4	40.3	38.6	7.8	21.8	4.5	31.5	235.4	665.9	402.8	1,068.7
8. Utilities	20.0	0	21.1	23.7	311.3	2.8	10.0	1.5	111.4	26.4	78.1	16.2	34.0	6.0	2.5	875.4	1,540.4	0	1,540.4
9. W&R Trade	995.6	132.2	348.4	781.9	803.2	1,146.5	34.8	25.6	1,230.1	56.3	299.9	51.1	971.8	218.2	387.6	13,210.4	20,693.6	2,515.1	23,208.7
15. F.I.R.E.	24.1	88.0	151.2	43.4	18.7	152.7	123.6	137.8	230.4	131.7	142.8	140.1	31.4	0	0	1,382.9	2,798.8	1,028.7	3,827.5
11. P&B Serv.	83.8	132.3	123.4	39.5	80.9	606.9	0.9	0	9.0	5.6	0.9	81.5	81.5	28.7	32.5	1,712.0	3,019.4	1,689.1	4,708.5
12. Med. Serv.	3.8	0	0	3.9	0	0	0	0	2.3	202.5	0	0	0	0	0	1,020.3	1,232.8	1,882.5	3,115.3
13. Local Gov't.	0	0	0	27.6	37.4	0.6	0.6	0.6	5.8	1.9	32.7	4.5	1,358.0	0.6	1.3	2,505.6	3,977.2	2,437.3	6,414.5
14. State Gov't.	0	0	0	0	37.4	0	0	0	202.0	0	0	0	3.0	0	0	0	242.4	4,720.1	4,962.5
15. Fed. Gov't.	1.1	2.1	1.2	0	342.4	5.7	5.7	2.3	22.9	11.5	11.5	11.5	11.5	5.7	5.7	59.7	500.5	3,759.0	4,259.5
16. Households	629.7	0	848.7	6,713.3	11,985.2	1,453.9	324.8	132.6	2,290.7	1,569.7	1,451.4	1,584.5	3,179.7	639.7	2,468.5	0	35,272.4	0	35,272.4
BC total	1,807.7	498.5	1,654.2	16,731.9	43,308.0	3,462.2	536.9	324.4	4,497.1	2,159.2	2,386.1	1,912.5	5,693.3	913.3	3,466.8	22,475.1	111,827.2	96,333.7	208,160.9
Imports	6,546.7	250.6	1,682.6	22,047.3	13,536.1	68.4	430.1	1,216.0	17,175.2	807.2	1,302.4	999.1	721.2	252.9	792.7	12,797.3	80,625.8	0	80,625.8
Value added	1,185.9	517.9	358.0	710.8	5,416.7	0	101.7	0	1,536.4	861.1	1,020.0	203.7	0	3,796.3	0	0	15,707.9	0	15,707.9
Total output	9,540.3	1,266.4	3,694.8	39,490.0	62,260.8	3,530.6	1,068.7	1,540.4	23,208.7	3,827.5	4,708.5	3,115.3	6,414.5	4,962.5	4,259.5	35,272.4	208,160.9	96,333.7	304,949.6

