

THE ROLE OF RURAL INDUSTRY IN IDAHO'S URBAN PLACES

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Rural industries such as agriculture, timber, and mining provide jobs and income to residents in rural parts of Idaho. We all know that. But what are the impacts of rural industry on Idaho's urban places? These impacts are all too often overlooked. In this paper we examine the role of rural industry in Idaho's urban places with the aid of a computerized model of Idaho's economy.

Modeling Economic Interdependence

In an important sense, we are all in the same economic boat. Industries are interlinked by input purchases. Consumers derive income from industry, and spend it obtaining goods from still other industries. And state and local governments depend on industry and consumer income for their funding. A shutdown or expansion in one industry creates a ripple effect -- a large change can impact the economic health of entire areas, counties, states, and even multistate regions.

The faculty at the University of Idaho's College of Agriculture developed a computerized economic model, the Idaho Economic Model Project, or IDAEMP, to examine the diffusion of economic impacts through the interconnected Idaho economy. In an earlier study (Agricultural Extension Bulletin 731), we used IDAEMP to disclose the economic importance of Idaho's natural resource-based industries. In the present study, we use IDAEMP to examine the manner in which the economic health of selected Idaho urban areas is impacted by industry located in surrounding rural areas.

Ripple Effects, Multipliers, and the Impact of

Rural Industry on Urban Places

The notion of basic outside-income earning industries as the engine that drives local economies is well known. One visits in a milltown and one quickly recognizes the base on which all other economic activity depends. In larger cities, the link between basic and resident-

serving industry is less visible, but even there it is recognized as the source of ripple effects that nourish the entire economy.

Urban development specialists work hard to attract new industry with an eye to the ripple effects they create. For every job in the new industry, some multiple of jobs in other industries is created. The multiplier, or ripple effect is recognized as the force that propels urban development.

While the multiplying effect of urban industry is well recognized, the same multiplier in the case of rural industry is often overlooked. However, there is little reason why rural industry should have a smaller multiplier effect than urban industry. The only difference is that the effects of urban industry tend to stay in the urban place, while the effects of rural industry spill beyond the rural area, to the urban industries that supply a large share of rural business and consumer needs.

Idaho Cities are Surrounded by a Hinterland

Uniquely Rich in Rural Industry

Geographers describe cities as population foci in an otherwise rural plain of low population density. Cities in the west are few in number with large rural areas in between. Yet western cities differ greatly in their economic relationship to the surrounding rural area.

Compare Idaho's cities with those of neighboring Nevada for example. Nevada is a desert state, and the rural area separating Nevada's cities provides relatively little economic opportunity. Nevada's cities derive little economic benefit from the surrounding hinterland, because there is little economic activity in that hinterland.

In contrast, the rural hinterland separating Idaho's cities is in most places rich in agriculture, timber, mining, and other predominantly natural resource-based industry. Income entering the state through rural industries produces a multiplier effect, a multiplier effect that spills beyond the rural area, to the many consumer and business service industries, needed by rural consumers and businesses, but located in the cities. In contrast to Nevada's cities, Idaho's

cities are significantly impacted by rural industry because Idaho is uniquely rich in rural industry.

*The Rural-Urban Relationship in Idaho is
Conditioned by Idaho's Trade Hierarchy*

There is a saying that Idaho has three capitols only one of which is located in Idaho. The saying mirrors an important feature of Idaho's trade hierarchy, in particular, the market inroad of Salt Lake City, Utah, in southeast and southcentral Idaho; and of Spokane, Washington in northern Idaho. Boise's market dominance is largely limited to southwestern Idaho, and a portion of southeastern Oregon.

A closer look at Idaho's trade hierarchy shows a number of smaller, locally dominant trade centers: Idaho Falls, Pocatello, Blackfoot, Rexburg and Rigby in southeastern Idaho; Twin Falls in southcentral Idaho's Magic Valley; and Lewiston and Coeur d'Alene in northern Idaho. The location of these trade centers, and the type and magnitude of the rural industry surrounding them, condition the diffusion of economic effects from rural to urban places in Idaho. We have configured IDAEMP to expose a number of these key rural-urban relationships, and examine next the role of rural industry in urban places in Idaho, particularly in southwestern and southeastern Idaho.

