LOUISIANA TECH UNIVERSITY COLLEGE OF BUSINESS
CENTER FOR ECONOMIC RESEARCH

**REGIONAL ECONOMIC ANALYSIS OF LOUISIANA** 

IN THIS ISSUE The state of Louisiana's COVID economy and positive outcomes for Louisiana Tech's athletics construction

FALL 2020



# Dean's Message

This issue of the Regional Economic Analysis of Louisiana (REAL) Report is the fourth installment—and the first of this academic year—of an ongoing series of publications designed to provide insight into recent economic developments in Louisiana.

This particular issue continues to explore the economic impact of the global COVID-19 pandemic, with specific focuses on economic forecasts for the state and employment and labor income growth and losses. Additionally, our team looked at the impact of the rebuilding of three of Louisiana Tech's athletics complexes, with positive outcomes predicted. I trust this information will be helpful to our lawmakers, economists, community leaders, and business owners as the state and nation continue to make progress towards fully reopening.

The REAL Report is produced by faculty and students within Louisiana Tech University's College of Business for the state of Louisiana and our region of the South. Economics students from the College of Business specifically provide strong analytical and critical thinking skills to a growing North Louisiana region. Undergraduate economics majors, as they progress through their degree program, not only learn economic intuition and modeling skills, but also data science and statistics which makes them some of the most highly sought after graduates from the University. This report is compiled by undergraduate economics majors in partial fulfillment of their Regional Economic Analysis class.

This report and all subsequent issues can be found on the College of Business website at <u>business.latech.edu/realreport</u>. For more information on the report or the Regional Economic Analysis class (ECON 425), please contact Dr. Patrick Scott at <u>pscott@latech.edu</u>. Inquiries about specific sections of the report should be referred to the author of each section, while media inquiries should be directed to <u>waldroup@latech.edu</u>.

As always, I hope this report is beneficial to your efforts.

Sincerely,

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

# Table of Contents

Meet the Team
Louisiana Economic Indicator Forecasts
Three Crises in Fifteen Years
The Winners and Losers of the COVID Economy
Tourism Takes a Beating
Big Scores and Big Impacts at Louisiana Tech 14

Analysis for this edition of the REAL Report concluded on November 25, 2020. All data included in the report was collected prior to that date.

# Meet the Team



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**Dr. Patrick Scott** is an assistant 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.

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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 individual model is not properly specified and thus accounting for that uncertainty in our analysis. All data used below extend to October 2020 except for Figure 4 which is quarterly data extending to second quarter 2020.

## Figure 1: Forecasted Non-Farm Employment (Thousands)

Total non-farm employment has recovered almost half of the jobs shed in the first six months of the pandemic. October brought a surge of employment at a relatively faster rate than September, but November new jobless claims data undercut this growth. As COVID-19 infections and hospitalizations surge again, employment is expected to fall again for the next quarter. Uncertainty around this point forecast is still relatively high compared to previous forecasts. Our models project employment to fall by about 20,000 jobs over the next six months on average.

Punchline: Job growth has stalled and is expected to further reduce consumer demand.

## Figure 2: Forecasted Economic Coincident Index (Percent Growth)

The economic coincident index is a metric that represents economic activity for the state. The average longrun growth is approximately 0.08% (red horizontal line). The sharp decline of nearly 12%, which wiped away all economic gains since 2003, was not reversed fully and is not expected to in the coming months. With such a large proportion of individuals leaving the labor force, economic activity is expected to recover its meager growth rate, and thus very slowly recover lost economic ground.

Punchline: Economic activity fell sharply and is not expected to recover for some time.









Figure 3: Forecasted Unemployment Rate (Percent)

Figure 4: Forecasted Real Personal Income (Percent Growth)



## Figure 3: Forecasted Unemployment Rate (Percent)

The unemployment rate still remains historically high in Louisiana. Given not only the magnitude of the healthcare crisis, but also the number of individuals that have fallen out of the labor force, it is not expected to fall to normal levels for many months. The external shock is now reverberating back through the state economy as nationwide demand for goods and services fall. The economic crisis is not expected to get better until the healthcare crisis is resolved.

Punchline: The unemployment rate is still high and stagnating as national income stalls.

## Figure 4: Forecasted Real Personal Income (Percent Growth)

Real (inflation adjusted) personal income growth is the only bright spot in the economic picture currently, but it is bittersweet. Many of the jobs lost in Louisiana were relatively low-income jobs. The fiscal stimulus earlier in the year offset on aggregate the income losses from unemployment. As further stimulus plans are stalled until the new administration takes over, personal income growth is expected to fall, perhaps even below the long-run average (red horizontal line).

