REAL

REGIONAL ECONOMIC ANALYSIS OF LOUISIANA

REPORT

CENTER FOR
ECONOMIC
RESEARCH

WINTER 2023

COLLEGE OF BUSINESS

Dean's Message

The Center for Economic Research is pleased to present the Winter 2023 issue of the Regional Economic Analysis of Louisiana (REAL) Report, an ongoing series of publications designed to provide insight into recent economic developments in Louisiana.

This issue includes several analyses written by undergraduate students and faculty in Louisiana Tech University's College of Business. Special reports include a look at some of our state's largest industries: timber, oil, and natural gas, along with jobs related to STEM. Other reports explore wage inflation rates, the housing market, income disparity, and the inequality of tax burden and industry composition. As always, we open the publication with economic forecasts for the state that detail current and future labor and wage trends.

The REAL Report is produced for stakeholders across the state of Louisiana and our region of the South. Providing an invaluable learning experience, the report is compiled by undergraduate economics majors who work with faculty in the Center for Economic Research. Their work serves as partial fulfillment of the Regional Economic Analysis (ECON 425) course.

This report and all subsequent issues can be found online at **Business.LATech.edu/RealReport**. For more information on the report or the Center for Economic Research, please 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.

Thank you for your interest!

Sincerely,

CHRISTOPHER L. MARTIN, PH.D.
Dean and Chase Endowed Professor
College of Business
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Meet the Team

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Louisiana Economic Indicator Forecasts

BY C. PATRICK SCOTT, PH.D.

Forecasts are provided using a Bayesian model averaging approach from many 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.

Non-Farm Employment

Total non-farm employment has recovered about 9,500 jobs over the last four months. Total employment is still down approximately 48,000 jobs from pre-COVID levels nearly three years ago. National employment continues to post relatively large job gains since there are still workers to reengage the labor force. Louisiana has already recovered its labor force participation but still lags in total jobs due to population declines. Future job growth in LA is likely to grow at a much slower rate than the country, reflecting these dynamics.

Punchline: The last 20% of the recovery is likely to take 80% of the effort.

Figure 1: Forecasted Non-Farm Employment (Thousands)
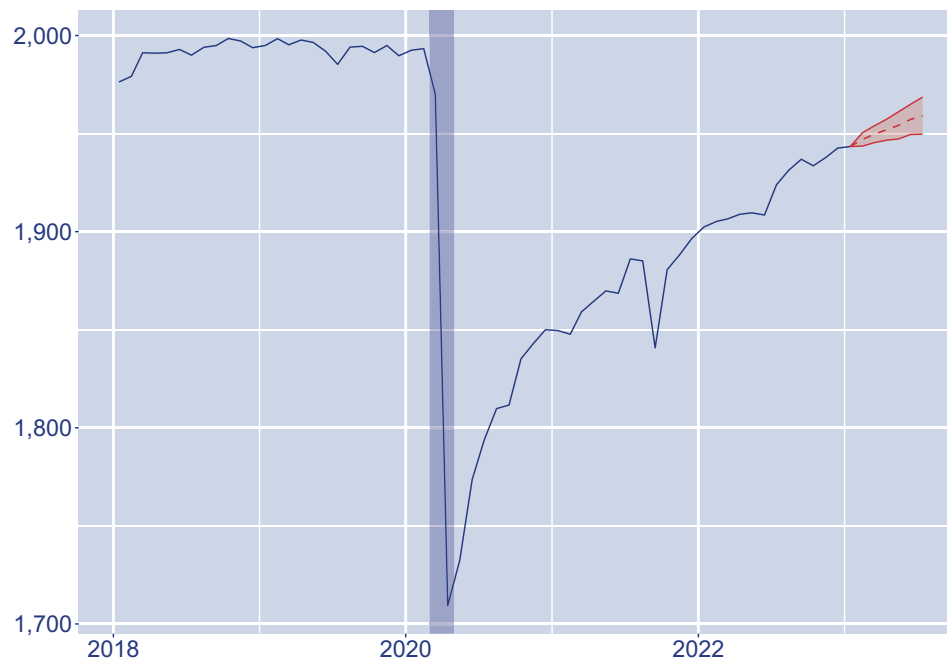
Unemployment Rate

The unemployment rate for Louisiana fell steadily for nearly the entire year, ending 2022 and starting 2023 at 3.5% (both December and January estimates). If the Fed is successful in pulling off a 'soft landing' for the economy, the unemployment rate for LA is expected to increase only modestly over the next six months. It is expected to inch its way back to 4% territory later this year. Financial shocks in the banking system may accelerate this trajectory.

Punchline: The unemployment rate remains one of the brightest spots.

Figure 2: Forecasted Unemployment Rate (Percent)
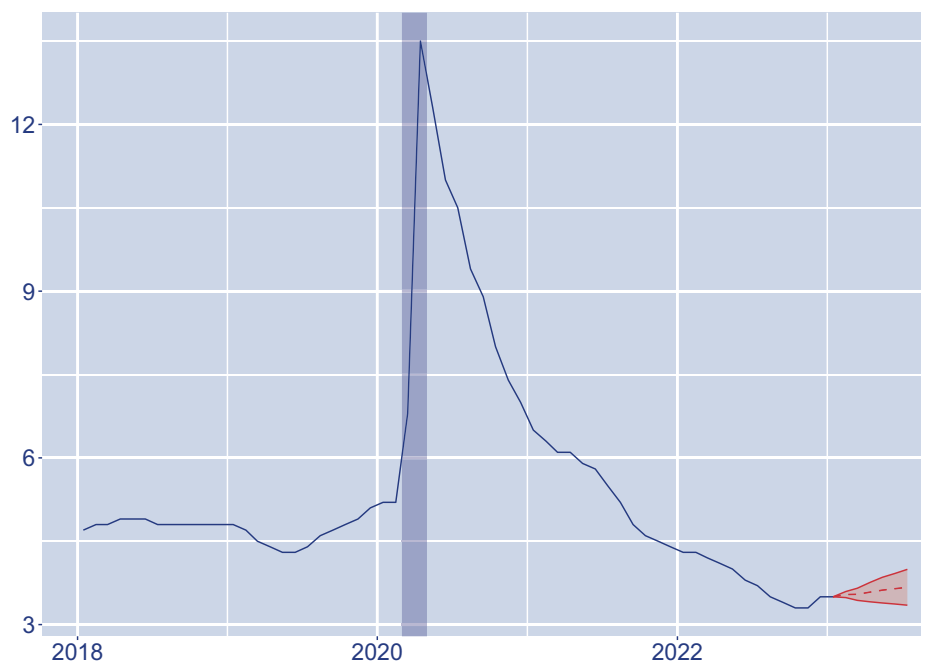
Figure 3: Forecasted Labor Force Participation Rate (Percent)
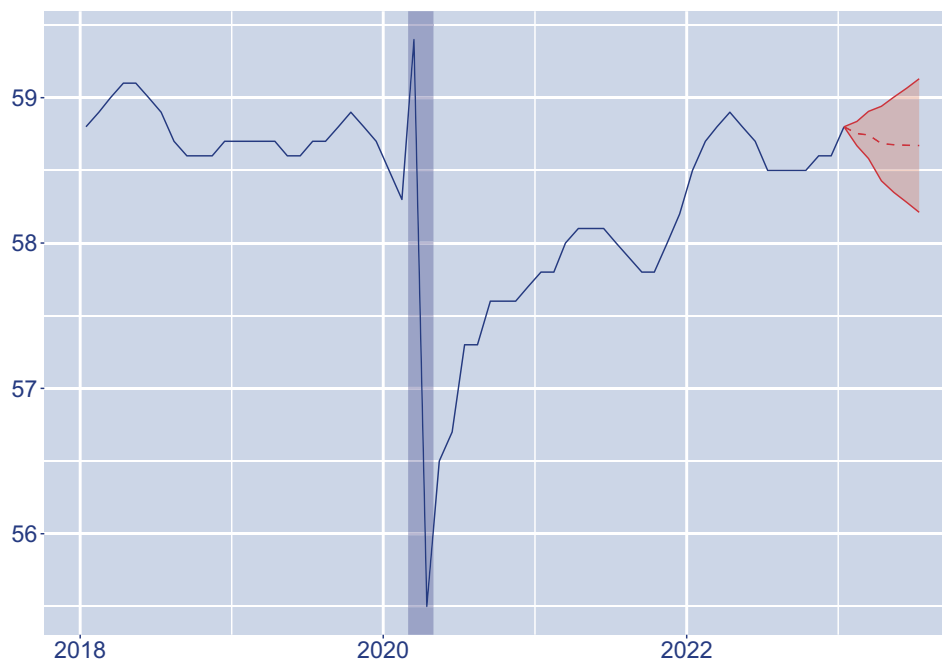
Labor Force Participation Rate

The labor force participation rate (the fraction of working age population engaging labor markets) recovered from its modest decline in early 2022. This indicator for Louisiana recovered from the pandemic about 14 months ago. Figures 1-3 together indicate an economy that can only fully recover via population growth. As the unemployment rate raises slightly, the labor force participation rate is likely to cool modestly.