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Table	3 Ranewa	h County	input-output	table 1981	(in thousand	is of dollars)
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Sectors									Sales		-						BC		Total
(purchases)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	total	Exports	output
1. Crop Ag.	0	61.1	0	0	47.8	95.3	0	0	0	2.1	150.3	0	0	0	0	4.8	361.4	9,236.8	9,598.2
2. Livestock Ag.	3.8	70.6	0	0	0	0	0	0	0	18.1	0	0	0	0	0	77.9	170.4	1,098.0	1,268.4
3. Construction	0	0	142.8	1,169.9	1,107.7	23.6	30.4	30.5	223.4	14.4	16.1	17.4	0	0	0	1,633.3	4,409.5	419.7	4,829.2
4. Logging Con.	0	0	0	10,083.5	33,789.1	0	0	0	2.9	36.4	196.6	0	0	11.6	530.7	0	44,650.8	7,112.4	51,763.2
5. Lumber Manu.	12.5	12.4	40.8	10.4	180.5	0.4	0	0	62.8	30.0	2.1	0	0	0	0	132.7	484.6	81,528.0	82,012.6
6. Transport.	0	0	2.0	621.2	3,961.2	0	1.7	1.5	0	25.7	25.4	0.3	0.7	0.6	0	0	4,640.3	0.1	4,640.4
7. Comm./Pub.	33.6	0	23.8	41.4	24.6	3.0	23.4	4.6	206.2	45.1	45.6	9.0	26.6	5.6	31.1	295.4	819.0	804.7	1,623.7
8. Utilities	20.1	0	27.6	31.1	410.1	3.7	15.2	2.3	140.6	29.5	92.4	18.8	41.6	7.4	2.5	1,098.4	1,941.3	410.7	2,352.0
9. W&R Trade	1,001.6	132.4	455.4	1,024.9	1,058.0	1,506.9	52.9	39.1	1,552.7	63.0	354.7	59.2	1,188.0	270.4	382.9	16,575.2	25,717.3	3,577.4	29,294.7
10. F.I.R.E.	24.2	88.1	197.6	56.9	24.6	200.7	187.8	210.4	290.8	147.3	168.9	162.4	38.4	0	0	1,735.1	3,533.2	748.9	4,282.1
11. P&B Serv.	84.3	132.5	161.3	51.8	106.6	797.7	1.4	0	11.4	6.3	1.1	94.5	99.6	35.6	32.1	2,148.1	3,764.3	1,804.6	5,568.9
12. Med. Serv.	3.8	0	0	5.1	0	0	0	0	2.9	226.6	0	0	0	0	0	1,280.2	1.518.6	2,093.6	3,612.2
13. Local Gov't.	0	0	0	36.2	49.3	0.8	0.9	0.9	7.3	2.1	38.7	5.2	1,660.1	0.7	1.3	3,143.8	4,947.3	2,894.0	7,841.3
14. State Gov't.	0	0	0	0	49.3	0	0	0	255.0	0	0	0	3.7	0	0	0	308.0	5,841.5	6,149.5
15: Fed. Gov't.	1.1	2.1	1.6	0	451.0	7.5	8.7	3.5	28.9	12.9	13.6	13.3	14.1	7.1	5.6	74.9	645.9	3,562.4	4,208.3
16. Households	633.5	0	1,109.3	8,799.7	15,787.4	1,910.9	493.5	202.5	2,891.4	1,756.1	1,716.6	1,837.2	3,887.0	792.7	2,438.9	0	44,256.6	0	44,256.6
B.C. total	1,818.5	499.2	2,162.2	21,932.1	57,047.2	4,550.5	815.9	495.3	5,676.3	2,415.6	2,822.1	2,217.3	6,959.8	1,131.7	3,425.0	28,199.8	142,168.5	121,132.8	263,301.3
Imports	6,586.5	251.0	2,199.2	28,899.4	17,830.4	89.9	653.4	1,856.7	21,679.0	903.1	1,540.4	1,158.5	881.5	313.4	783.3	16,056.8	101,682.5	0	101,682.5
Value added	1,193.2	518.2	467.8	931.7	7,135.0	0	154.4	0	1,939.4	963.4	1,206.4	236.4	0	4,704.4	0	0	19,450.3	0	19,450.3
Total output	9,598.2	1,268.4	4,829.2	51,763.2	82,012.6	4,640.4	1,623.7	2,352.0	29,294.7	4,282.1	5,568.9	3,612.2	7,841.3	6,149.5	4,208.3	44,256.6	263,301.3	121,132.8	384.434.1

Table 4. Benewan County Input-Surput table, 1981, 30 percent reduction in manufacturing (in thousands of donars).

