REAL REPORT

REGIONAL ECONOMIC ANALYSIS OF LOUISIANA

FALL QUARTER 2024

CENTER FOR ECONOMIC RESEARCH
LOUISIANA TECH UNIVERSITY®
COLLEGE OF BUSINESS

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Dean's Message

I am pleased to share the Fall Quarter 2024 issue of the Regional Economic Analysis of Louisiana (REAL) Report, a publication produced by the Center for Economic Research in collaboration with undergraduate business students at Louisiana Tech University. Now in its sixth year, the REAL Report provides valuable insights into recent economic developments across Louisiana.

Providing an invaluable learning experience, the report is compiled by College of Business undergraduate students who work with faculty in the Center for Economic Research. Their work serves as partial fulfillment of the Regional Economic Analysis (ECON 425) course.

Louisiana Tech's Center for Economic Research serves to connect the University community with economic development efforts in the state by supplying detailed economic impact analysis of both private enterprise and government policy initiatives. It also serves as a hub of industry and research expertise, consulting with local and regional governments on projects and providing analysis to media.

This report, along with previous issues, can be found online at **Business.LATech.edu/RealReport**. For more information on the report, the Center for Economic Research, or the Regional Economic Analysis class, contact Dr. Patrick Scott at PScott@LATech.edu. Inquiries about specific sections of the report should be referred to the author of each section, while media inquiries should be directed to Waldroup@LATech.edu.

We hope that this report serves as a valuable tool by providing insight into recent economic developments in Louisiana.

Sincerely,

CHRISTOPHER L. MARTIN, PH.D.
Dean and Chase Endowed Professor
College of Business
Louisiana Tech University

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Meet the Team

Lauren Hays is fourth-year business economics major from Roanoke, Virginia. She is involved in Alpha Chi Omega sorority and serves as treasurer for Omicron Delta Epsilon honors society. She plans to graduate in Spring 2025.

Contact Lauren at **LEH043@LATech.edu.**

Zacc Landry is a third-year finance major from Baton Rouge, LA. He serves on leadership for the Temple Collegiate Ministry and is a member of the Institute of Management Accountants. He plans to graduate in the Fall of 2025 and pursue his master's degree.

Contact Zacc at **ZJL004@LATech.edu.**

Neal Lopez is a third-year finance major from Bay Saint Louis, Mississippi. He is a videographer/editor for Ratio Christi and Louisiana Tech. He plans to graduate in May 2026.

Contact Neal at **NSL007@LATech.edu.**

Lauren Niten is a fourth-year business economics major from Logansport, LA. She is a member of Tri Delta sorority, and serves as secretary for Omicron Delta Epsilon honors society. She graduated in November 2024, and is now pursuing her master's in business administration with a concentration in finance.

Contact Lauren at **LGN005@LATech.edu.**

Kennedy Stevens is a third-year business economics major from Bossier City, LA. She is a member of the audio and visual team at Calvary Baptist in Ruston. Kennedy plans to graduate in Spring of 2026 and pursue a career as a financial advisor.

Contact Kennedy at **KAS085@LATech.edu.**

Landry Worsham is a fourth-year accounting major with a minor in economics from McKinney, Texas. She is a member of Phi Mu Fraternity, Omicron Delta Epsilon, and the Women in Business Association, where she has held various leadership positions. She will graduate in May 2025 and plans to pursue a Master of Accountancy and obtain her CPA.

Contact Landry at **LPW010@LATech.edu.**

Dr. Patrick Scott is an associate professor of economics and director of the Center for Economic Research. He teaches macroeconomics, monetary theory, and research methods at Louisiana Tech University. His research interests include optimal monetary policy models, dynamic general equilibrium models, time series forecasting, and Bayesian econometrics.

Contact Patrick at **PScott@LATech.edu**.

National and Louisiana Economic Indicator Forecasts

BY C. PATRICK SCOTT, PH.D.

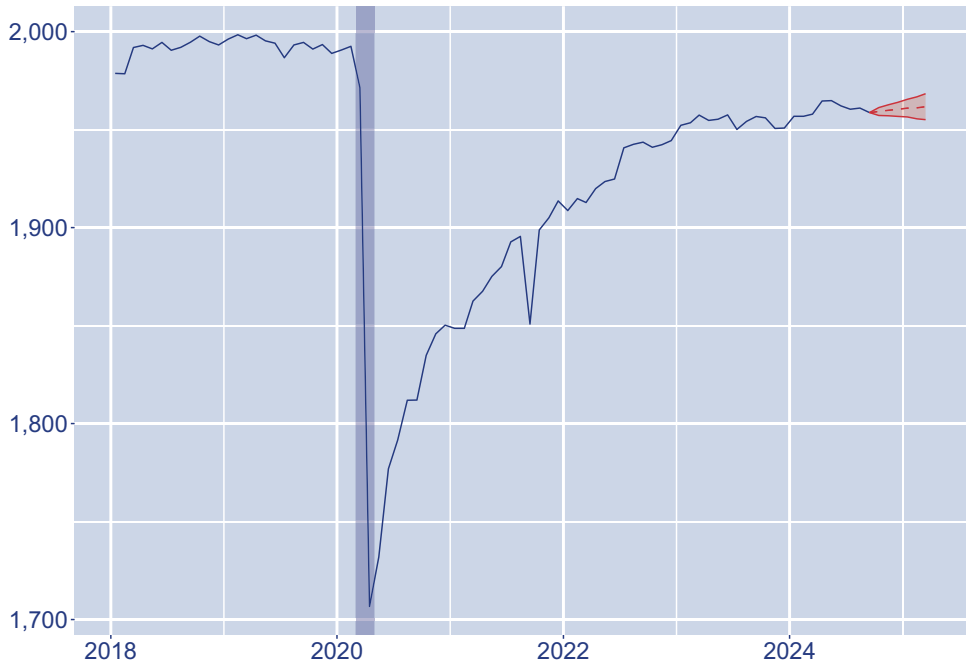
Forecasts are provided using a Bayesian model averaging approach from hundreds of statistical models. This method is utilized to capture the relative uncertainty that any one individual model is not properly specified and thus accounting for that uncertainty in our analysis.

Louisiana Non-Farm Employment

Total employment is still down around 34,000 jobs from pre-COVID levels. This number comports with both estimated COVID fatalities of the working-age individuals along with population declines estimated from the last census. Most models indicate only relatively modest job growth over the next six months — about 4,000 jobs. This recovery is mimicking the job growth curve of Hurricane Katrina, just on a larger scale. Population growth is needed to put COVID behind us.

Punchline: Job growth is stalling and not likely to pick up without population growth.

Figure 1: Forecasted Non-Farm Employment (Thousands)



Louisiana Unemployment Rate

The unemployment rate inched up in the first months of 2024 and has slowly dropped. Rates for Louisiana have been well below the national natural rate of unemployment for the past two years. COVID labor market dynamics are dictating this outcome despite a full employment recovery. Given no major shocks, this is likely to continue so long as firms do not leave the state. Most estimated models predict a modest appreciation of the unemployment rate of about 0.15% over the next half a year.

Punchline: It's going to take an economic hurricane to knock us back on our heels.

Figure 2: Forecasted Unemployment Rate (Percent)