Punchline: The labor force participation rate has returned to long-run dynamics.

Figure 4: Forecasted Wage Inflation (Percent)
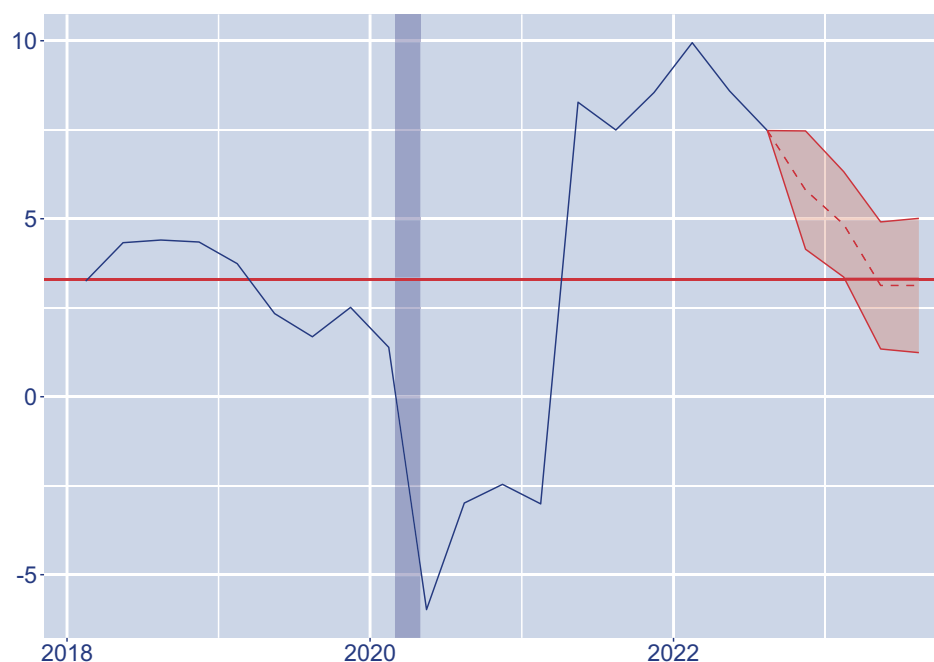
Wage Inflation

The long-run growth rate of wages is approximately 3.3% for Louisiana (the horizontal red line). The first two quarters of wage growth data were revised upwards since the last report. Current wage growth is holding steady, despite national numbers falling a bit in response to shifting labor market dynamics. Wage growth is expected to remain above trend through the rest of 2023.

Punchline: Wage growth is still strong, but all eyes are on the Federal Reserve.

Monthly employment, unemployment rate, and labor force participation rate data for this section extend to January 2023 and include the most current releases at the time of publication. Quarterly wage data extend through October 2022 and include the most current releases at the time of publication.

The Economics of Pine Trees: An Industry Contribution Analysis of the Louisiana Timber Industry

BY MARSHALL KEEN

What many across the nation think of as the state of swamplands and alligators is known more realistically by locals as the state of pine trees and logging trucks. Forests comprise nearly half of our state's land mass at 13.8 million acres. Qualitatively, the importance of the timber industry to Louisiana is rarely called into question, but it is the aim of this report to quantify the effect of this sector to the rest of the state. Additionally, how dependent is the state's economy on this industry? How does Louisiana stack up to our neighbors?

The timber industry (comprised of commercial logging, forestry, and sawmills as sub-industries) contributes approximately $1.7 billion to Louisiana's output according to latest estimates by the Bureau of Labor Statistics. Value added totals $816 million and labor income is $502 million. The state's timber industry totals $71.3 million in direct revenue (including state, federal, and municipal figures), and supports an additional $61 million in tax revenue (including indirect and induced tax contributions). If the timber industry was removed from Louisiana, aftershocks would be felt in 86% of all reporting industries for the state.

Figure 5: Statewide Economic Multipliers by Industry
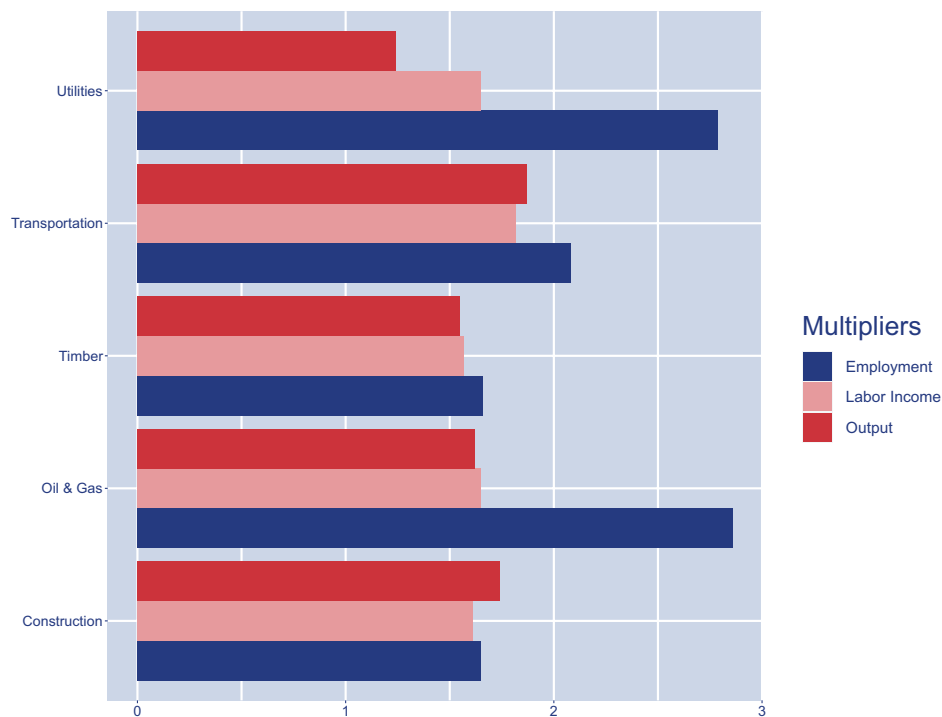
A comparative representation of employment, output, and labor income multipliers from a few of the state's leading industries is depicted in Figure 5. For the timber industry, an employment multiplier of 1.66 indicates that every five jobs lost or gained in the timber industry leads to an associated change of three jobs in other industries throughout the state economy. Similarly, the labor income multiplier suggests that for every $80,000 change in labor income for the timber industry, there will be an additional associated change of $50,000 in labor income across other industries in the state.

The underlying intuition behind this analysis is that there are three types of economic shock impacts: direct, indirect, and induced. Direct activity, as the name implies, has to do with the immediate impact of a change in an economic metric (e.g. the impact of a change in timber industry employment's on total state employment—which would obviously be one job). The other two more nuanced types of economic impact are indirect (referring to the impact of a change in the industry through business-to-business commerce) and induced (referring to the impact of a change in the industry

through its effect on consumer buying power). It is the extent to which a direct impact in an industry effects the associated indirect and induced impacts that determines the magnitude of the multiplier.

The comparative demonstration represented by Figure 5 begs an important question about the relevance of the timber industry to economic activity within our state: why are the multipliers for the timber industry relatively lower than other industries? Timber is an intermediate good which is harvested and transported to other sites and converted into a finished good via a manufacturing process. Oftentimes this site to which the intermediate good is transported resides within another state. Because of this, the contribution of the industry to state-level figures may be lower relative to finished-goods industries.