Sectors									Sales			1000					BC		Total
(purchases)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	total	Exports	output
1. Crop Ag.	0	61.0	0	0	23.9	48.2	0	0	0	1.8	119.9	0	0	0	0	3.0	257.8	9,238.5	9,496.3
2. Livestock Ag.	3.8	70.5	0	0	0	0	0	0	0	15.6	0	0	0	0	0	49.2	139.1	1,126.7	1,265.8
3. Construction	0	0	91.0	594.8	554.5	12.0	19.4	18.3	168.8	12.4	12.8	15.0	0	0	0	1,031.7	2,530.7	543.7	3,074.4
4. Logging Con.	0	0	0	5,126.7	16,913.4	0	0	0	2.2	31.3	156.7	0	0	9.4	521.9	0	22,761.6	3,556.2	26,317.8
5. Lumber Manu.	12.3	12.4	26.0	5.3	90.3	.2	0	0	47.5	25.8	1.7	0	0	0	0	83.9	305.4	40,746.5	41,051.9
6. Transport.	0	0	1.2	315.8	1,982.8	0	1.1	.9	0	22.2	20.3	.3	.6	.5	0	0	2,345.7	0	2,345.7
7. Comm/Pub.	33.2	0	15.1	21.1	12.3	1.5	14.9	2.7	155.8	38.9	36.4	7.8	21.7	4.5	30.6	186.6	583.1	451.7	1,034.8
8. Utilities	19.9	0	17.6	15.8	205.3	1.9	9.7	1.4	106.2	25.5	73.7	16.2	33.8	6.0	2.4	693.9	1,229.3	181.3	1,410.6
9. W&R Trade	991.0	132.1	289.9	521.1	529.6	761.7	33.7	23.4	1,172.9	54.3	282.8	51.0	967.1	217.2	376.5	10,470.7	16,875.0	5,255.0	22,130.0
10. F.I.R.E.	24.0	88.0	125.8	28.9	12.3	101.5	119.7	126.2	219.7	127.0	134.7	139.7	31.2	0	0	1,096.1	2,374.8	1,315.4	3,690.2
11. P&B Services	83.4	132.2	102.7	26.3	53.3	403.2	.9	0	8.6	5.4	.8	81.3	81.1	28.6	31.6	1,357.0	2,396.4	2,044.1	4,440.5
12. Med. Services	3.8	0	0	2.6	0	0	0	0	2.2	195.2	0	0	0	0	0	808.7	1,012.5	2,094.1	3,106.6
13. Local Gov't.	0	0	0	18.4	24.7	.4	.6	.5	5.5	1.8	30.8	4.5	1,351.5	.6	1.3	1,986.0	3,426.6	2,957.1	6,383.7
14. State Gov't.	0	0	0	0	24.7	0	0	0	192.6	0	0	0	3.0	0	0	0	220.3	4,720.1	4,940.4
15. Fed. Gov't.	1.1	2.1	1.0	0	225.8	3.8	5.5	2.1	21.8	11.1	10.8	11.5	11.4	5.7	5.5	47.3	366.5	3,771.5	4,138.0
16. Households	626.8	0	706.2	4,474.0	7,902.5	966.0	314.5	21.4	2,184.2	1,513.4	1,368.8	1,580.1	3,164.4	636.8	2,398.1	0	27,957.3	0	27,957.3
BC total	1,799.3	498.3	1,376.5	11,150.8	28,555.3	2,300.3	520.0	297.1	4,288.1	2,081.8	2,250.3	1,907.2	5,666.0	909.2	3,367.9	17,814.0	84,782.1	78,001.9	162,784.0
Imports	6,516.5	250.5	1,400.0	14,693.2	8,925.1	45.4	416.4	1,113.5	16,376.9	778.2	1,228.2	996.3	717.7	251.8	770.1	10,143.3	64,623.1	0	64,623.1
Value added	1,180.5	517.0	297.9	473.8	3,571.5	0	98.4	0	1,465.0	830.2	962.0	203.1	0	3,779.4	0	0	13,378.8	0	13,378.8
Total output	9,496.3	1,265.8	3.074.4	26,317.8	41,051.9	2,345.7	1,034.8	1,410.6	22,130.0	3,690.2	4,440.5	3,106.6	6,383.7	4,490.4	4,138.0	27,957.3	162,784.0	78,001.9	240,785.9

Table 5. Benewah County input-output table, 1981, 100 percent reduction in manufacturing (in thousands of dollars).