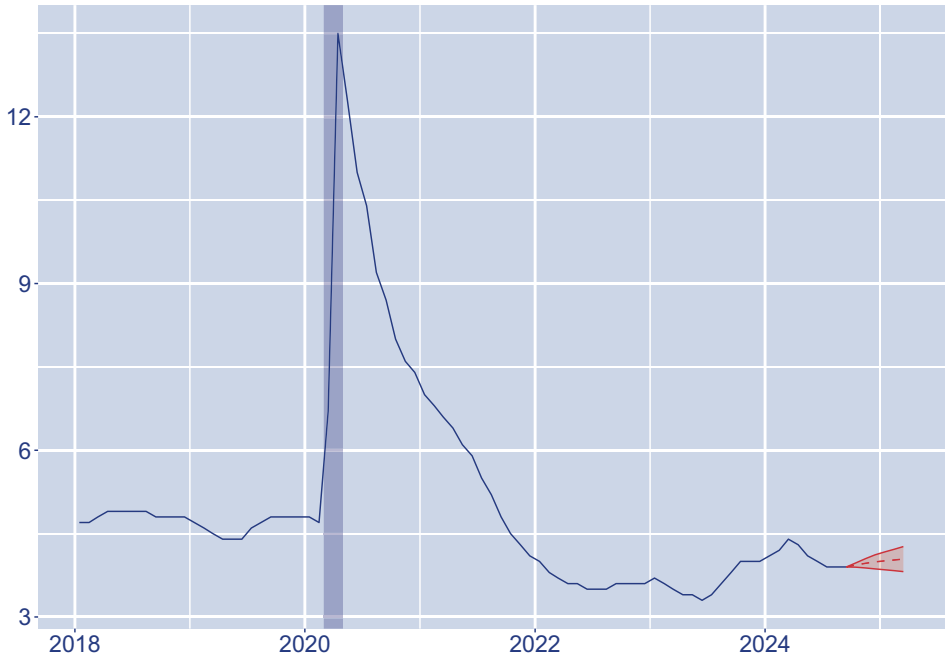
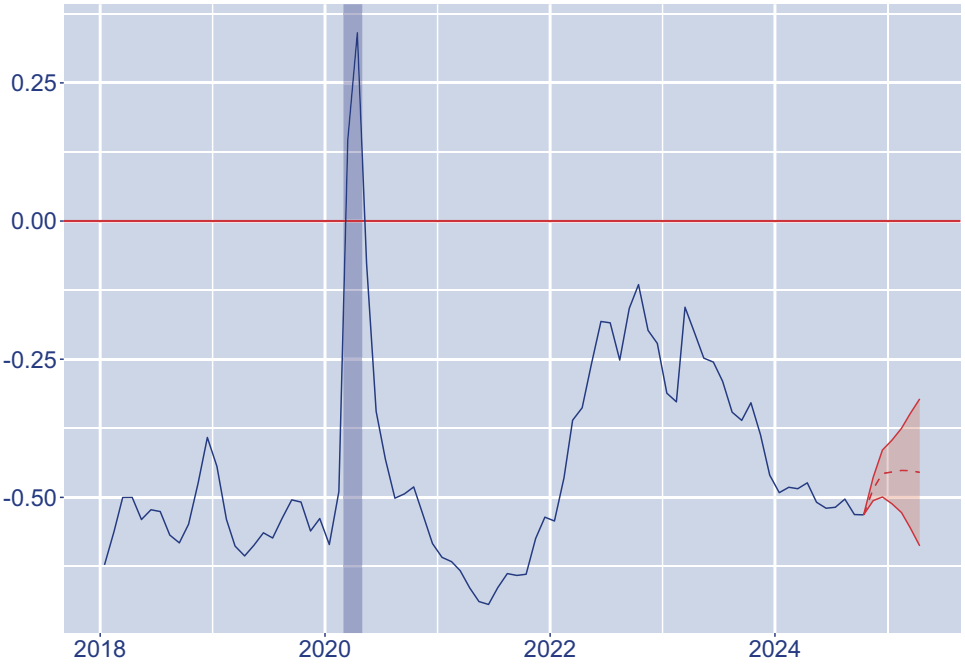


Figure 3: Forecasted Financial Conditions Index (0 = Neutral)

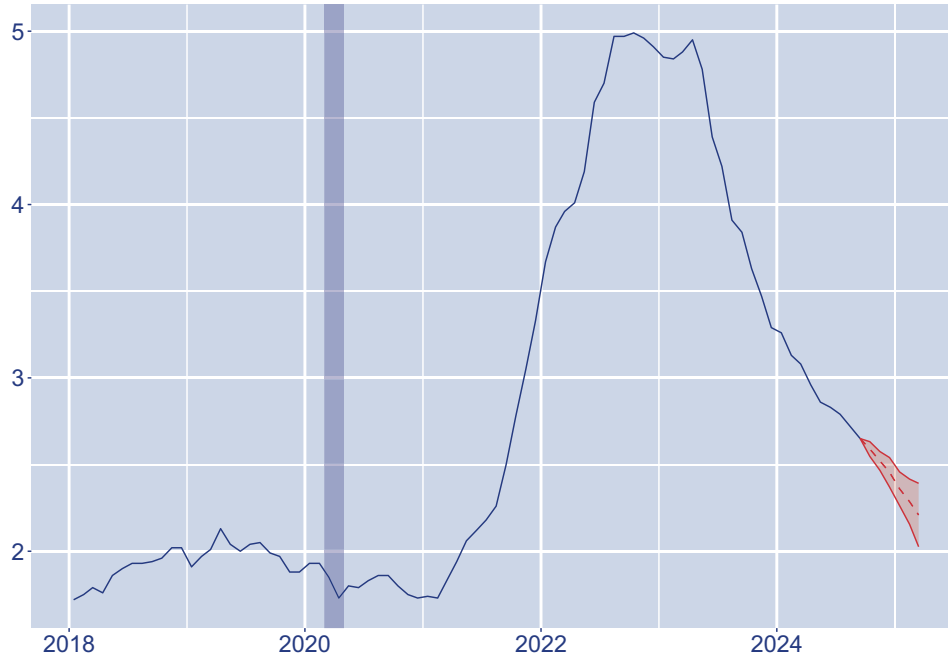


National Financial Conditions Index

The financial conditions index measures overall banking risk in both traditional and shadow banking systems. The index centers around 0 with tighter conditions producing positive values and loose conditions producing negative values. There is a relatively high degree of financial uncertainty as the Fed attempts to transition to a low-interest rate regime, but overall financial conditions are forecasted to be loose in all estimated models for the next six months (even the models that account for presidential transition).

Punchline: Financial conditions are expected to remain relatively loose for the foreseeable future.

Figure 4: Forecasted Trimmed Mean Personal Consumption Expenditure Inflation (Percent)



National Trimmed Mean PCE Inflation

Trimmed mean inflation is dropping, and the Fed is determined to maintain control of its descent given the past two rate cuts. These rate cuts are expected to slow the overall trajectory of inflation but are not likely to drive immediate dynamics in the next six months. This is because monetary policy movements take longer to percolate through the economy once the policy is implemented (outside lags). Realistic models forecast annualized inflation around 2.2% in the next six months.

Punchline: Inflation is cooling, but tariffs could create supply shocks that undo the Fed's progress.

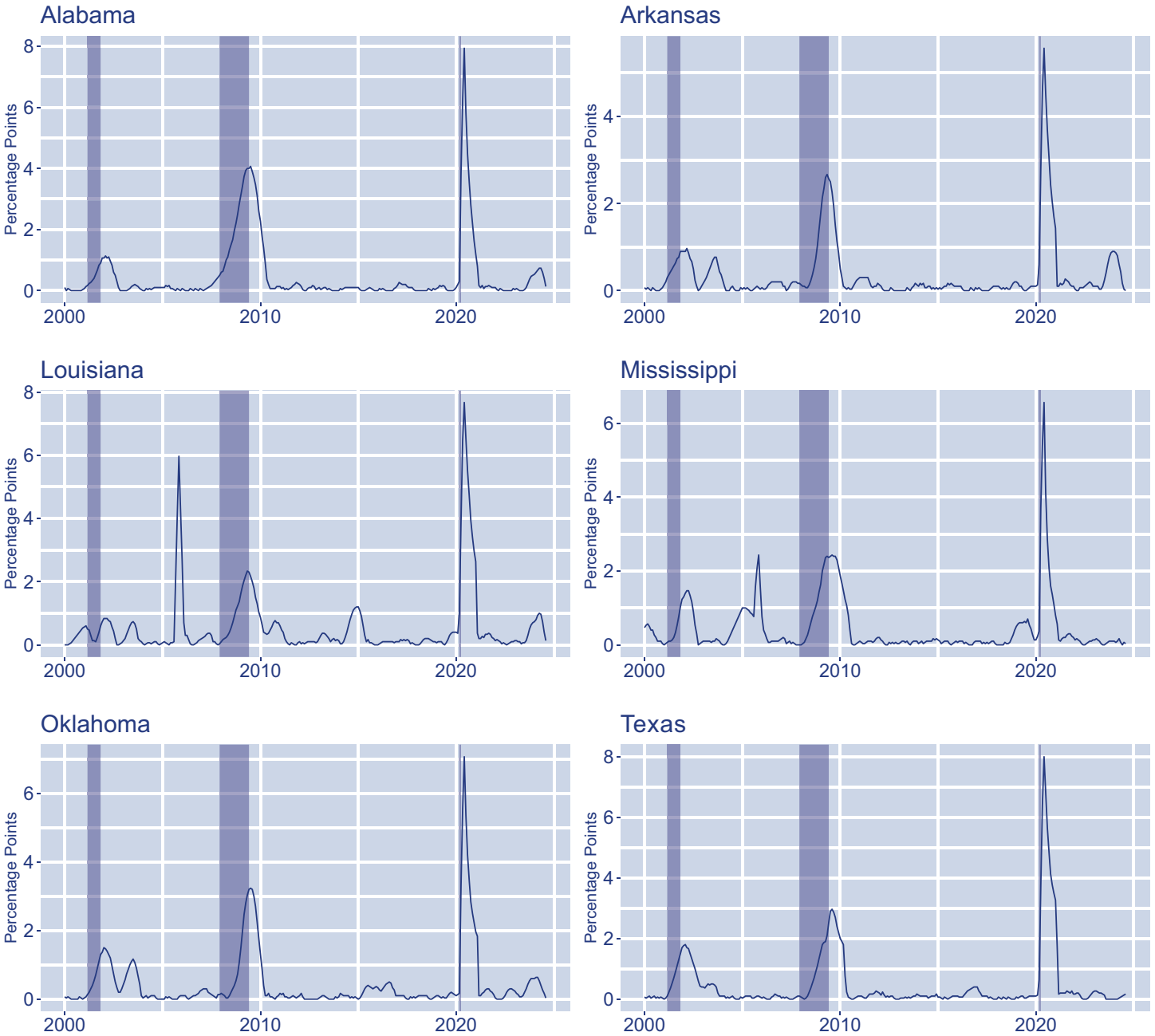
Monthly employment, unemployment rate, and inflation rate data for this section extend to September 2024. Financial conditions data extend to October 2024. All variables include the most current releases at the time of publication.