Table 1: Timber Industry Snapshot by State (Source: IBISWorld, Matthew Pigot)

State	Facilities	Revenue	Employment	Employment Location Quotients	Wages	Average Wages	Trending
Alabama	354	$58,457,302	374	3.81	$17,133,631	$45,812	↓
Arkansas	82	$69,155,685	465	8.11	$19,546,993	$42,037	↓
Georgia	259	$53,946,526	393	1.75	$15,621,128	$39,749	↑
Louisiana	188	$161,583,191	1244	13.99	$49,020,310	$39,405	↑
Mississippi	163	$151,568,253	545	10.30	$45,855,507	$84,139	↑
Oklahoma	29	$22,190,008	73	0.91	$6,564,870	$89,930	↑
Texas	262	$28,220,877	162	0.26	$805,031	$49,693	↑

Though the intrastate contribution of the timber industry may be marginally lower than some of the other industries analyzed above, a holistic analysis of this industry within the state warrants a different type of comparative analysis—one that contrasts the timber industry in Louisiana against the same industry in other states. Table 1 compares Louisiana to other state-level estimates for the timber industry and shows Louisiana to have the highest total revenue, the highest total wages, and more employment than its immediate neighbors combined. Louisiana employs twice the number of workers as its closest regional rival. This reveals that, while the timber industry may not have as substantive of a role in Louisiana's output and employment figures as some of the other industries analyzed above, the inverse tells a different story—the nationwide timber industry is reliant upon producers within the state of Louisiana. One important aspect to note in this figure, as a disclaimer, is that the employment estimates may include fewer timber related sub-industries than the contribution analysis performed above (as the numbers are substantially lower than that of the calculation in our team's contribution analysis).

Louisiana is leading the timber industry across the nation, and this has important implications for other industries within the state which may not be reflected in a contribution analysis. Timber plays a substantial role in the carbon sequestration process, which appeals to manufacturing firms seeking to enhance their carbon rating for purposes of green marketing or an enhancement of tradeable tax credits. As concepts such as mass timber construction begin to rise in popularity, support for the timber industry may be growing as construction companies increasingly look for wood product alternatives for beams and wood panels. This presents a major economic opportunity for the state in terms of a potential for new market entrants—especially as firms continue to be incentivized to pursue carbon capturing policies.

Data for this report are provided by the Bureau of Economic Analysis and IBISWorld. Parish level data are produced with a year-long lag. Current annual data extend to 2021. 2022 estimates are expected in December 2023.

The $10 Million Question — Which STEM Industry Provides the Best Economic Benefit?

BY ELLIS GRIFFIN

According to the National Science Foundation, STEM jobs include chemistry, computer and information technology, engineering, healthcare, life sciences, mathematics, physics, social sciences, and many others. In Louisiana, roughly a quarter (23%) of all jobs are classified as STEM-related. The industries composed of these jobs are an important part of the Louisiana economy because they pay on average $24,000 per year more than non-STEM jobs. For this report, we estimate the effect of a shock (an increase in investment) to the top 10 STEM industries (organized by aggregated state employment) by $10,000,000 to see which one had the largest benefit on the overall state economy.

Figure 6: Economic Multipliers for Top 10 STEM Industries in Louisiana
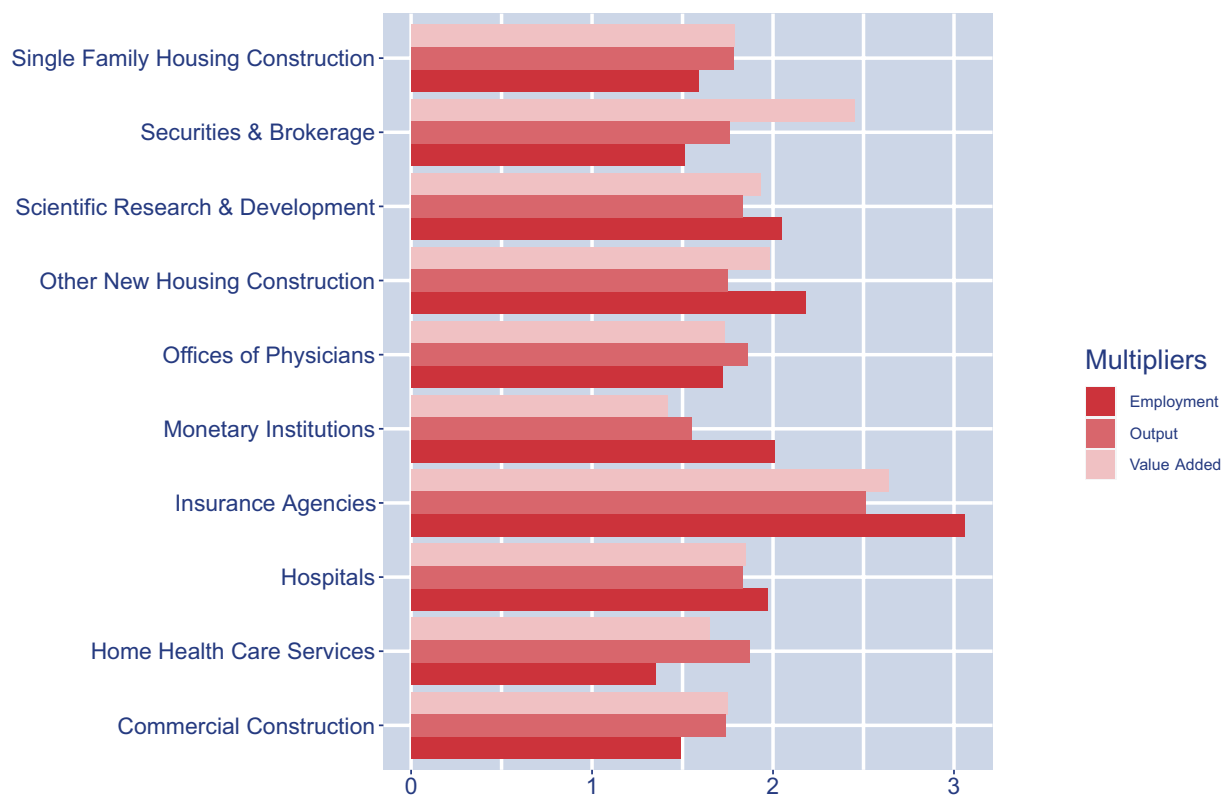

Figure 6 above shows the various multipliers that the top STEM industries of Louisiana would provide if $10,000,000 were to be invested in them, separated by type of multiplier. Employment multipliers measure how many additional spin-off jobs are made when one new job is created. The output multiplier value summarizes the number of times the shock will propagate through the region of impact in terms of total output (intermediate and final goods). The value-added multiplier is the total amount of final goods and services added to the local economy because of this industry's expansion. For all three multipliers, there is a clear winner: insurance agencies. These high multipliers are intuitive, as insurance agencies require external agencies, such as legal firms, within the region to operate. For every one job added, an insurance agency supports two additional jobs in other parts of the state economy. The output and value-added multipliers are also relatively high. Insurance agencies also disperse risk from investment volatility within the region (which is not necessarily measured directly).

Figure 7: Jobs Added for a Hypothetical $10 Million Investment in Each Industry
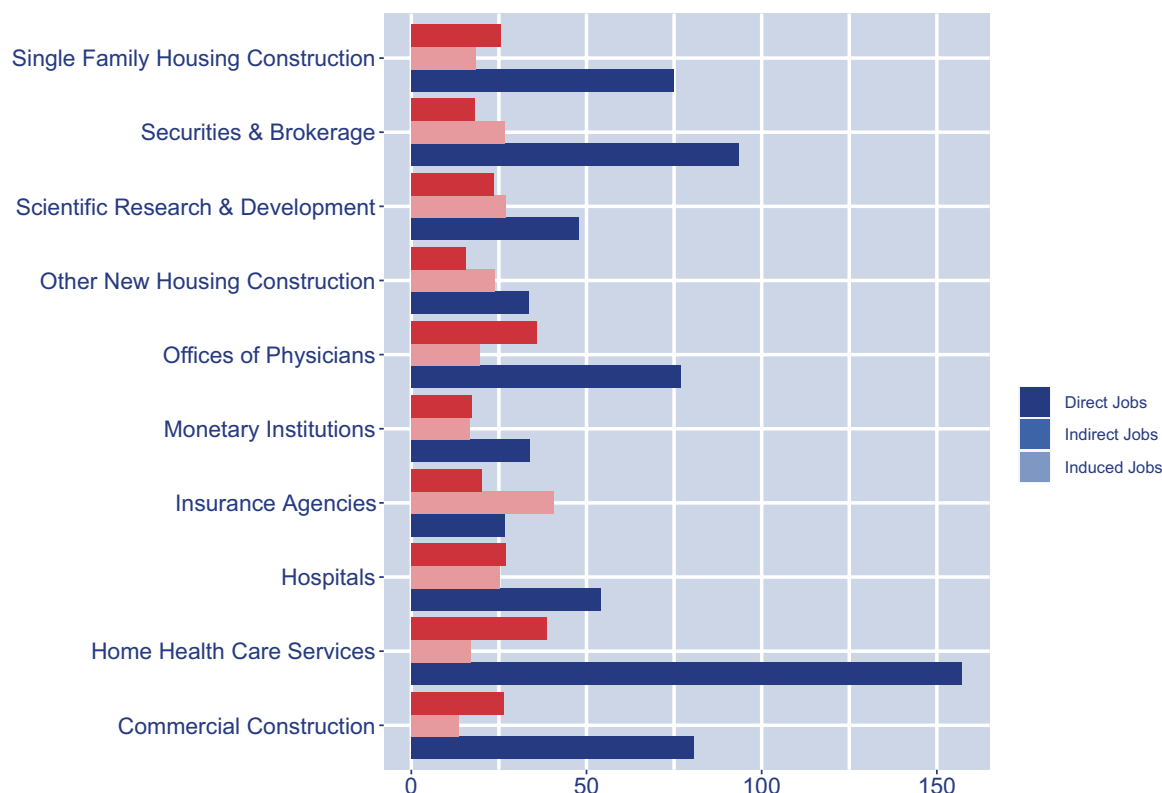
Like Figure 6, Figure 7 shows the number of jobs added to the Louisiana workforce by each of the top 10 STEM industries in Louisiana supposing a $10,000,000 investment. The total job change is separated according to direct, indirect, and induced effects from the shock. Direct jobs are jobs that are created through operation and expansion of the business based on average worker productivity. Indirect jobs are created by the business spending money on goods and services further up the supply chain, like a hospital buying more medical equipment. Induced jobs are created by the business' employees spending income on goods and services, like a new hire nurse spending money going out to eat or getting a haircut. As Figure 7 shows, home healthcare services provide the most total jobs, adding a relatively larger number of direct and induced jobs. Indirect employment for this industry is relatively lower since this industry tends to not have large facilities to support and because supply chain spending is disproportionately outside of the state.