*Idaho's Four Principal Trade Regions, and their Respective Contributions to Gross State
Product*

For the purposes of this study, we divided the Idaho economy into its four principal economic trade regions as indicated in Figure 1. The current version of IDAEMP models the Idaho economy in 1987. Idaho's gross state product in 1987 was \$13.7 billion. Gross state product is a broad measure of income that includes roughly the sum of wages, salaries, and property income. Figure 1 indicates Idaho's gross state product according to the four principal economic trade regions.

The northern Idaho trade region covers the ten counties north of the Salmon River Gorge, the part of Idaho trade dominated by Spokane, Washington. Southwestern Idaho covers

the ten counties directly south of the Salmon River Gorge, the part of Idaho trade dominated by urban Boise-Nampa-Caldwell. Southeastern Idaho covers the sixteen counties of the upper Snake River Plains, broadly defined to include the upper reaches of the Lemhi and Lost River Valleys, plus the Bear Lake and other Great Basin counties in the southeast corner of the state. Trade in this sixteen county region is dominated by Rexburg-Idaho Falls-Pocatello, a short title we give to urban Rexburg, Rigby, Idaho Falls, Blackfoot, and Pocatello. Finally, Magic Valley covers the eight southcentral Idaho counties south of the Salmon Mountains. Magic Valley has its own locally dominant trading core, Twin Falls, Jerome, Burley, and Rupert. Beyond this, Magic Valley lies within the extended market reach of Boise-Nampa-Caldwell to the west, Rexburg-Idaho Falls-Pocatello to the east, and Salt Lake City, Utah to the southeast.

*The Rural-Urban Makeup of Southwestern
and Southeastern Idaho*

In its present generational form, IDAEMP permits a particularly detailed look at the urban-rural makeup of southwestern and southeastern Idaho only. Figure 2 focuses on these two regions of Idaho, distinguishing between gross product generated in rural, versus gross product generated in urban areas. In the case of southeastern Idaho, "urban" refers to the region's five principal trade centers, Rexburg, Rigby, Idaho Falls, Blackfoot, and Pocatello. As shown in Figure 1, southeastern Idaho generated a gross product in 1987, of \$3.6 billion. Of this, urban industries¹ accounted for \$2.2 billion, or 62%, while rural industry accounted for \$1.3 billion, or 38%. The relative urban-rural makeup of southwestern Idaho is considerably different. Boise-Nampa-Caldwell is Idaho's most developed urban place, exhibiting both a larger number and variety of industries than any other Idaho urban place. Comparison of rural gross product figures for southwestern and southeastern Idaho indicates that the greater relative urban presence in

¹ The Idaho National Engineering Lab (INEL) is an important source of southeastern Idaho income. While INEL is physically located outside the urban core, mainly in Butte County, all but a small portion of INEL subcontractors and employees are located in our five principal southeastern Idaho trade center cities (Idaho State University, 1989, *Socio-Economic Impacts of the Idaho National Engineering Laboratory*, P. Zelus, J. Togle, and K. Bossingham, Center for Business Research and Services). Accordingly, INEL's contribution to southeastern Idaho's gross product is all but entirely included in the urban core of Figure 2.

southwestern Idaho has more to do with Boise-Nampa-Caldwell's relatively large size, than to differences in the magnitude of rural industry. For reasons previously discussed, we know that some portion of urban Boise-Nampa-Caldwell's gross product, as well as Rexburg-Idaho Falls-Pocatello's gross product, is the result of economic activity in the surrounding rural area. We next turn to an estimate of this rural-dependent portion.

Economic Spillovers in Idaho's Economy

Rural industry creates economic ripple effects that spill over to urban places. Rural industry thereby explains not only the income of rural places, but a portion of income in urban places as well. Figure 3 is constructed to show rural to urban economic spillovers in southeastern and southwestern Idaho, as well as a number of other spillovers, to and from Idaho.

Arrowed segments in Figure 3 indicate trade flows; the flow of goods and services from economically dominant places, and the compensating flow of monies from economically dominated places. Shading denotes dominated places, as well as the portion of dominating place income dependent on trade with dominated regions.