The Sahm Rule as an Indicator of Statewide Recessions

BY LAUREN HAYS

There are many factors that can be considered when calculating the likelihood of an impending recession. The Sahm Rule is a frequently referenced metric that is generally accepted by most economist and utilized by the Federal Reserve when determining future interest rates. The rule states that if the unemployment rate increases by 0.5 percentage points or more relative to its 12-month low for three consecutive months, then a recession is likely to occur. The Sahm Rule is considered to be effective and reliable indicator because of its real-time results, influential factors, and historical accuracy.

Figure 5: Sahm Rule Calculations for Southern States (Percent)



The Sahm Rule is considered to react in "real-time" because the data used in the calculation are monthly and unrevised. It requires three consecutive months of alarming unemployment growth before it qualifies as a recession indication, which contributes to the rule's near perfect record. The metric requires three consecutive months of alarming unemployment growth before a recession is qualified. This contributes to the rule's near perfect record, accurately predicting all nine recessions since 1960 and triggering only one false positive. The singular measured variable in the Sahm Rule is the change in unemployment rate. This is then compared against the data's recent year's low. The changes are significant to the overall and future performance of the economy because labor is often the first reliable measure to signal that there will be negative GDP growth in the upcoming months.

Figure 5 represents the Sahm Rule real-time indicator for Louisiana and its surrounding states. The rule is typically only applied to national unrevised data because recessions are not usually measured at the state level. It is important to clarify that in graphs shown the state level data is revised. One of the benefits of applying the Sahm Rule at the state level is that it offers a backwards look into when a recession might have occurred previously. According to Figure 5, Louisiana experienced a state recession in 2015 when the line jumps up a whole percentage point in a three month period. Dr. Loren Scott (Professor Emeritus, LSU) also claims that Louisiana went through a recession in 2014-15, independently verifying the rule at the state level. Each state shows the 0.5 percentage points, or more, growth relative to its previous year's low during the 2008 and COVID recessions, as it did at the national level. Alabama, Louisiana, Mississippi, and Texas have all experienced relatively stable unemployment levels following COVID. However, as of the most recent year, Alabama, Louisiana, Oklahoma, and Arkansas have shown rapid unemployment growth that increased by almost a whole percentage point in a short period of time, and the rate of growth was approaching an alarming level relative to its past year's low. However, the growth appears to be on the decline now.

While the scope of the Sahm Rule can be narrowed down to a singular state, the rule is typically only watched and discussed at the national level. One of the reasons why it is followed so closely by economists is because it is used as a tool, amongst others, by the Federal Reserve to determine whether to raise or lower interest rates. If the economy is performing poorly, due to factors driven by high unemployment rates, then the Fed might choose to lower interest rates in order to stimulate positive short run economic activity. This would lead to increased investment activity, therefore boosting future GDP growth. On the other hand, if the economy is growing a little too quickly to be maintainable and the unemployment rate is comparatively low, then the Fed might elect to raise rates in an attempt to slow the inflation growth.

Since 2023, inflation rates have been a reoccurring and highly discussed topic, possibly due to the lingering consequences of the COVID recession. The Fed has chosen to hike the rate four times since the start of 2023, however just recently they dropped the rate by 0.5 percent in September and again by 0.25 percent in November. This signals to consumers that inflation growth is slowing, and the Fed wants to signal confidence in future positive economic growth. This would likely result in a short-term increase in borrowing and investments, therefore being the catalyst for kickstarting positive economic growth. Increased volatility in this metric could be alerting us of an impending recession. For the upcoming months the Sahm Rule will likely be a highly relevant metric to the Fed and other economists when it comes to deciding to hold or continue dropping interest rates.

As of September 2024, the unemployment rate has remained relatively steady, experiencing only a 0.3% growth nationally, only differentiating 0.1 percentage points during the third quarter of 2024. However, over 60% of the people included in the increase of the unemployment rate this past quarter were categorized as involuntarily separated, meaning layoffs and terminations. This is an indication of a weakening market. Over this same time, CPI growth rate increased by 2.8%. This could mean the unemployment rate is increasing due to reasons neutral to the overall performance of the economy and would not require further interference from the Fed. Contemporaneously, it could also mean that there are other factors not considered by the Sahm Rule affecting how the overall economic performance appears. This not only exemplifies how the rule is based off certain conditions and assumptions, but also how ambiguously the economy can behave.

Data for Figure 5 are provided by the Bureau of Labor Statistics and extend to September 2024, the most current state releases at the time of publication.

How Important is Size to Regional Economic Development?

BY KENNEDY STEVENS

Northwest Louisiana, like many regions in the rural South, is looking for an economic revitalization. Economic development professionals frequently seek to attract relatively large employers willing to hire hundreds of employees, and entice them to move here. But is this a wise strategy? This report takes a hypothetical look at the economic impact of one relatively large firm coming to North Louisiana versus three relatively smaller firms. The impact on employment, labor income, output, and tax revenue are compared. Smaller firm growth implies the advantage of attracting various niche markets, quick adaptation to trends, and a strong sense of community. A larger firm means more notoriety, possibly more state tax credits, and only having to sell the region to one employer rather than multiple.

Table 1: Economic Impacts for Small Versus Large Firm Investment

One Large Manufacturing Firm

Impact	Employment	Labor Income	Value Added	Output
Direct	300.00	$29,247,325.94	$72,542,594.82	$131,623,391.92
Indirect	150.98	$8,592,070.09	$16,222,883.91	$37,331,216.12
Induced	152.56	$6,891,642.26	$13,769,101.56	$24,868,571.55
Total	603.54	$44,731,038.29	$102,534,580.29	$193,823,179.59
Multiplier	2.012	1.529	1.413	1.473