One big difference between Figures 6 and 7 is that insurance companies provide some of the least overall jobs, despite the industry's relatively large multipliers. This phenomenon is generally seen across many STEM fields. The higher level of productivity brings a higher average pay, but fewer positions. While the economic effect of insurance company investment disperses widely across the state, the overall jobs created are lower than other industries for the same level of investment. A shock to output for insurance companies turns over many times and over many other industries (such as construction, real estate, and law firms), however the overall employment level effect is relatively lower.

The economic impact tradeoff between these two STEM industries is analogous to a quantity versus quality tradeoff. A $10 million shock to home health care services adds more jobs directly but impacts fewer adjacent industries. The same shock to insurance companies is felt more broadly across the state, but because of the higher average worker productivity, does not impact as many people. The importance of this tradeoff is significant in the context of tax incentives at the local and state level as well. It is important to note that both worker productivity and corresponding average salaries in all the industries listed above are higher than the state median. Investment in any of these industries translates to growth for Louisiana.

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Parish Level Wage Inflation Rates in 2020 vs 2021

BY GEORGIA CARROWAY

Price inflation refers to the sustained increase in the overall price level in an economy over time. As prices increase, workers tend to demand higher wages to keep up with price inflation. How quickly wages grow — wage inflation — is an indication of welfare in the face of inflation as well as an indication of labor market strength at the regional level. Wage inflation rates indicate the health of an economy and workers' well-being, reflecting labor market conditions, cost of living changes, purchasing power, and inflation expectations. High wage inflation can suggest a tight labor market and increased competition for workers, while lower wage inflation can indicate a decline in purchasing power and potentially unanchored inflation expectations. Inflation in 2021 was caused by a combination of factors, including supply chain disruptions due to the COVID-19 pandemic, labor shortages leading to increased wages and higher costs for businesses, and increased demand for goods and services as the U.S. economy reopened. These factors resulted in significant price increases for many goods and services, leading to decreased consumer purchasing power and potential long-term economic effects. By using the calculated wage inflation rates at the parish level, I analyze and compare the results from 2020 to 2021 as well as provide a comprehensive overview of the key factors that influenced wage inflation in both years.

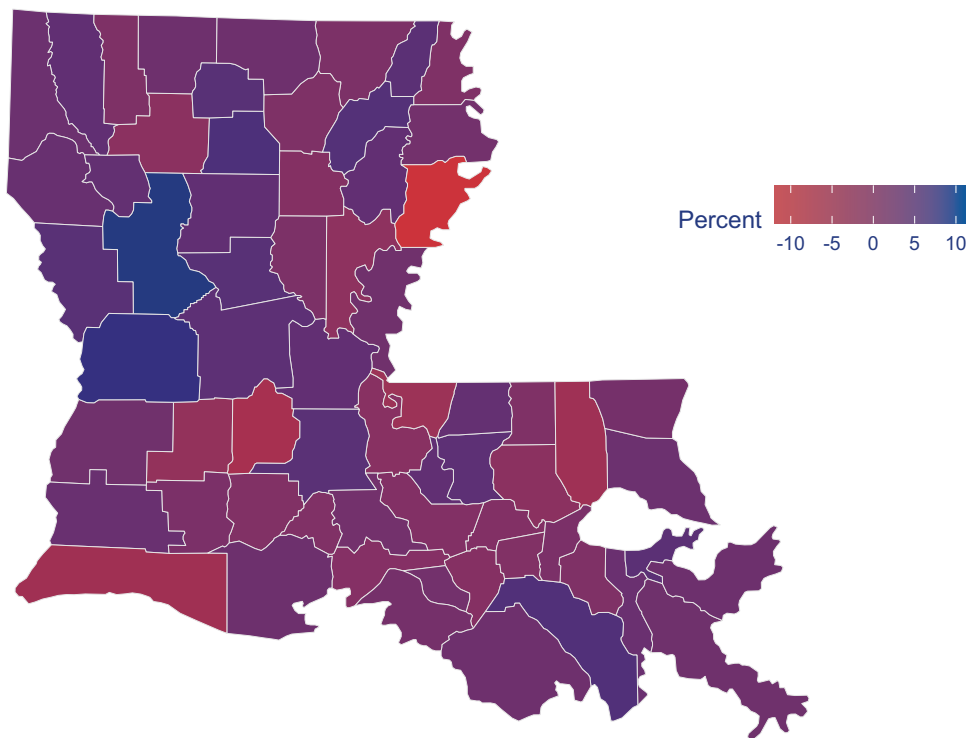### Figure 8: Parish Level Wage Inflation 2019-2020 (Percent)

Figure 8 illustrates the inflation rate of wages at the parish level for 2020. The calculation of wage inflation rates involves determining the change in average wages between two periods, expressed as an annual percent change. The map shows varying levels of growth across different parishes. It is evident that parishes such as Natchitoches had a higher inflation rate for the year. This disparity of low inflation rates in one year and high inflation rates in the next year can be explained by dynamics of the labor market. The supply of labor is a fixed pool, meaning that the number of people available to work in an area does not change significantly from year to year. However, the demand for labor can fluctuate depending on economic conditions.

Figure 9: Parish Level Wage Inflation 2020-2021 (Percent)
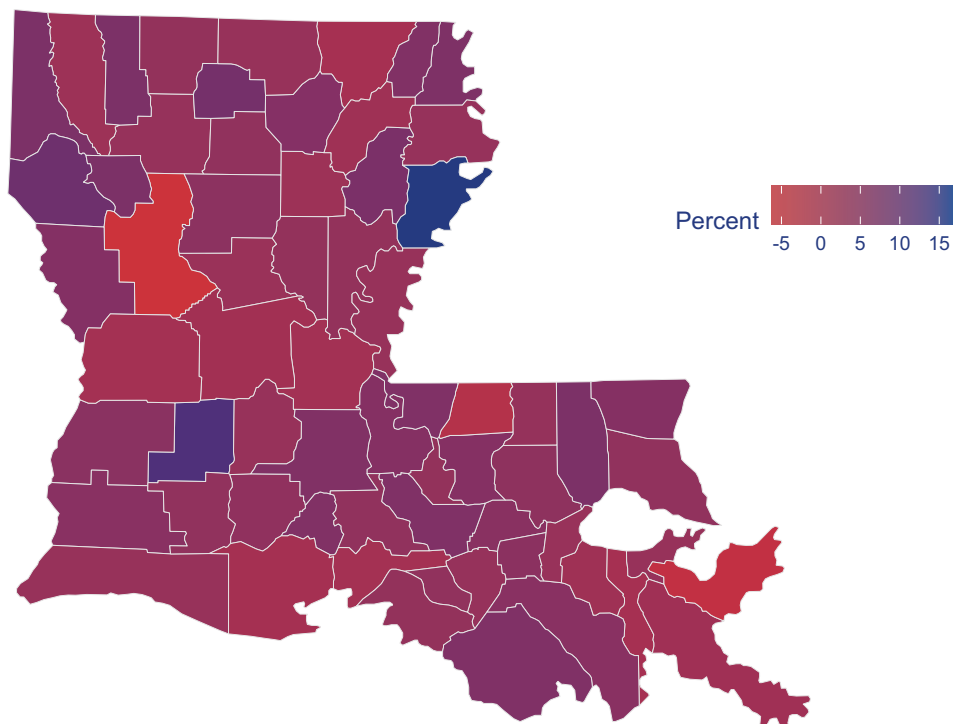
Tensas appears to have the lowest wage inflation rates compared to the state. The rates could have been influenced by a combination of factors such as weak labor market conditions, low productivity growth, and low consumer demand. These factors can put downward pressure on wages and limit the bargaining power of employees, keeping wage inflation low.