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Sectors									Sales								BC		Total
(purchases)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	total	Exports	output
I. Crop Ag.	0	60.9	0	0	0.1	1.2	0	0	0	1.7	105.9	0	0	0	0	1.5	171.3	9,240.0	9,411.3
2. Livestock Ag.	3.7	70.4	0	0	0	0	0	0	0	14.5	0	0	0	0	0	24.4	113.0	1,151.5	1,264.5
3. Construction	0	0	55.5	20.1	1.5	0.3	18.1	15.1	152.9	11.5	11.3	14.9	0	0	0	510.6	811.8	1,065.0	1,876.8
4. Logging Con.	0	0	0	173.3	45.1	0	0	0	2.0	29.1	138.5	0	0	9.3	492.3	0	889.6	0	889.6
5. Lumber Manu.	12.2	12.4	15.8	0.2	0.2	0	0	0	43.0	24.0	1.5	0	0	0	0	0	109.3	0	109.3
6. Trans.	0	0	0.8	10.7	5.3	0	1.0	0.8	0	20.6	18.0	0.3	0.6	0.5	0	0	58.6	0	58.6
7. Comm./Pub.	33.0	0	9.2	0.7	0	0	14.0	2.3	141.1	36.0	32.2	7.7	21.5	4.4	28.9	92.3	423.3	546.0	969.3
8. Utilities	19.7	0	10.7	0.5	0.5	0	9.1	1.1	96.2	23.6	65.1	16.1	33.5	5.9	2.3	343.4	627.7	532.2	1,159.9
9. W&R Trade	982.1	132.0	177.0	17.6	1.4	18.9	31.6	19.3	1,062.6	50.4	249.9	50.7	958.1	215.3	355.2	5,181.7	9,503.8	10,543.7	20,047.5
10. F.I.R.E.	23.8	87.9	76.8	1.0	0	2.5	112.1	103.8	199.0	117.9	119.0	139.0	31.0	0	0	542.4	1,556.2	1,869.0	3,425.2
11. P&B Serv.	82.7	132.1	62.7	0.9	0.1	10.0	0.8	0	7.8	5.0	0.7	80.8	80.3	28.3	29.8	671.5	1,193.5	2,729.8	3,923.5
12. Med. Serv.	3.7	0	0	0.1	0	0	0	0	2.0	181.2	0	0	0	0	0	400.2	587.2	2,502.6	3,089.8
13. Local Gov't.	0	0	0	0.6	0.1	0	0.5	0.5	5.0	1.7	27.2	4.5	1,338.8	0.6	1.2	982.8	2,363.5	3,960.3	6,323.8
14. State Gov't.	0	0	0	0	0.1	0	0	0	174.5	0	0	0	3.0	0	0	0	177.6	4,720.0	4,897.6
15. Fed. Gov't.	1.1	2.1	0.6	0	0.6	0.1	5.2	1.7	19.8	10.3	9.6	11.4	11.3	5.6	5.2	23.4	108.0	3,795.3	3,903.3
16. Households	621.2	0	431.1	151.2	21.1	24.0	294.6	99.8	1,978.7	1,404.7	1,209.4	1,571.6	3,134.7	631.3	2,262.1	0	13,835.5	0	13,835.5
BC total	1,783.2	497.8	840.2	376.9	76.1	57.0	487.0	244.4	3,884.6	1,932.2	1,988.3	1,897.0	5,612.8	901.2	3,177.0	8,774.2	32,529.4	42,655.4	75,184.8
Imports	6,458.2	250.2	854.7	496.7	23.8	1.6	390.1	915.5	14,835.8	722.4	1,085.2	990.8	711.0	249.6	726.3	5,061.3	33,773.2	0	33,773.2
Value added	1,169.9	516.5	181.9	16.0	9.4	0	92.2	0	1,327.1	770.6	849.8	202.0	0	3,746.8	0	0	8,882.2	0	8,882.2
Total output	9,411.3	1,264.5	1,876.8	889.6	109.3	58.6	969.3	1,159.9	20,047.5	3,425.2	3,923.3	3,089.8	6,323.8	4,897.6	3,903.3	13,835.5	75,184.8	42,655.4	117,840.2

Table 6.	Changes in wage and	salary	income and	value added	income in	n Benewah	County,	1979-81.
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Model	Wage, salary and interest income	Percentage change	Value added income	Percentage change	Total income	Percentage change
	(\$000)		(\$000)		(\$000)	
1979 — Observed	35,272.4		15,707.9		50,980.3	
1981 - Projected	44,256.6	+25%	19,450.3	+24%	63,706.9	+25%
1981 with 50% decrease	27 057 3	3607	13 378 7	-3104	41 336 0	-350%
1981 with 100% decrease	21,731.3	-30%	13,376.7	-51%	41,550.0	-33%
in manufacturing	13,835.5	-69%	8,882.3	-54%	22,717.8	-64%

Conclusions

- 1. Communities whose economies are based on a single industry are highly vulnerable in terms of employment and income to sudden shifts in effective demand.
- Not all communities are equally effected by shifts in demand. Benewah County grew while other areas were losing firms, employment and income.
- The loss of a lead industry employing 40 percent of all workers may have a total impact of decreasing wage and salary income by nearly 70 percent. Secondary impacts are nearly as large as the initial change.
- Government policies with regard to interest rates, investment in construction and the money supply are of vital concern to small, natural

resource-based economies in the western United States.

5. Government policies can either help protect or destroy the interests of consumers, employees and owners of investments in forest industries located in small rural areas. Would the tight money - high interest rate policy followed by the Federal Reserve Board have been implemented if the impacts on income and employment had been measured before adoption?

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