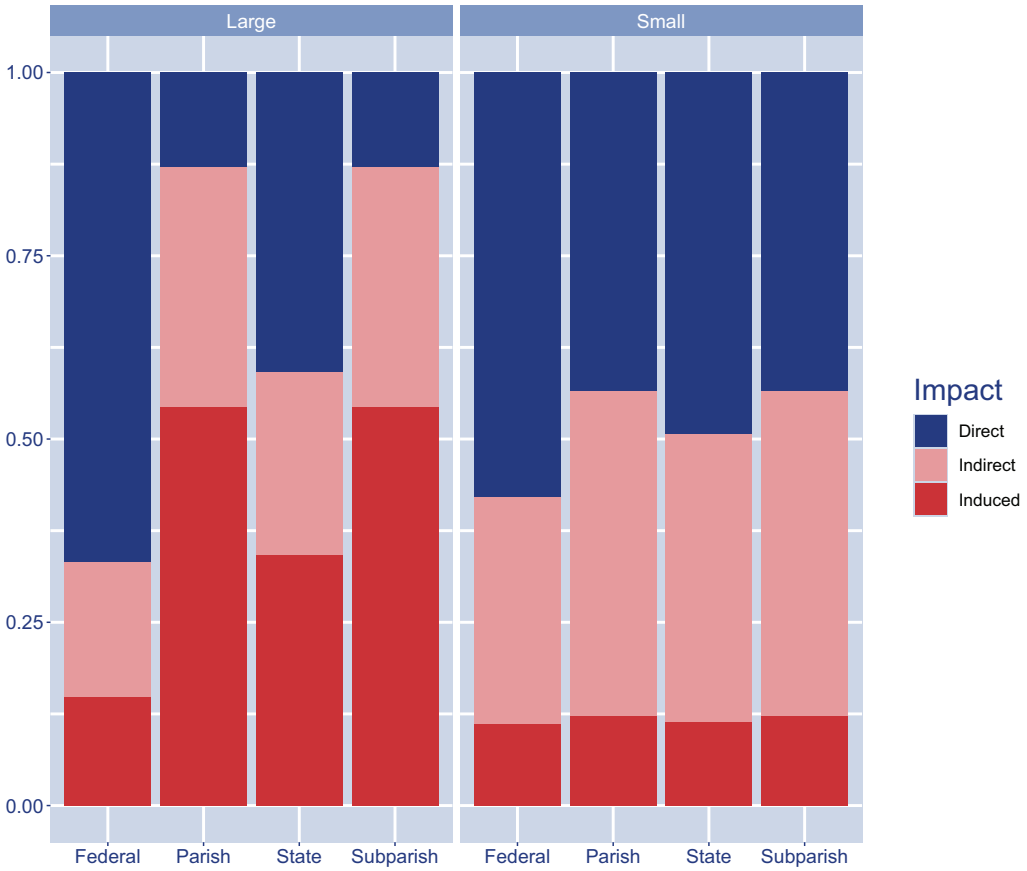
Three Small Manufacturing Firms

Impact	Employment	Labor Income	Value Added	Output
Direct	300.00	$31,435,892.51	$219,651,179.50	$847,490,386.81
Indirect	495.04	$29,260,605.06	$73,622,940.15	$184,126,388.72
Induced	252.98	$11,422,974.90	$22,826,366.99	$41,223,141.77
Total	1,048.01	$72,119,472.47	$316,100,486.64	$1,072,839,917.30
Multiplier	3.493	2.294	1.439	1.266

In this hypothetical scenario, both the large and three smaller manufacturing firms were assumed to have equal total employment (300). Representing the large firm model is a wood manufacturing firm. The three smaller firms are engineered wood products, fabricated structural metal manufacturing, and petrochemical manufacturing. Each of the three smaller firms have a similar inter-industry dependency as overall wood manufacturing and were chosen because of their similarity to the larger firm.

Table 1 depicts estimates for direct, indirect, and induced impacts among four categories: employment, labor income, value added, and output. Indirect employment is higher for the smaller manufacturing firms by about 334 full-time equivalent workers. This is due in part to their economic diversity, meaning that multiple manufacturing firms have a wider range of economic activity and are not bound to one singular market. Smaller firms, like the ones modeled in this scenario, tend to build stronger roots in a local community, allowing for local sourcing and collaborating with other smaller businesses. Smaller firms also have employees with strong ties to their community, meaning they are more likely to spend their income in their community, what is reflected in the induced effects. The smaller firms had a higher total labor income impact than the one larger firm. Integration, a lot like diversity, in the community proves to be a strong driver in this scenario. This allows for more money to be circulated within the economy. The value added by the three smaller firms is $300 million, beating out the large firm by $200 million. Finally, the total output for the smaller firms is

Figure 6: Proportion of Tax Revenues by Tax Type by Impact Type



over $1.07 billion compared to the large firms at $193 million. The smaller firms' output is so much larger mainly due to the direct impact, which was $847 million alone.

Figure 6 depicts the proportion of total revenues by tax type for all three types of economic impacts. The larger the red and pink sections of each bar, the greater the multiplier. For state, parish, and sub-parish tax types, the larger firm represents a bigger a multiplier. This may explain why some economic development officers might prefer large single firm investment. However, the larger firms typically do not have as much of a tax burden compared to three smaller firms, especially in this scenario.

When comparing the parish tax revenues from one firm to the group of firms, the direct and induced impact was disproportionate. The large firm model had only $53,000 while its induced total was $221,000. The induced impact is realizing that there is economic stimulation within the local community and indicates stability as well. The direct impact is so much lower for the large firm because of tax incentives created by local jurisdictions to attract these large firms, which this analysis accounts for. The three smaller firms do not possess the power to get as many tax breaks as the large firms. They pay over $1.3 million in parish taxes alone.

Both the large firm and the three smaller firms have strengths and weaknesses as shown through estimated impacts in employment, labor income, added value, total output, as well as tax revenue impacts. The three smaller firms exhibit significantly higher levels of employment activity, income generation, and output, contributing more substantially to local economies. However, this positive impact comes at a cost, as these firms face greater tax burdens at the federal, state, parish, and sub-parish levels. In contrast, while the larger firm may not generate the same immediate economic activity in terms of employment and, a greater proportion of total tax revenues at the state-level and below are due to growth effects beyond the firm. Overall, the three smaller firms are shown to be substantially better than the one large firm. The three smaller firms have more of an ability to boost the local economy due to monetary exchanges within the community and the three smaller firms also boost economic development relatively more by diversifying supply chain connections throughout the region.

Data for this report are provided by the Bureau of Economic Analysis. Parish level data are produced with a year-long lag. Current annual data extend to 2022. 2023 estimates are expected in December 2024.

Home Sweet Economy: Measuring the Impact of Economic Growth

BY NEAL LOPEZ

While one may assume any effects on the economy for residential construction will mostly just affect that industry directly, any positive or negative impact on the industry will have ripple effects for hundreds of related occupations and industries. There are broadly three types of residential construction — single-family (a single living structure meant for one family); multi-family (multiple housing units contained within a single building, meant for multiple families); and residential construction (additional repairs and supply chain inputs). This report will be focused on these three categories and their direct, indirect, and induced effects on the Louisiana economy.

Table 2: Headline Impacts by Economic Indicator

Impact	Employment	Labor Income	Value Added	Output
Direct	77,190.36	$4,461,733,906.16	$7,358,493,407.43	$13,884,892,022.49
Indirect	25,982.53	$1,516,883,808.04	$2,894,399,902.30	$5,662,763,807.27
Induced	28,216.66	$1,393,335,668.07	$2,701,174,269.06	$4,756,053,613.44
Total	131,389.55	$7,371,953,382.27	$12,954,067,578.79	$24,303,709,443.21
Multipliers	1.702	1.652	1.760	1.750

Table 2 lays out the numbers for direct, indirect, and induced effects as they pertain to employment, labor income, value added, and output, and their multipliers. The multipliers are the total value divided by the direct value, shown in the form of a decimal. For instance, 131.40 million total employment divided by 77.19 million direct employment gives us a multiplier of 1.702. This means that for every 100 direct employees there will be about 70 additional indirect and induced employees supported. $24.3 billion total output divided by $13.9 billion employment gives a multiplier of 1.750. This means for every direct $1 the indirect and induced effects will be about $0.75. Value added has the highest multiplier at 1.760, and therefore the highest indirect and induced economic impact. Value added is the total contribution to statewide gross domestic product. Direct taxes, at least on the state level, are much lower than the indirect and induced taxes that the three residential construction categories support. Direct state taxes are only $147 million, while indirect and induced taxes are $244 million and $168 million, respectively.

Figure 7 depicts the total employment of direct, indirect, and induced categories, ranked for the top 10 occupations. Carpenters are the most prominent occupation in all three residential construction categories overall with over 12,000 workers, followed by construction laborers with a little over 8,000, first-line construction supervisors with a little over 4,000, and so on. The remaining seven of the top 10 occupations have less than 4,000 workers each. The total number of employees does not necessarily correlate with average productivity or average pay. While carpenters have the most employment, general and operations managers are both paid the highest on average ($127,400 per year) and work the most on average (2,228 hours a year). Carpenters only make on average $61,636 per year and work 1,883 hours a year on average. It is important to note that these are just the top 10 occupations. There are over 400 occupations that would have to be included in this figure if it were to be exhaustive.

Figure 8 shows the percentage of adjacent industry output from state-wide residential construction. Almost 50% of mineral wool manufacturing output is tied to our three direct residential construction categories. Retail — building materials and ready-mix concrete manufacturing both attribute at least 30% of their business to residential construction. Over 500 industries (about 87% of all industries) attribute a portion of their business to residential construction.