In contrast, Figure 9 illustrates the inflation rate of wages at a parish level for 2021. Based on this map, it appears the wage inflation rate for the state is overall much lower than depicted in 2020. This is not wholly unsurprising since we do not see national price inflation start to pick up until the beginning of 2022. However, it is important to note that Tensas had the highest wage inflation rate among parishes in the year, while Natchitoches had the lowest. This is a complete reversal from the map's depiction in the previous year. A rapid increase in wage inflation can negatively impact the economy by increasing production costs, causing higher interest rates, and creating an inflationary spiral. These consequences can be indicators of broader economic issues such as imbalances in the labor market or macroeconomic instability (both of which Louisiana has experienced in the wake of COVID-19). However, a rapid decrease in wage inflation rates can signal potential deflation.

The wage inflation rates in 2021 were lower compared to 2020 due to the improved economic performance of the region (compared to 2020). The demand for labor increased, leading to higher wages for workers and contributing to the increased cost of living. This was fueled by the post-pandemic recovery and stimulus packages aimed at reviving the economy. While the U.S. economy saw significant job growth in 2021, the labor force participation rate had not yet fully recovered to pre-pandemic levels. The relatively low labor force participation rate in 2021 may have contributed to the higher wage inflation rates seen in certain areas, particularly if demand for labor was higher than the supply of available workers in specific regional locales.

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 2021. 2022 estimates are expected in December 2023.

Oil and Natural Gas Multipliers Across Louisiana

BY LAUREN LASITER

Louisiana's oil and natural gas industries are crucial to the state's economy, providing jobs and revenue through the exploration, production, and refining of these resources. Nationally, Louisiana ranks third in natural gas production and proved reserves, and the state's oil refineries account for nearly one-fifth of the nation's refining capacity. The industry also supports many other businesses and industries, including transportation, construction, and manufacturing.

The economic impact of oil and natural gas production is not spread evenly across the state. One way to measure parish output is by analyzing their multipliers. In this analysis, we are utilizing type SAM multipliers. Type SAM (Social Accounting Matrix) multipliers quantify the flow of goods and services, and the incomes associated with them, between different sectors of an economy. It is used in economic modeling to account for the interdependencies between different industrial sectors and consumer spending habits to better understand the effects of economic shocks on the region. It differs from the more traditional type 1 multiplier which only accounts for direct shocks and their immediate supply chain effects. Additionally, type SAM multipliers can help us define the impact of policy changes on different industries and across different groups of people.

Figure 10: Oil & Natural Gas Multipliers at the Parish Level (Units)
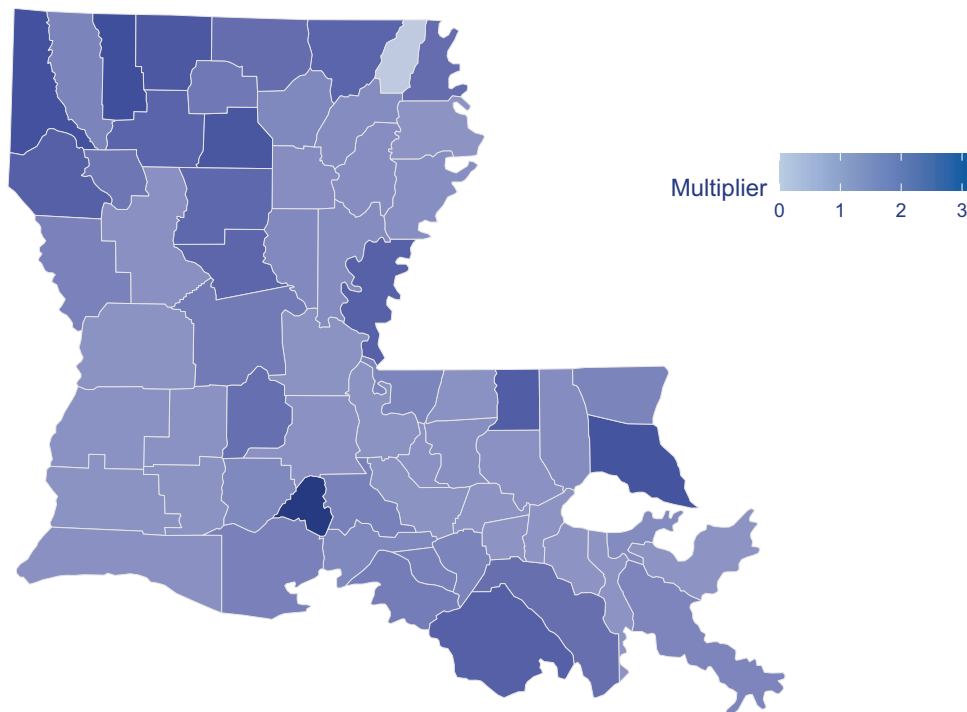
Figure 10 graphically depicts the type SAM multiplier calculations among the parishes in Louisiana for the year 2021. This map indicates that the economic impact of natural gas and oil production is not equal across all parishes in the state. While the oil and gas industries are one of the largest benefactors to the state's overall revenue (combined with petrochemical manufacturing, they account for 25% state output), the figure displays the disparity that a few dominant parishes have on overall output.

The higher multipliers suggest that these parishes are likely to see a larger economic boost from natural gas and oil production, while the lower multipliers suggest a smaller impact. There are several factors that may contribute to differences in multipliers across parishes in Louisiana. These include the level of investment in infrastructure, the availability of skilled labor, and the presence of natural resources such as oil and natural gas reserves. For example, parishes with well-developed infrastructure and a skilled workforce are likely to have higher multipliers. They are positioned to leverage the full advantage of the economic opportunities created by natural gas and oil production. Similarly, parishes with large reserves of natural resources may also have higher multipliers, as they are likely to see a larger economic impact from the extraction and sale of these resources.

Table 2 shows the top five and bottom five parishes according to type SAM multipliers. These parishes represent the outliers from Figure 10. It also shows the dominant effect, population, and percent of industries affected by oil and natural gas production. The type SAM multipliers represent the total impact of an initial spending shock on the local economy, while the dominant effect indicates whether the indirect effect or the induced effect is the driving force. Indirect effects

refer to supply chain movements, and induced effects refer to the increase in consumer spending from income growth when there is a localized shock. Most of the parishes in the bottom five are either at the outskirts of the hydrocarbon plays (natural gas areas), have little or no oil well activity, or both. Based on Table 2, the parishes with the highest type SAM multipliers are Lafayette, Caddo, Webster, St. Tammany, and Jackson, with multipliers ranging from 2.26 to 3.10. Three of these parishes have relatively large populations (with the exception of Jackson and Webster Parishes), ranging from about 230,000 to 270,000 residents. Of these high population areas, the percent of industries impacted by oil and natural gas shocks is about 50%. This pattern of high industry impact even holds for the bottom five as evidenced from Jefferson Parish. Among the top five parishes in the state, St. Tammany is the only parish whose dominant effect in their type SAM multiplier is the induced effect. This means St. Tammany Parish has a large amount of spending of labor income by the employees working in the directly impacted industries. They have the greatest population out of the top five parishes, so it is likely that their spending would outweigh their indirect effect. This phenomenon merits further research exploration.

Table 2: Parish Statistics by Multipliers (Top and Bottom 5 Parishes)

Parish	Multipliers	Dominant Effect	Population	Percent of Industries Impacted
Caddo	2.356	Indirect	233,092	0.514652015
Jackson	2.264	Indirect	14,876	0.272893773
Lafayette	3.099	Indirect	244,205	0.536630037
St. Tammany	2.328	Induced	269,388	0.521978022
Webster	2.432	Indirect	36,184	0.338827839
Jefferson	1.008	Indirect	433,688	0.553113553
St. Charles	1.002	Indirect	52,282	0.39010989
St. James	1.002	Induced	19,742	0.316849817
St. John The Baptist	1.003	Indirect	42,094	0.344322344
West Carroll	0.000	-	9,594	0

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 2021. 2022 estimates are expected in December 2023.