Consider southeastern Idaho. Urban southeastern Idaho appears with same circular pie of Figure 2, denoting a gross product in 1987 of \$3.6 billion. However, the pie is now sliced to distinguish between urban income linked to industry outside the urban core, and urban income linked to stand-alone urban export industry. Fully 41% of urban Rexburg-Idaho Falls-Pocatello's gross product is explained by economic activity in rural southeastern Idaho. As discussed earlier, urban southeastern Idaho dominates southcentral Idaho. The 13% slice of Rexburg-Idaho Falls-Pocatello's gross product linked to southcentral Idaho reflects this market dominance. Finally, note that 2% of Rexburg-Idaho Falls-Pocatello's gross product is explained by economic activity in Teton County, Wyoming: Jackson Hole and its surrounding rural hinterland. Stand-alone urban export industry alone explains only 44% of Rexburg-Idaho Falls-Pocatello's gross product. The remaining 56% is explained by Rexburg-Idaho Falls-Pocatello's role as a regional trade center, and the income generated by industry in its trade dominated hinterland, rural southeastern Idaho, Magic Valley, and Teton County, Wyoming.

Let us turn our attention now to southwestern Idaho where the picture appears much the same, yet in many ways different. Stand-alone export industry in Boise-Nampa-Caldwell explains 69% of urban gross product, as opposed to 44% in the case of urban southeastern Idaho. The difference is mainly due to Boise-Nampa-Caldwell's larger number of stand-alone export industries: Micron, Hewlett-Packard, Morrison and Knudsen, and the headquarters of Boise Cascade and TJ International to name a few. Aside from the Idaho National Engineering Lab, similar sources of stand-alone export income are non-existent in southeastern Idaho.

Boise-Nampa-Caldwell's significant stand-alone export industry notwithstanding, fully one-quarter of its gross product is explained by its role as dominating trade center over rural southwestern Idaho. Another 4% is explained by rural industry in southeastern Oregon, and 2% to Boise-Nampa-Caldwell's market reach into southcentral Idaho²

Determinants of Economic Spillovers

Figure 3 shows two sets of spillovers out-of-state. Northern Idaho is trade dominated by Spokane, Washington. And economic activity in northern Idaho's \$2.7 billion regional economy explains 5% of Spokane's \$5.7 billion economy. Similarly, both southcentral and southeastern Idaho are trade dominated by Utah's Wasatch Front. Economic activity in southcentral Idaho's \$2 billion economy, and economic activity in southeastern Idaho's \$3.6 billion economy explain, respectively, 1% and 2% of the Wasatch Front's \$17.6 billion economy.

What, it might be asked, determines the relative magnitudes of spillovers indicated in Figure 3? In the case of southwestern and southeastern Idaho, much of the spillover from the rural to urban areas is driven by agricultural linkages, both supply and demand. Significant food processing, located in Boise-Nampa-Caldwell, for example, is linked to the suppliers of

² Southcentral Idaho lies within the overlapping market reach of Boise-Nampa-Caldwell, Rexburg-Idaho Falls-Pocatello, and Salt Lake City, Utah. The U.S. Department of Commerce analyzed the market structure of Idaho, and other U.S. cities (U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Analysis Division, 1975, "The BEA Economic Areas: Structural Changes and Growth, 1950-73," Survey of Current Business). The Department of Commerce shows Rexburg-Idaho Falls-Pocatello with primary market dominance over southcentral Idaho. We incorporated the Department of Commerce's findings into the spatial structure of IDAEMP, and this explains in large measure southeastern Idaho's greater market dominance over southcentral Idaho.

agricultural inputs located outside the urban area. These help explain the substantial spillovers in both Boise-Nampa-Caldwell and Rexburg-Idaho Falls-Pocatello.