Overall, one important implication of these findings is that they show the importance of our three residential

Figure 7: Total Employment by Occupations (Workers)

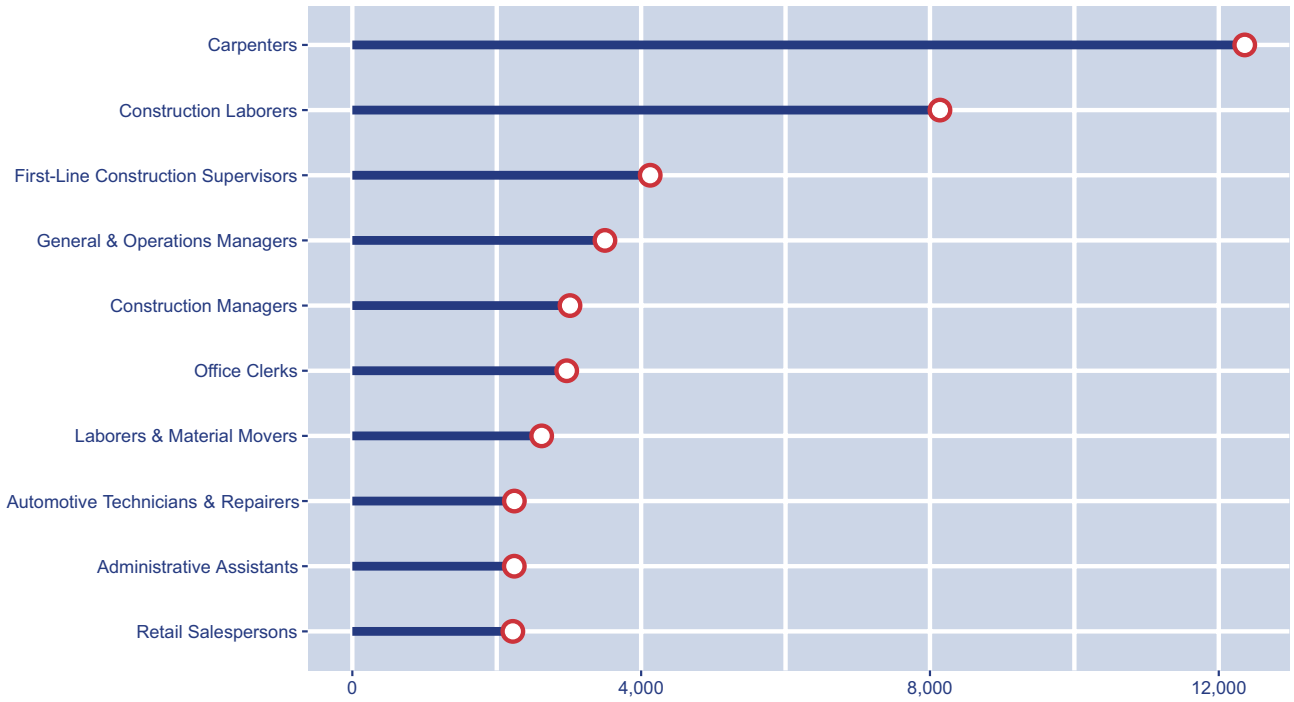
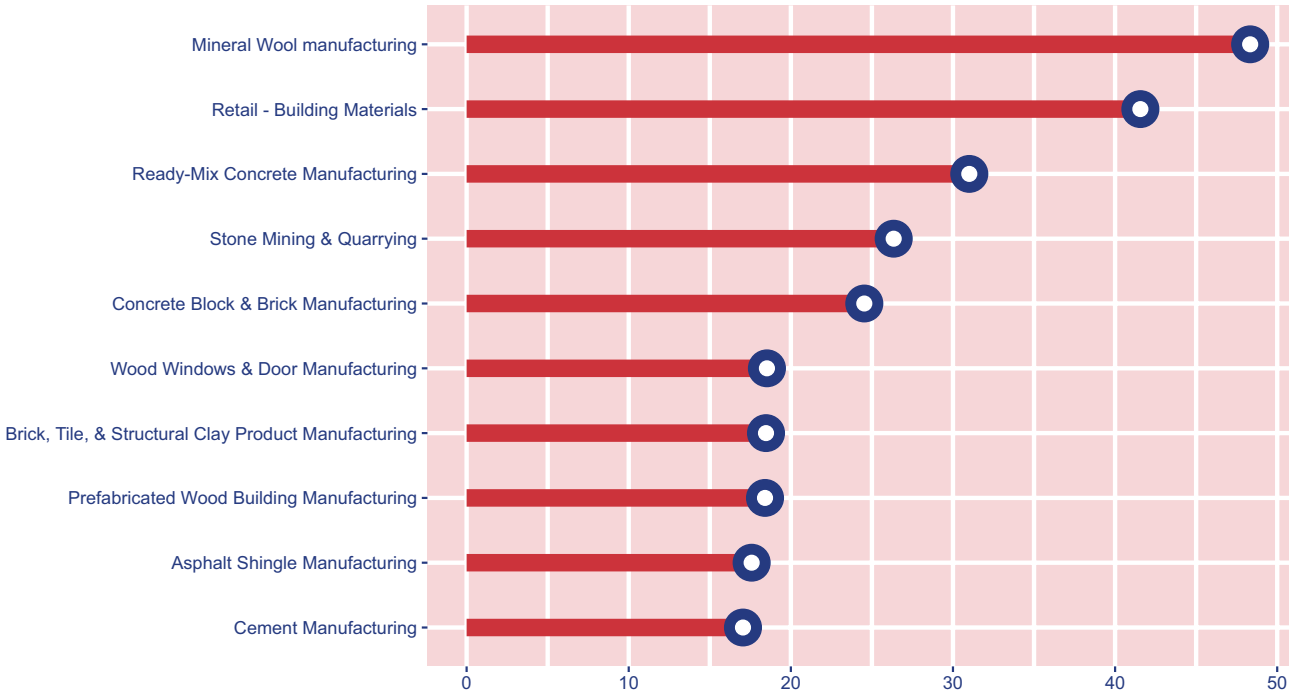


Figure 8: Percent of Adjacent Industry Output from State-Wide Construction



construction categories, both in terms of its impact on other related industries (Figure 8) and on thousands of jobs, and ergo thousands of people's livelihoods (Figure 7). Additionally, this report sheds light on the fact that although influences on the categories of residential construction will affect said categories the most, the indirect and induced effects are relatively large. This is important to note because changes in residential construction demand will have ripple effects that extend far beyond the internal industry itself.

Data for this report are provided by the Bureau of Economic Analysis. Parish level data are produced with a year-long lag. Current annual data extend to 2022. 2023 estimates are expected in December 2024.

Driving Louisiana's Economy

BY LAUREN NITEN

Trucking directly and indirectly has a significant impact on Louisiana's economy. However, there is a rather large difference between North and South Louisiana trucking contributions, specifically regarding population density, economic diversity, and industry differences. This article examines the intricacies and economic impact of the trucking industry in Louisiana by dividing the state into two regions: North and South, with Interstate 10 being the defining line of separation.

Figure 9 displays how trucking contributes to four different indicators in North and South Louisiana. The indicators include employment, labor income, output, and value added. South Louisiana maintains the largest multipliers across all four indicators, while North Louisiana has a lower overall multiplier effect. South Louisiana stays consistent around 75%-80% of the state-wide impact. This distribution indicates a deeply established economic pattern rather than a temporary trend. South Louisiana's dominance stems from its many ports and increased cargo volume, which creates a ripple effect throughout the economy. The presence of major ports drives increased demand for trucking services, which in turn leads to higher employment, labor income, output, and value added in the region. The lower value of multipliers presented in Figure 9 suggests trucking follows a pattern of decay as it moves away from major ports. The difference lies in the scale of activity between north and south with trucking contributions playing a crucial role in both north and south, not in how trucking integrates with other industries. North of I-10, both indirect and induced portions of the total multipliers are lower across all indicators. The lack of circulation among the north part of the state creates disparities. This is different from Figure 10 which displays more complexities between industry reliance on trucking in North and South Louisiana.

The disparity shown in Figure 9 is largely due to the greater population density in South Louisiana compared to North Louisiana. South Louisiana's population is approximately 3.4 million while North Louisiana's population is significantly less at 1.1 million. Considering the substantial difference, increased demand for trucking can be witnessed in Figure 9. There is also a sizable difference in Gross Domestic Product in North versus South Louisiana, with North Louisiana maintaining a GDP of $59.65 billion and South Louisiana maintaining $239.95 billion. These sums show that South Louisiana preserves a stronger and more diverse economy, which prompts increased production, consumption, and consequently higher demand for trucking to transport goods. Due to larger economic activity, South Louisiana produces higher levels of greenhouse gasses, with carbon dioxide emissions reaching approximately 6.247 billion kilograms and methane emissions around 3.79 million kilograms. North Louisiana's emissions are also substantial, with carbon dioxide at 1.948 billion kilograms and methane emissions at 2.56 million kilograms. Although South Louisiana generates more emissions overall, North Louisiana's output remains high relative to its smaller population and economic scale. South Louisiana's greater emissions stem from its larger population and a highly diverse industrial base, including extensive offshore oil operations, which contribute heavily to carbon dioxide and methane emissions.