Priced Out: Long-Term Wealth Inequality in Louisiana's Housing Market

BY TRAVIS CORUM

In the Fall issue of the REAL Report, we analyzed the relative house price index and trend deviations from market fundamentals for Louisiana's nine MSAs. The conclusion of that report was that house prices throughout the state, including at the MSA level, were above market fundamentals and due for a correction. This report will analyze how the increase in price volatility and rising interest rates throughout the state effects a household's ability to qualify for a conventional 30-year mortgage.

The term "price out" is used to describe a household that is unable to afford its monthly mortgage payments based on the "28% of income rule." The rule refers to the requirement that no more that 28% of a household's monthly income should be used for mortgage payments. There are multiple variables that might impact a household's ability to afford its monthly payment, such as house prices, interest rate, down payment, additional debt load, etc. This analysis calculates the monthly mortgage payment for Louisiana and its nine MSAs assuming both a 20% and 5% down payment. The 5% down payment would require an additional private mortgage insurance (PMI) payment in addition to the marginally higher monthly mortgage payment (compared to 20% down).

The annual income needed to reasonably afford monthly mortgage payments in each region was calculated by multiplying the monthly payment by 12 and dividing the annual payment by 28%, while the number of households priced out was estimated by cumulatively summing the number of households in each income bracket below the annual income needed to qualify. Because of the nature of fixed payment loans, the number of households who cannot afford the monthly payments will be higher with a 5% down payment compared to a 20% down payment. Since not all segments of society are able to save up the additional 15% down, the difference in price out points between the two groups represents a measure of inequality in long-term wealth building.

Figure 11: Households Priced Out of Homeownership at the State & MSA Level (Percent)
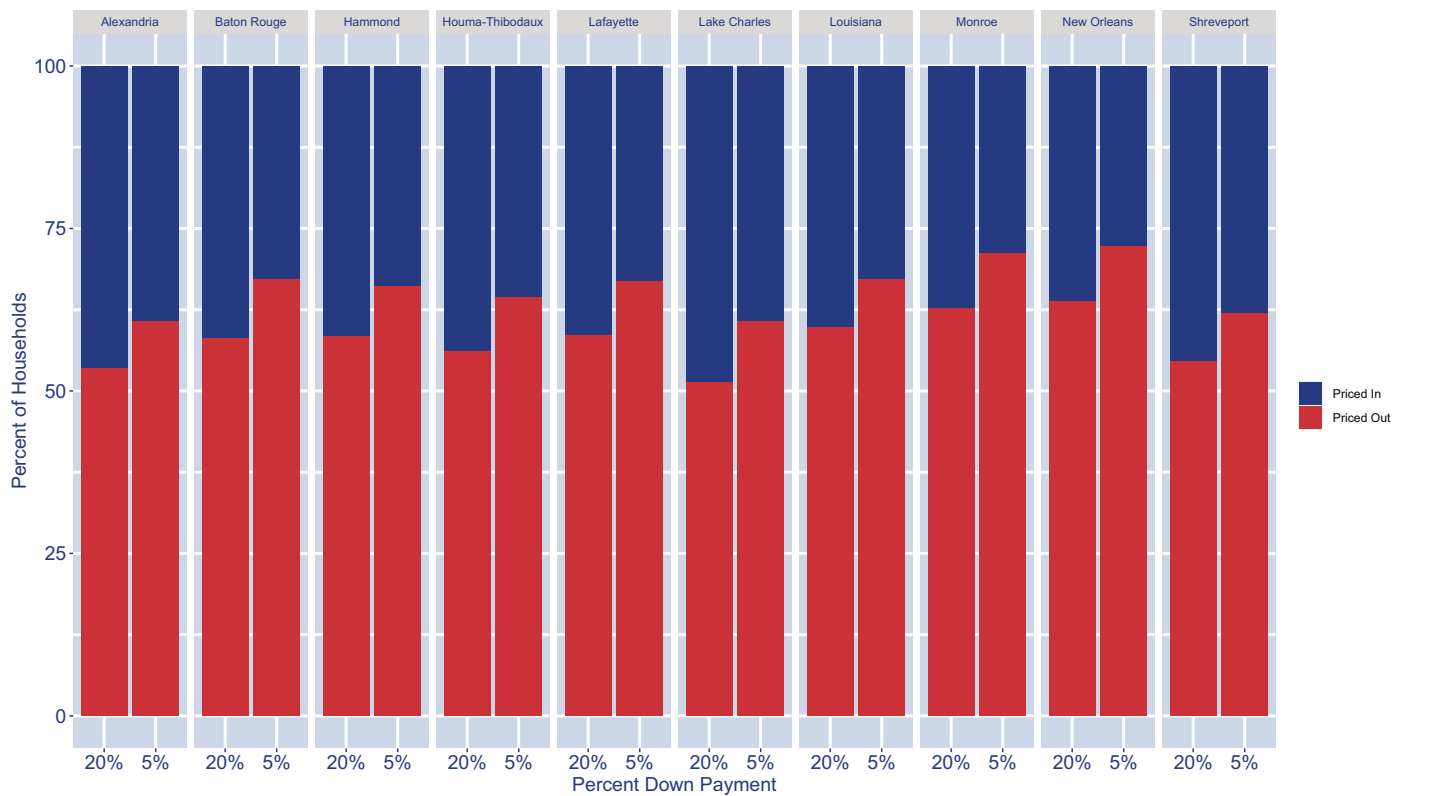
Figure 11 illustrates the percent of households in each region priced out of homeownership due to the higher mortgage payments compared to households who can afford their payments (assuming they have 20% down for the transaction). Price out is calculated at the 2022 interest rate for the median house price in each region. The red shaded region of each bar represents the percentage of households that are priced out of homeownership, meaning they are unable to reasonably afford their monthly mortgage payments based on the "28% of income rule," while the blue shaded region represents the percentage of households that can afford their monthly payments. Starting at the state level (fourth from the right), we see that approximately 60% of Louisiana households who made a 20% down payment are unable to afford their mortgage payments based on the 28% of monthly income rule, while approximately 67% of households throughout the state are unable to afford mortgage payments with a 5% down payment. At the MSA level, Lake Charles had the lowest percent of households priced out of their monthly payments — approximately 51% and 61% of households are priced out at 20% and 5% down payments, respectively. The New Orleans-Metairie MSA had the highest percent of priced out households, with approximately 64% and 72% of households at 20% and 5% down payments, respectively. The conclusion that can be drawn from Figure 11 is that most households throughout Louisiana and its nine MSAs are priced out of homeownership, meaning they are unable to afford a monthly mortgage payments under conventional lending scenarios.

Table 3: State & MSA Mortgage Loan Details

Location	20% Down Payment (At Median House Price and Average 30-Yr Fixed Rate 2022)			5% Down Payment (At Median House Price and Average 30-Yr Fixed Rate 2022)		
	Monthly Payment	Annual Income to Qualify	Households Priced Out	Monthly Payment	Annual Income to Qualify	Households Priced Out
Alexandria	$1,228.86	$52,665	31,562	$1,490.02	$63,858	35,813
Baton Rouge	$1,752.34	$75,100	192,720	$2,158.09	$92,490	222,415
Hammond	$1,426.97	$61,156	29,979	$1,742.86	$74,694	33,908
Houma-Thibodaux	$1,452.64	$62,256	42,133	$1,775.61	$76,098	48,411
Lafayette	$1,551.24	$66,482	107,673	$1,901.45	$81,491	122,846
Lake Charles	$1,306.60	$55,997	41,760	$1,589.24	$68,110	49,351
Monroe	$1,395.24	$59,796	50,561	$1,702.36	$72,958	57,371
New Orleans-Metairie	$1,798.09	$77,061	314,774	$2,216.47	$94,992	355,900
Shreveport-Bossier City	$1,219.32	$52,257	84,755	$1,477.84	$63,336	96,188
Louisiana	$1,541.89	$66,081	1,071,922	$1,889.51	$80,979	1,203,943

Table 3 shows the numbers used to derive Figure 11. At the state level, the average household must make around $66,000 annually with 20% down and $81,000 annually with 5% down to reasonably afford a house priced at the state median. Louisiana's median household income was approximately $57,000 in 2021, so it is no surprise that the number of households priced out of their homes is approximately 1.07 million and 1.2 million for 20% and 5% down payments, respectively. At the MSA level, the lowest monthly mortgage payment in both categories belongs to the Shreveport-Bossier City MSA, but it has a relatively high number of households priced out of their homes. The Hammond MSA has the lowest number of priced out households, yet a higher monthly payment and annual income is needed to afford home payments.