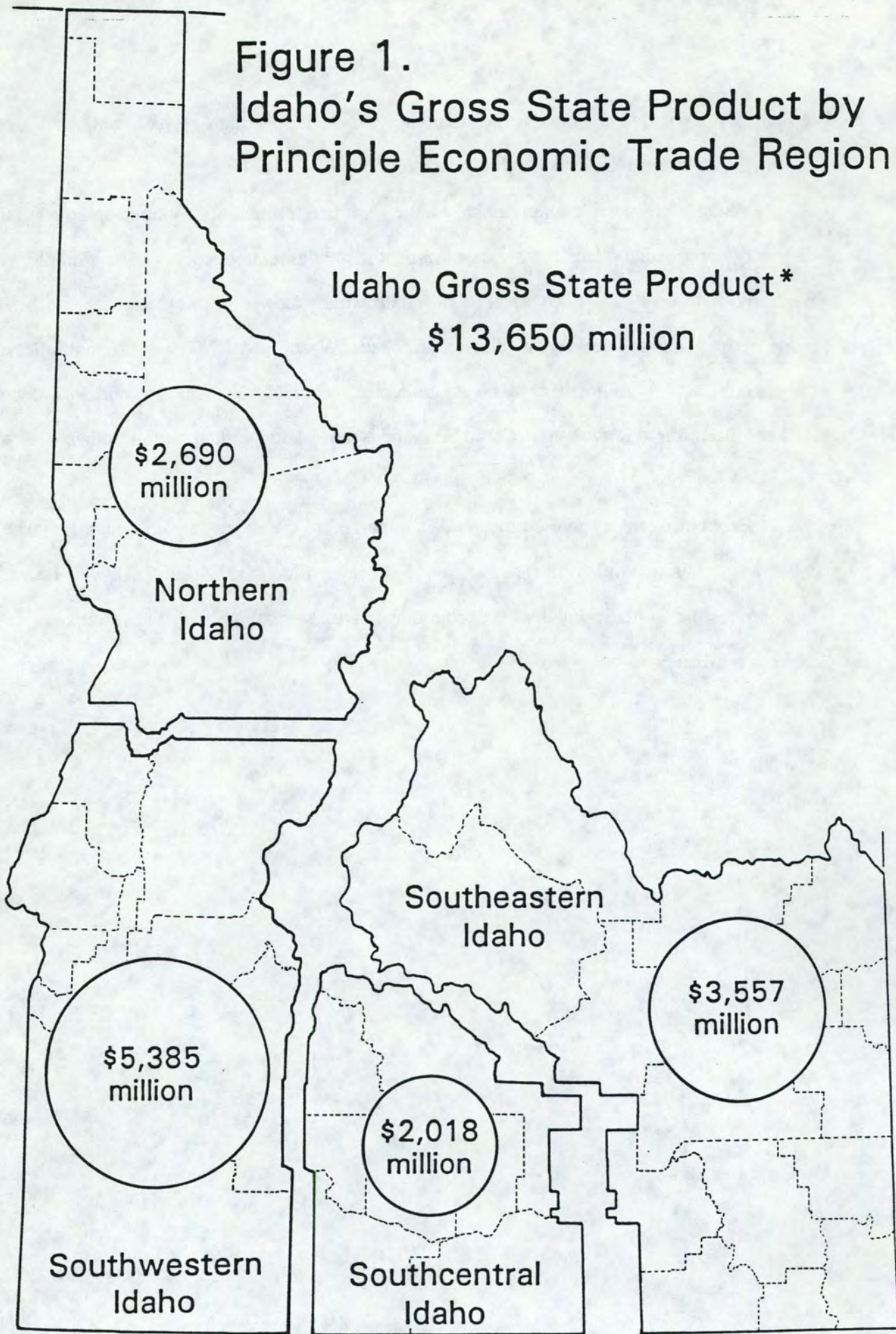
Aside from specific supply linkages, the chief determinant of economic spillover is the degree of commercial infrastructure development in the dominated regions. For example, northern Idaho, with urban centers of its own, particularly Lewiston and Couer d'Alene, offers many of the goods and services available in Spokane, Washington. Much of the multiplier effect of economic activity in northern Idaho is intercepted by businesses located in northern Idaho. As a result, northern Idaho's spillover to Spokane is much smaller than it might otherwise be.

Implications and Conclusions

Economic activity in the rural areas is important to the urban core communities. The dependence on rural spillovers varies from 41% in eastern Idaho to 25% in southwest Idaho. This implies that policies which affect economic activity in rural areas also have important effects on urban core.