The regions also differ in transportation and infrastructure which impact emissions. North Louisiana relies more on truck transportation due to fewer alternative logistics networks, resulting in emissions from diesel-fueled transport. South Louisiana has the advantage of rail networks and extensive pipelines, which can reduce emissions compared to trucking alone. Industry differences influence methane emissions; North Louisiana's natural gas production and agriculture sectors contribute methane, while South Louisiana's reliance on pipelines helps manage some methane leakage, though emissions remain high from other industrial processes. Both regions contribute considerable greenhouse gasses, but the sources reflect their distinct economic activities and infrastructure.

Higher industry penetration is also prevalent in South Louisiana with 97% of the state's industries present in the region and 88% of all industries in the country in the region, while North Louisiana consists of 83% in the state and 75% in the nation, respectively. Both North and South Louisiana are relatively high in overall industry penetration, however South Louisiana remains dominant, leading to more freight demand as various sectors rely on truck transportation. This statistic is important because it represents the degree of possible supply chain connections. Since trucking is predominantly an input to production, and not a final good itself, its demand is reliant on the demand of other goods and services. Higher industry penetration represents increased demand and higher indirect economic impacts across the region.

Figure 9: Economic Impact Multipliers by Indicator Across Regions

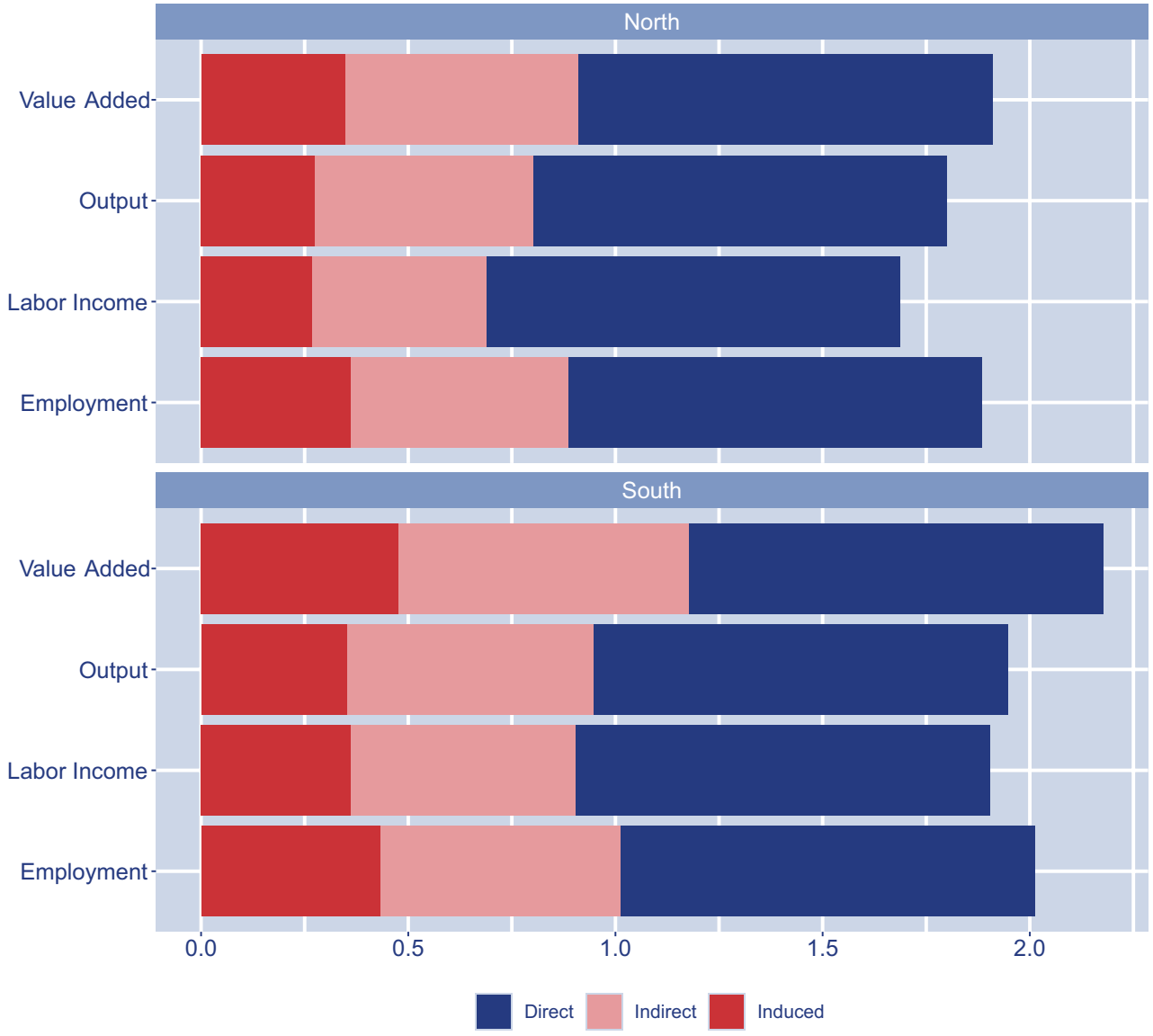
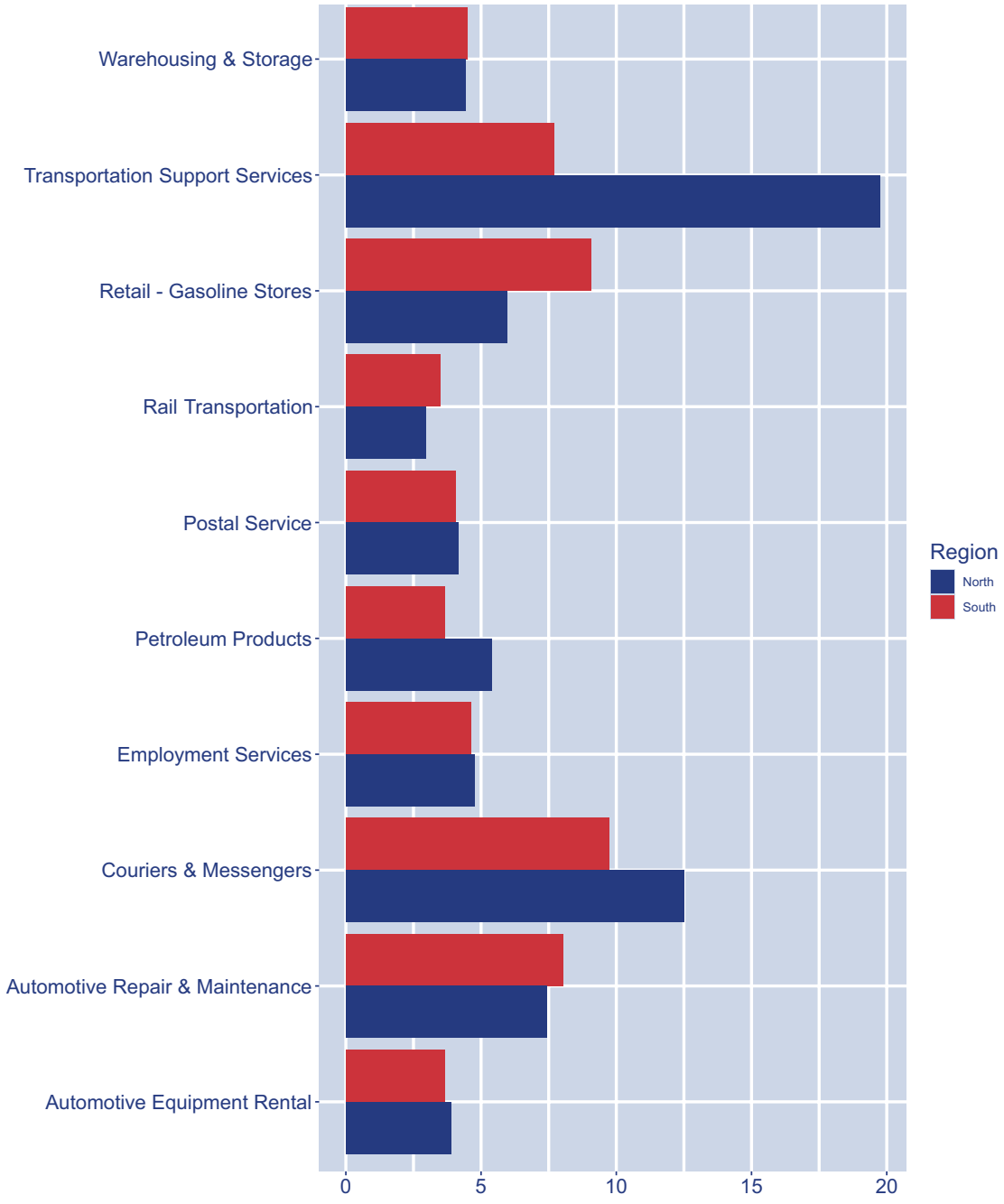


Figure 10 illustrates the varying degree of industry reliance on trucking across various sectors, comparing North and South Louisiana. The focus of this graph is on the output industries produce that is transported by the trucking industry. North Louisiana accounts for approximately 3% of warehousing and storage and South Louisiana for 4%. A distinct variation can be seen in the transportation support services sector with North Louisiana contributing approximately 19% and South Louisiana contributing significantly less at around 8%. This disparity reflects North Louisiana's increased demand within logistics, freight forwarding, and related support industries. This difference specifically communicates the vast differences in infrastructure, population, and modes of transportation.