In conclusion, most households in Louisiana cannot reasonably afford their mortgage payments, likely because of higher interest rates throughout 2022 and higher house prices throughout the COVID-19 pandemic, when 30-year mortgage rates were as low as 2.7%. The lack of systemic wealth building across all socio-economic strata is exacerbated by the near bubble-like behavior of house prices. As more academic literature on both the inequality of monetary policy and the role that monetary policy plays in driving housing market dynamics is explored, the intersection of these two comes into focus.

Data for this report are provided by the Bureau of Economic Analysis, Federal Housing Administration, and Freddie Mac. All data extend through December 2022.

The Inequality of Tax Burden and Industry Composition

BY LIAM MOPPERT

Louisiana has a population of over 4.5 million people which annually are taxed over $13 billion on production and imports. While Louisiana is ranked 29th for state tax revenue, 39% of all state taxes are generated by sales tax (seventh nationally). State revenues from property taxes are the fifth lowest nationally, and only 2% of state revenues come from corporate income taxes. Despite this disparity nationally, the inequality of tax burden extends to the parish level as well. Some parishes are taxed disproportionately more despite low population and relatively narrow industry makeup in some cases.

Figure 12: Parish Level Tax Revenues Per Capita (Dollars per Person)
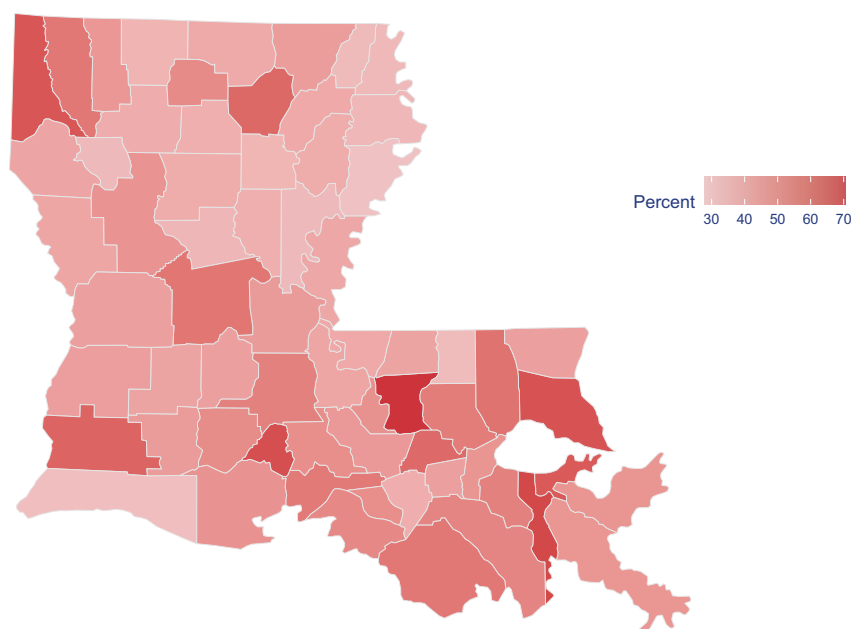

Taxes Per Capita
2,500 5,000 7,500
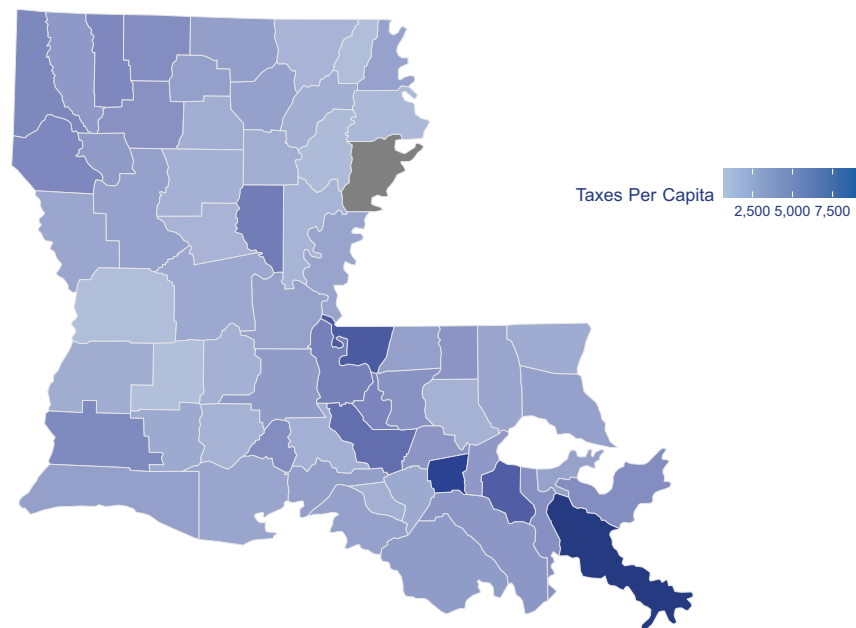
Louisiana's 64 parishes each have unique characteristics that influence their tax per capita statistics. Generally, larger populations and higher levels of economic activity should in theory result in higher tax revenue per capita, while smaller populations with less economic activity should lead to lower tax revenue per capita. Geographical location of the parishes and their resources also directly influences this phenomenon.

Figure 12 shows per capita tax revenues in dollars. Darker parishes have higher taxes per person, while the opposite is true for the lighter colored parishes. Plaquemines, St. James, West Feliciana, St. Charles, and Iberville all have disproportionately higher tax burdens when controlling for population effects. Each is higher than the average

per capita tax per parish being $2,700. These parishes have high taxes per capita because they are home to various industries such as oil and gas, chemical production, and shipping, which generate significant revenue for the state. For example, Plaquemines is home to a large oil and gas industry, while St. James is a hub for petrochemical manufacturing. These industries require substantial infrastructure, maintenance, and operational oversight, leading to higher taxes on production and import. Additionally, these parishes are situated along the Mississippi River, which is a major transportation hub for the shipping of goods and commodities, contributing to the high taxes on production and import for the parishes to capitalize on.

Figure 13: Proportion of Total State Industries Present per Parish (Percent)

On the other hand, the bottom five parishes with the lowest taxes per capita are Franklin, Vernon, West Carroll, Allen, and Tensas (Tensas is not shown in Figure 12 because it gets a small tax rebate per capita). These parishes have lower taxes per capita as they do not have significant industrial or commercial activity. Some of these parishes are also located in rural areas, where population and long-run economic outlook are lower than the state average.

Figure 13 shows the percent of industries present in the state that are represented at the parish level. Higher proportions mean greater economic diversity that is in parity with the state aggregate, while lower proportions indicate areas of opportunity for state policy makers to help improve economic conditions. East Baton Rouge Parish leads with 70 of the total industries in the parish, followed closely by Jefferson Parish with 66%, and Lafayette Parish with 64%. Conversely, some parishes have a much lower proportion of industries. For example, Tensas Parish exhibits an industry penetration of 27%. Similarly, Cameron Parish houses roughly 29% of all industries.

The variation in the number of industries present in each parish can be attributed to several factors. The level of investment in transportation infrastructure, population, and research institutions in a parish also plays a role in the number and diversity of industries present. Parishes with better transportation networks, more research and education institutions, and a skilled workforce tend to grasp more diverse industries. East Baton Parish for instance not only has a population over 440,000 people but is also home to Louisiana State University, Southern University, and Baton Rouge Community College, further providing it with more money and reach to have more industries.

Additionally, the natural resources available in a parish can significantly influence its economic activities. Parishes with abundant natural resources, such as oil and gas (the backbone of Louisiana's economy) tend to have more industries that use those resources. It is also necessary to note that the number of industries present in a parish is not always an indicator of its economic well being.

In summary, parishes with larger populations and higher levels of economic activity tend to have higher tax per capita and a greater number of industries, though there are some caveats. These parishes in Louisiana also tend to be involved in the oil and gas industry, whether it deals with production, refining, or transportation. Parishes with smaller popultions and less economic activity are sometimes taxed more and have little market power. These parishes tend to specialize their work force to single industries out of necessity. Louisiana can use this data to help improve areas of its economy by better focusing on differerent parishes to help the state grow as a whole and continue to prosper in the coming years.

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 2021. 2022 estimates are expected in December 2023.

