

THE ECONOMIC IMPACT MULTIPLIER IS NOT SEVEN

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“Pilgrimage dollars filter through the community and, as a rule, each dollar spent turns over seven times,” Tourism Director Walter Tipton said. “Pilgrimage Season Comes to an End,” *The Natchez Democrat*, May 2, 2007.

“It (the casino) would make a real difference for our community,” Cummings said. “Studies have shown that a payroll dollar turns over seven times before it leaves town.” “Staberow to Support Area Casino Project,” *Port Huron Times Herald*, Feb. 14, 2007

“Every dollar earned on a family farm turns over seven times, he (Presidential Candidate Dennis Kucinich) said. The money keeps moving through the economy.” “Presidential candidate talks to NPRC group,” *The Billings Gazette* November 23, 2003.

Why do so many believe that their event, project, or industry has an economic impact multiplier of seven?

Carl Wilken, an economist with the Raw Materials National Council of Sioux City, Iowa, wrote an article in 1944, “A Prosperous Post War Era is Possible.” In this article he showed a 7 to 1 ratio between nominal national income and farm earnings. Wilken believed that each dollar of farm income generated seven dollars of national income. Even at the time this article appeared many academic and professional economists were extremely critical of Wilken’s interpretation of the 7 to 1 ratio. Wilken assumed that each dollar of farm income generated seven dollars of national income. However, empirical records since 1944 suggest that the cause and effect relationship is more likely just the reverse. An expanding national income provides an increasing market for farm products rather than the other way around. Somewhere along the way, Wilken’s interpretation of the 7 to 1 ratio has become part of the lore of economic development. ‘Everyone’ believes that a dollar earned by a worker in any sector turns over seven times before it leaves town.¹

What is an economic impact multiplier?

Cash receipts, personal income, and employment figures illustrate only a part of the importance of an event, firm, or industry

to the Mississippi economy. To show the full effect that an event or industry has on the economy, including its impact on other sectors, input-output analysis can be employed. Input-output analysis is founded on the principle that industries are interdependent. One industry purchases inputs from other industries and households (i.e. labor) then sells outputs to other industries, households, and government. Therefore, economic activity in one sector impacts other sectors.

The economic impacts an industrial sector (manufacturing, retail trade, tourism) has on an economy can be characterized as direct, indirect, or induced. Direct effects in the manufacturing sector are those due to the actual production and sale of manufacturing goods and services. Direct effects are output generated, jobs created and income earned by those actively involved in producing the goods and services

Indirect effects occur when the direct sector (manufacturer or service provider) buys inputs from other sectors. For example, when a firm purchases an input such as steel, plastic or some other production input, income and employment are created in other sectors involved in producing and delivering these inputs. The additional income and employment in these other sectors can be attributed to the economic activity in the original manufacturing sector. Thus, the manufacturing sector creates income and jobs

Table 1. AVERAGE LABOR INCOME MULTIPLIERS IN SELECTED ECONOMIC SECTORS

Sector	Labor Income Multiplier
Agriculture	2.01
Construction	1.7
Manufacturing	2.72
Retail Trade	1.35
Consumer Services	1.54
Business Services	1.62
Education	1.42
Healthcare	1.41
Government	1.55

SOURCE: IMPLAN Pro, May 2007. See text.

not only for manufacturing employees, but also in other sectors that are linked to the manufacturing industry.

Additional employment and income earned by manufacturing workers and their input suppliers allows these households to increase their consumption. That is, as jobs and income increase, people buy more goods and services. Industries expand to provide these additional goods and services, spawning even more jobs and greater income in the economy. The new jobs and income created to meet this increasing consumer demand are considered to be an induced effect.

By means of indirect and induced effects, the introduction of a new manufacturing plant and the additional local income it creates can impact virtually every sector of the economy in one way or another. The magnitude of secondary effects depends on the propensity of businesses and households in the region to purchase goods and services from local suppliers. Induced effects are particularly noticeable when a large employer in a region closes a plant. Not only are supporting industries (indirect effects) hurt, but the entire local economy suffers due to the reduction in household income within the region. Retail stores close and leakages of retail sales dollars from the region increase as consumers go outside the region for more and more goods and services. Similar effects in the opposite direction can be observed when there is a significant increase in jobs and household income.

What are realistic multipliers for Mississippi?

The input-output model used at IHL is IMPLAN Pro.² IMPLAN is based on national level data for 2003 detailing the economic links between industries. It also includes regional estimates of total gross output, final demand, final payments, and employment. The IMPLAN model is a secondary data model, composed of national level data that must be adjusted to the economic make-up of the region in question. Additionally, many of the parameters in this model fluctuate from year to year. Therefore, caution must be exercised when extrapolating model results outside the period for which they originally applied.

The IMPLAN model generates a number of different multipliers, but the two multipliers most often cited in economic development articles are the employment and labor income multipliers. The multiplier implied by the statement, “A dollar turns over seven times....,” is a labor income multiplier. It refers to the secondary labor income generated in the economy by a dollar earned directly by a worker at an event, new project or industry. The average labor income multipliers in selected broadly grouped sectors are shown in Table 1.

As you can see in the selection of economic sectors shown above, most of the multipliers lie between 1.25 and 1.75. Agriculture and manufacturing are just greater

than 2.00. None of these sectors have labor income multipliers remotely close to 7.00.

Why are the labor income multipliers so small?

In today's increasingly global economy, most firms don't purchase a large percentage of their inputs from Mississippi providers. They buy raw materials from firms in Indonesia, Malaysia, and Brazil. They buy automobile parts from China, Canada, and Mexico. Similarly, most items found on the typical retail store's shelf are manufactured out-of-state or in other countries. When inputs are purchased locally, and wages and profits are spent locally, regional jobs and income are created as these dollars circulate throughout the local economy. However, when purchases are made outside the region, these dollars are lost, or "leaked", from the region and produce no secondary impacts within the region. The leakage to out-of-state providers is quite large and getting larger.

The multipliers shown in the tables above are approximately 5 percent to 10 percent lower than the multipliers estimated in 1997. Businesses and consumers are finding it more convenient and economically efficient to purchase everything from manufacturing inputs to clothes and cars over the internet. I believe the multipliers in virtually every sector will continue to decline in the future as a

greater percentage of secondary impacts leak from the state. Thus, the estimates shown above, while accurate today, will likely overstate labor income impacts in the future.

Conclusion

For any particular event, project or industry in Mississippi, a dollar does not turn over seven times. With few exceptions, it only turns over 1.5 to 2.5 times. If the economic region is smaller than the whole state (a single county or group of counties), the multiplier will be even smaller. More information about multipliers and how they can be used to assess the effects of events or projects on the economy can be found at www.implan.com. An excellent bibliography of input-output analysis and multiplier estimation can be found at the following email address: www.msu.edu/user/changwe4/bibli.htm.

Endnotes

1. Schluter, Gerald. "Is the farm income multiplier seven?" *Choices*, fourth quarter, 1993.
2. IMPLAN Pro is an input-output model used by state governments and universities all across the U.S. For more information on IMPLAN Pro, see www.implan.com.