Figure 10 further reveals retail (gasoline stores) in the south relies on trucking for around 8% for transportation compared to North Louisiana's reliance on trucking for roughly 6.25%. Rail transportation displays similar trucking dependency in both regions with the north using truck transportation for 3% and 2.5% in the south. Postal services demonstrate slightly more reliance on trucking in the north at approximately 3.5% compared to South Louisiana at 3.25%. Petroleum products are more reliant on truck transportation in North Louisiana at around 6% than in South Louisiana at 3%. Employment services is almost equally reliant on trucking in the north at 4.5% and south at 4.75%. This similarity in degree of reliance in both regions suggests consistent need regardless of geographic location.

Figure 10: Percent of Adjacent Industry Output from Trucking by Region



Couriers and messengers exhibit heavy reliance on trucking in both the north and the south, however there is a noticeable difference between regions dependence, with the north at 12.5% and the south at 9.75%. Automotive repair and maintenance show similar reliance on trucking in both regions with the south at approximately 7.75% and the north at 7.5%. Both regions show similar trucking reliance in the automotive equipment rental sector with the north at 3% and South Louisiana with comparable reliance at 2.75%

Four notable disparities emerge from Figure 10 between North and South Louisiana: transportation support services, retail (gasoline store), petroleum products, and couriers and messengers. North Louisiana's transportation support services depend more on trucking due to fewer transportation alternatives compared to South Louisiana's waterways and rail hubs. According to Louisiana DOTD, New Orleans is home to one of the most connected railway hubs in Louisiana, connecting eight railways in one central location. With more railways there is less dependency on trucking, and in turn transportation support services in South Louisiana. More frequent fuel deliveries in South Louisiana

Table 3: Headline Impacts by Economic Indicator

Impact	Federal Taxes	State Taxes	Parish Taxes	Other Sub-Parish Taxes
Direct	$90,647,734	$23,815,939	$3,992,011	$10,375,859
Indirect	$40,788,296	$39,329,006	$10,284,270	$26,734,445
Induced	$25,757,612	$15,222,477	$3,597,662	$9,352,073
Total	$157,193,643	$78,367,423	$17,873,943	$46,462,377
Direct	$279,410,239	$75,813,562	$14,263,498	$35,438,158
Indirect	$166,734,901	$108,705,227	$29,583,561	$73,486,669
Induced	$112,017,697	$59,083,929	$15,129,136	$37,582,145
Total	$558,162,837	$243,602,718	$58,976,195	$146,506,972

are due to greater population density, more urban areas, and overall higher tourism traffic. This is also the case for the disparity in couriers and messengers. According to an article published by Explore Louisiana, for the years 2015-2019, South Louisiana experienced increased volumes of tourism while North Louisiana experienced noticeably less tourism. Petroleum products in the north being more reliant on truck transportation stems from small scale oil and gas operations, according to an article published by 64 Parishes. South Louisiana's oil and gas industry is more complex and relies more on pipelines than trucking, particularly taking into consideration offshore oil rigs in the Gulf of Mexico.

According to an article published by Greater New Orleans, Louisiana maintains some of the highest ranked ports in the Western Hemisphere consisting of: the Port of South Louisiana, the Port of New Orleans, and Plaquemines Port. All these ports are located south of Interstate 10. Due to the locations of the ports and the high volume of cargo, the demand for trucking in South Louisiana is greater than the demand in North Louisiana. As cargo moves throughout these ports trucking provides a crucial link for distributing these goods across the state and beyond. Contributing to the significant disparity displayed in Table 3.

There are three categories across four levels of government that display how trucking impacts Louisiana's tax revenue in Table 3. These categories include direct, indirect, and induced. Direct indicates tax revenue generated from activities in the trucking sector specifically (i.e. trucking companies' operations). Indirect represents tax revenue generated from related businesses that support direct activities. Induced effects capture the various rounds of consumer spending due to the economic ripple effects of trucking industry employment. Table 3 illustrates these categories and their tax revenue implications with South Louisiana contributing approximately three times more than North Louisiana, especially in the federal tax sector. This disparity reflects South Louisiana's high-volume industries and port activity, driving greater tax revenue across government levels.

The significant difference in north versus south includes simple geography. With the Port of New Orleans' location being situated on the Gulf of Mexico, direct access is granted for oil tankers operating not only in the Gulf but overseas as well. This strategic location of South Louisiana's ports along the Mississippi River and Gulf Coast creates a natural hub of logistics. Considering this critical factor, trucking is a crucial part of oil industry operation in South Louisiana. Although there is still a demand for oil industry trucking in North Louisiana, it is not as high, leading to a disparity in tax revenue shown in Table 3.

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Scoring Big: The Economic Effect of the Sports Industry Across Louisiana

BY ZACC LANDRY

Alvin Kamara, running back for the New Orleans Saints, recently signed a two-year extension worth $24.5 million, a deal that underscores the high-profile nature of professional sports. Throughout the state, sporting directly employs and supports over 12,000 workers and contributes more than $760 million to Louisiana's GDP. With starstruck numbers such as these, it is easy to assume that sports play a major role in the economic environment of Louisiana. The economic reality indicates a more nuanced picture. Across the state, the sports industry has a relatively wide distribution of economic effects. The industry has a relatively small employment multiplier of 1.34. Depending on region, some areas reap those economic benefits, while others do not.

Figure 11 visually expresses the proportion of Louisiana's sports industry according to metropolitan statistical area (MSA) by economic indicator (employment, labor income, value added, and total output). The direct, indirect, and induced effects are measured according to a contribution analysis methodology using an input-output table. This allows us to measure how important an existing industry or economic partner is to a given region. Since the sports industry already exists (and we do not need to make any assumptions about size or importance) this is a reasonably robust method. Each bar of the figure measures the portion of the total effect that is present in each region for each indicator. For instance, the sum of all blue bars for employment will equal 100% and so on.

Figure 11 shows some important dynamics of how the economic impact of sporting contributes to the development of each region. The majority of the sports industry is centered around the New Orleans-Metairie MSA. While this is true of many industries in the state, of particular note is the relatively large percent of induced economic effects that are contained within this MSA. Induced effects measure the portion of economic changes from consumer demand. This is most likely attributed to the tourism effect of New Orleans. Since a significant portion of the New Orleans economy is driven by tourism and depends upon external tourism dollars, there are considerable economies of scope leveraged as more people travel there. Since this region also has the highest representation of all industries present in the state, these dollars circulate more.

The two next-largest MSAs exhibit a supply chain connection that New Orleans-Metairie does not have. Baton Rouge and Lafayette both have a higher proportion of indirect effects which represent more business-to-business interdependency. These two MSAs, while missing more of the induced component that tourism affords, are responsible for relatively more of the state's supply chain connection. This figure shows that these two MSAs serve as a supply chain connection for other regions, so a relatively higher number of workers employed in these two MSAs are due to demand effects in other portions of the state. This pattern exhibited by Baton Rouge and Lafayette is mimicked by the Lake Charles and Hammond MSAs, albeit to a lesser degree. Lake Charles and Hammond are both half of the size of their aspiring counterparts, which is most likely due to university expenditures in Baton Rouge and Lafayette.

Shreveport-Bossier City proportions match more closely with patterns that are normally seen by traditional industry impacts. While the indirect and induced effects are relatively high compared to the direct effects, they are closer to each other for all four economic dimensions examined. This suggests that the Shreveport-Bossier City MSA has some of the highest multiplier effects, due to the composition of the industries present, but is only responsible for about 6% of the overall sports industry on average.