Income Disparity Across Louisiana

BY JOSEPH CURTIN

Recent U.S. Census data indicates that Louisiana has the second highest income disparity in the country. Two broad level metrics are frequently used to compare regional income levels: income per capita and income per worker. Income per capita is calculated by dividing gross income for each parish by its population. Similarly, income per worker is also calculated from gross parish income, though it is instead divided by the number of workers. Since Louisiana has not seen a labor force participation rate above 60% since 2015, these two numbers are examined together. Figures 14 and 15 show heat maps that illustrate the varying income levels in each parish for both of these calculations using 2021 data.

Figure 14: Per Capita Tax Revenue by Parish (Thousands of Dollars)
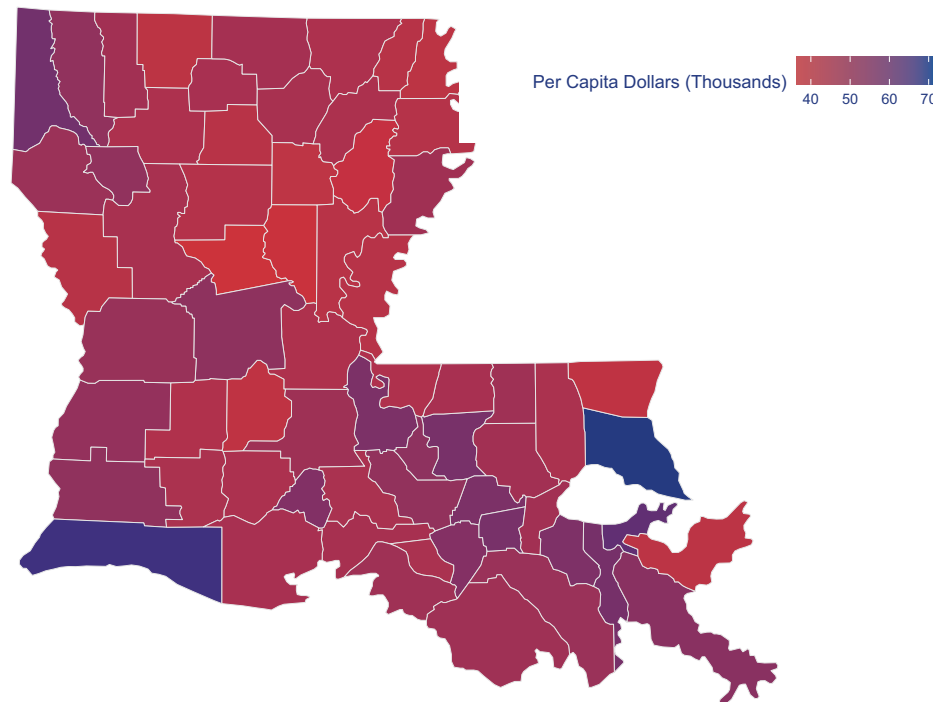
Looking at Figure 14, income per capita seems more concentrated in many of the southeast parishes in the state. This makes sense, as several parishes with high economic activity (such as East Baton Rouge and Orleans) are located in this area. The northeastern parishes exhibit the least variation in income per capita. The range for income per capita is relatively wide, with the high being just over $72,000 (St. Tammany) and the low around $36,000 (Grant). Just behind St. Tammany Parish, the next highest in the state in descending order are: Cameron Parish at almost $68,000, Orleans Parish at over $62,000, Caddo Parish at over $58,000, and Jefferson Parish at over $58,000. Four of the top five highest income per capita are the highest for gross income as well (St. Tammany, Orleans, Caddo, and Jefferson). The lowest five parish incomes per capita, in descending order: Washington Parish at around $39,800, Evangeline Parish at around $39,700, Franklin Parish at over $38,000, La Salle Parish at over $37,000, and Grant Parish at over $36,000. An important thing to note is that when viewing income per capita, it is not indicative of individual salaries, as not the whole population will be working (some are unemployed; others retired; still others are children or parents staying home). Income per capita still is useful in that it gives an idea of standard of living and quality of life in the parish.
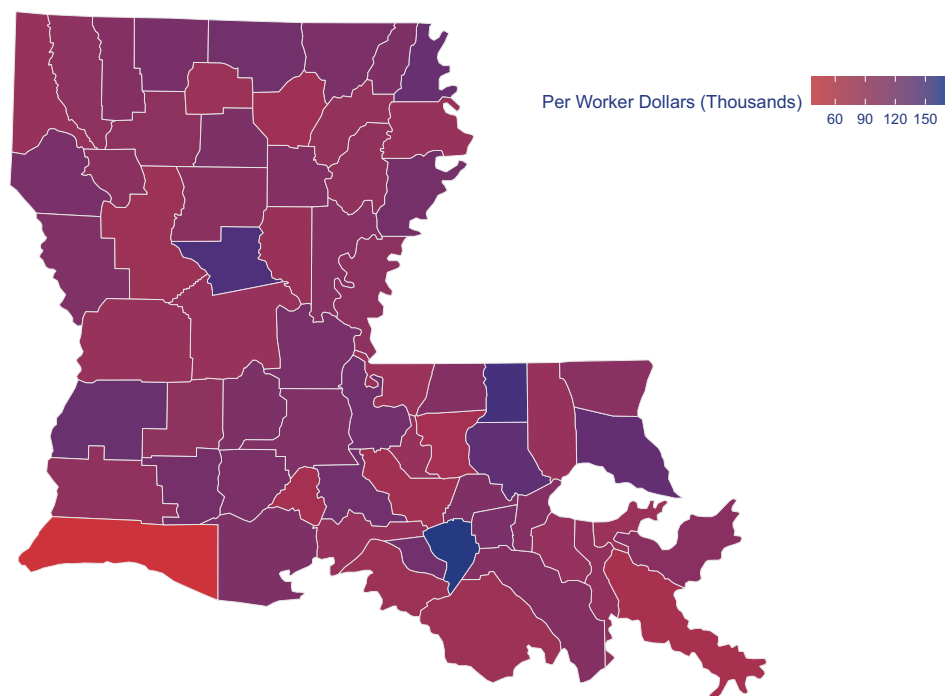
Figure 15 displays income per worker. This provides a better idea of average salaries in each parish, since it is based on the actual number of individuals employed in each parish. Note: this is only an estimate of average salaries since some people work more than one job. This metric varies more than income per capita due to increase variation in employment levels across parishes. Cameron Parish is still a notable outlier on this map is. The top five parishes ranked in descending order are: Assumption Parish ($178,000), St. Helena Parish ($157,000), Grant Parish ($151,000), Livingston Parish ($141,000), and St. Tammany ($137,000). Interestingly, these parishes are not necessarily the most populous; Assumption is 43rd most populous, St. Helena is 56th, and Grant is 40th. St. Tammany and Livingston are closer to the top, at 4th and 9th most populous, respectively. The high incomes per worker in these parishes suggest salaries are higher in these areas. The lowest five parish incomes per worker, in descending order: Iberville Parish at around $80,000, East Baton Rouge Parish at over $77,000, Lafayette Parish at around $77,000, Plaquemines Parish at over $73,000, and Cameron Parish at over $36,000. These five parishes raise some intrigue for a few reasons. East Baton Rouge Parish and Lafayette Parish, two of the most populous (East Baton Rouge being 1st and Lafayette 5th), have some of the lowest per worker income in the state. This suggests a high amount of income disparity in both parishes relative to other parishes. Curiously, Jefferson Parish (2nd most

populous) and Orleans Parish (3rd most populous) rank 34th and 53rd respectively, indicating income disparity between these two parishes even though they are some of Louisiana's largest. Oddly, Cameron Parish is last at just over $36,000 per worker, a substantial drop from the next parish up, Plaquemines Parish, at over $73,000 per worker. Considering Cameron Parish is 2nd in the state for income per capita, this is not intuitive. However, Cameron Parish has more employees (9,492) than it does people (5,080), implying that many travel there to work, but reside elsewhere. Cameron Parish is the only parish in Louisiana that has less people living in the area than it has working in the area.

Both of these plots help to shed light on the income disparities within the Pelican State. Low incomes per worker can mean one of two things: either the ratio of income to population is affected due to a disproportionately large workforce (remember Cameron Parish), or due to a disproportionately small income base at the parish level. Either way, this indicates that incomes are generally lower in these parishes. Relatively high incomes per worker can be explained by the opposite: either the ratio is affected by a disproportionately small population, or a disproportionately large income at the parish level. The underlying conclusion is still the same: salaries are generally higher in these parishes.

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 2021. 2022 estimates are expected in December 2023.

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