Figure 1.
Idaho's Gross State Product by
Principle Economic Trade Region

Idaho Gross State Product*
\$13,650 million



*1987

Figure 2.
Rural-Urban Breakdown of Gross Product:
Southwestern and Southeastern Idaho

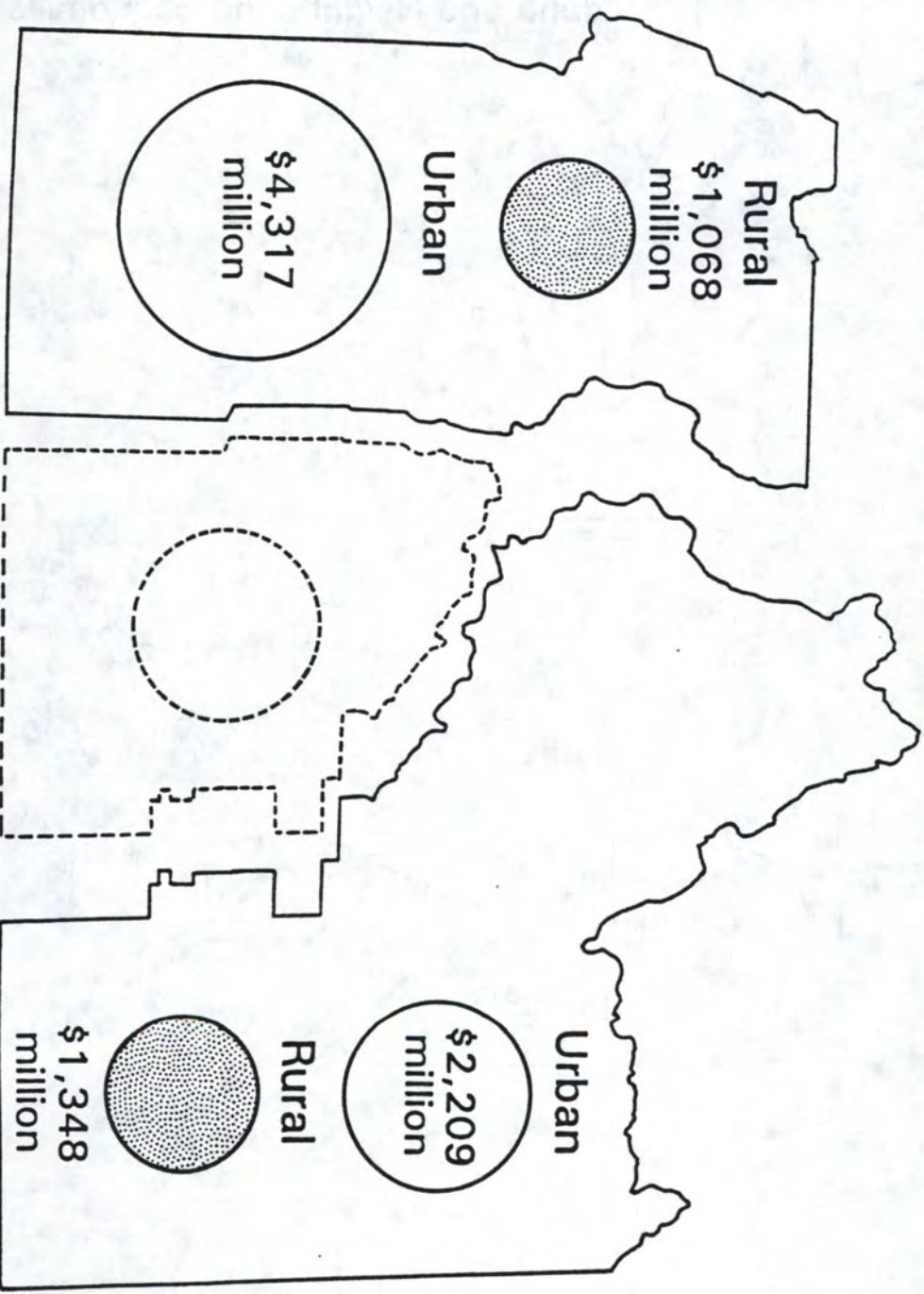


Figure 3.
Key Urban-Rural Dependence,
Idaho and Neighboring Economies