Alexandria and Monroe MSAs have relatively little proportion of the state's sports industry present. Their patterns are more closely in line with closest MSA regions. Alexandria looks similar to Lafayette and Lake Charles, and Monroe looks more like Shreveport-Bossier City. Houma-Thibodaux has a negligible percent of the industry at this scale.

Figure 11: Proportion of Louisiana's Sports Industry by MSA (Percent)

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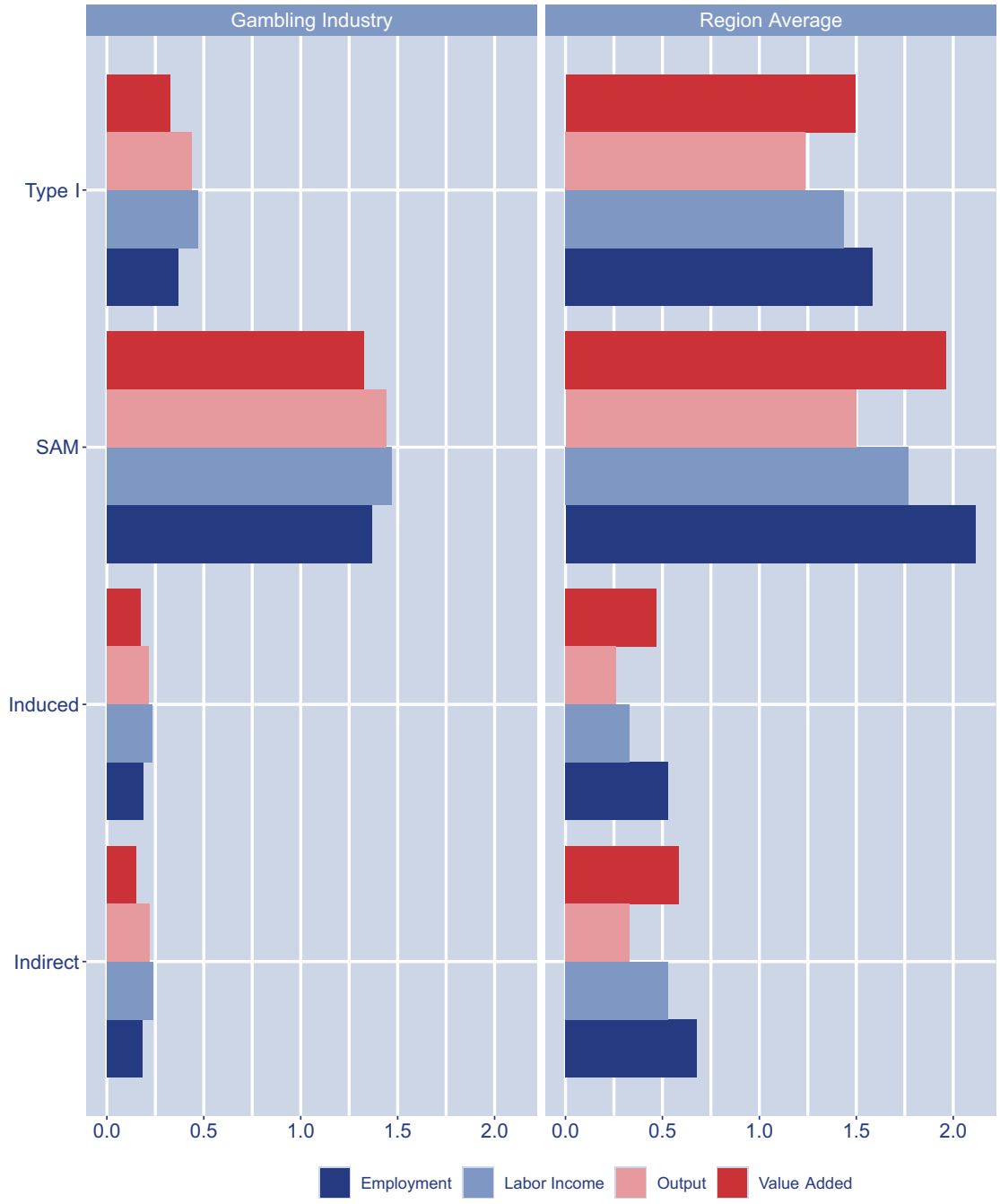
Measuring the Impact: A Contribution Analysis of Gambling in Shreveport-Bossier

BY LANDRY WORSHAM

Casinos are vital to the Shreveport-Bossier City area, drawing tourists and locals alike to the banks of the Red River, which winds gracefully through both cities and serves as a stunning backdrop for the excitement within. Not only do these establishments offer entertainment, but they also play a crucial role in the region's economy by providing over 3,000 direct jobs, generating more than $54 million in state tax revenues, and contributing an additional $190 million in economic activity that supports local business. The casinos add a touch of Vegas-style allure, infusing energy into the Red River District and making Shreveport-Bossier City a unique Southern destination. They aren't just venues for gaming; they're

Figure 12: Economic Multipliers by Economic Indicator for Gambling and All Industries for Shreveport-Bossier City MSA



hubs of entertainment, dining, and events, creating a lively atmosphere that attracts visitors from across the country. The thriving casino scene contributes to the area's growth and development, bringing vibrancy and opportunity to the local community and enhancing the appeal of this remarkable region.

A contribution analysis is a method used to understand the economic impact of a specific industry or sector within a larger economy. It examines how much value an industry adds through metrics like jobs, income, and tax revenue, helping to measure its indirect and indirect effects on the surrounding economy. In this case, the direct effects are calculated using revenue estimates from the Greater Bossier Development Foundation. By analyzing the sector's contribution, stakeholders can assess its importance to regional growth, identify areas for improvement, and make informed decisions on resource allocation and policy adjustments.

Figure 12 illustrates three types of economic multipliers: Type 1, SAM (Social Accounting Matrix), and specific breakdowns for induced and indirect effects. Type 1 multipliers measure the direct and indirect effects of an industry on the economy, capturing both initial spending and supply chain responses. SAM multipliers, however, encompass direct, indirect, and induced effects, factoring in additional economic activity generated by employees' local spending. Additionally, Figure 12 breaks out the indirect and induced effects as percentages of the total contribution, providing a clearer view of how each component—supply chain impacts and consumer spending—contributes individually to the broader Shreveport-Bossier City metropolitan statistical area (MSA) economy.

As shown in Figure 12, the gambling industry's multipliers fall below regional industry averages for both Type 1 and SAM multipliers, including induced and indirect effects. Specifically, the gambling industry's employment Type 1 multiplier is 0.37, its indirect multiplier is 0.18, and its induced multiplier is 0.19, with a SAM multiplier of 1.37. In comparison, regional averages for Type 1 and SAM multipliers are 1.59 and 2.11, with induced and indirect components averaging 0.68 and 0.53. Similarly, the gambling industry's labor income multipliers are lower than the regional averages: the labor income Type 1 multiplier is 0.47, the indirect multiplier is 0.24, and the induced multiplier is 0.23, with a SAM multiplier of 1.47. For the region, labor income Type 1 and SAM multipliers average 1.44 and 1.77, with indirect and induced components averaging 0.53 and 0.33. These disparities indicate that while gambling plays an important role in the Shreveport-Bossier City MSA, its employment and labor income contributions per dollar of output remain below average for all industries in the region. To achieve a comparable economic impact, the gambling industry would need to increase its overall contributions and deepen its industry dependency by strengthening local supply chain connections. Additionally, more of the revenue generated would need to recirculate within the MSA to enhance its multiplier effect and better align with regional averages.

The same trend holds for both output and value-added multipliers, with the gambling industry's figures falling below regional industry averages. Specifically, the gambling industry's output Type 1 multiplier is 0.44, its indirect multiplier is 0.22, and its induced multiplier is 0.22. For value-added, the Type 1 multiplier is 0.33, the indirect multiplier is 0.15, and the induced multiplier is 0.17. In comparison, the regional averages for output and value-added Type 1 multipliers are 1.23 and 1.49, respectively, with indirect and induced multipliers averaging 0.33 and 0.59.

While the gambling industry is undeniably significant to the Shreveport-Bossier City metropolitan statistical area, its productivity still lags behind industry averages. This means that, to match the economic impact of other local sectors, the gambling industry must amplify its contributions. Increasing its productivity could elevate its economic footprint and enable it to better support job creation, tax revenue, and local growth.

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LOUISIANA TECH UNIVERSITY®
COLLEGE OF BUSINESS
502 West Texas Avenue
PO Box 10318
Ruston, LA 71272

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