Punchline: Real personal income is expected to grow at a rate consistent with the long-run average, but that may depend on future fiscal policy.

## Three Crises in Fifteen Years How Does This Recession Compare to Others? BY C. PATRICK SCOTT, PH.D.

Louisiana employment over the past 15 years is a tale of slow recovery from economic shocks that has stunted long-run growth for the state. Hurricane Katrina in 2005, what has now been dubbed the 'Great Recession' of the 2007 to 2009 financial crisis, and now the economic devastation of COVID-19 economy has robbed the state of all long-run gains in terms of job growth. Figure 5 highlights this point in one chart. Total employment in thousands (the vertical axis) for each of these three economic shocks is plotted over time, where 0 on the horizontal axis is the start of each economic downturn. This chart allows us to examine these shocks and subsequent economic recovery in terms of jobs lost and then regained.



Figure 5: Non-Farm Employment Recovery (Thousands)

The blue line represents jobs during the Katrina crisis, the pink line represents the Great Recession, and the red line represents the current COVID jobs picture. Note that the starting point of each crisis situation is nearly the same. This highlights the earlier point that there has been little substantive permanent job growth in the state since about 2000. The Hurricane Katrina and COVID crises show a sharp decline in jobs initially since these shocks directly impacted output productivity. The Great Recession was an indirect shock for Louisiana. Consumer demand nationwide started to decline in early 2009 and this rippled



Figure 6: Initial Jobless Claims Recovery (Number of Workers)

back through the supply chain to Louisiana. Since Louisiana produces disproportionately more intermediate goods to production, this crisis did not have the sharp drop associated with the other two. In fact, the trough or minimum of the jobs curve is not seen until 2010 for Louisiana during this crisis. The most recent data (October 2020) shows a relatively sharp surge in hiring of about 21,500 employees. This is a good sign, but not cause to celebrate. The second week initial jobless claims for Louisiana (week ending 11/14) topped 42,000, up from about 10,000 the week before (week ending 11/7). This one week wipes away all job gains from October.

Figure 6 shows a similar graph to Figure 5, but in this case weekly jobless claims are plotted for the three crises. Here we can see that initial unemployment benefits claims rise sharply at the beginning of each crisis and then tend to tamper off as economic uncertainty eases. The magnitude of the Hurricane Katrina and COVID-19 crises is more severe than the financial crisis for Louisiana. The sharp rise in initial unemployment claims currently, as denoted by the last spike in the red series, is troubling and indicates a potentially ongoing economic problem well into next year.

This current recession is similar in dynamics to what we have seen in the past for Louisiana (Hurricane Katrina), but of a greater magnitude. Katrina reshaped the economic landscape of Louisiana for years afterward. This crisis will define a generation.

# The Winners and Losers of the COVID Economy BY MARC ENOCH HEBANE GUEHI

COVID-19 has reshuffled the economic deck for the nation as a whole. It has brought a heightened sense of economic uncertainty that is far more pronounced than in past recessions, and the only thing we can safely say for certain is that things will not return back to the way they were. Louisiana is no exception in terms of this reshuffling. Below is a brief discussion of the industries that are on the ascendancy and descendancy based on both employment changes and labor income changes. The data used for this analysis are based on annualized averages. They capture the outset of the losses seen in the second quarter of this year, but not all of the recovery this year. Given that the recovery has been somewhat stunted in Louisiana in the past couple of months, the full annual data for 2020 may not be substantively different.

## **Employment and Labor Income Loss**

Figure 7 represents the largest percent changes of employed individuals in various industries. These industries experienced the largest percent decline in employment compared to pre-pandemic levels. Some of these industries are relatively small, but most on the extremes are relatively big (this is true for Figures 7 through 10). Manufacturing- and tourism-related industries took the brunt of the employment losses, and it is not certain that these jobs will come back. Some employers are already signaling that this may be an opportune time to substitute physical capital (automated machinery and/or robotics) for labor. While this does not bode well for relatively unskilled labor, it would signal potential growth for relatively high tech manufacturing production. The long term substitution of unskilled labor for capital that produces relatively higher skilled jobs is endemic of broader patterns in the national economy.



### Figure 7: Employment Loss — Bottom 15 Industries (Percent)



### Figure 8: Labor Income Loss — Bottom 15 Industries (Percent)

Figure 8 is organized similarly to Figure 7, except that instead of employment percent changes, it represents labor income percent changes for the bottom 15 industries. Comparing the industries in Figure 7 and Figure 8 reveals that only eight industries that experienced the worst employment losses also experienced the worst labor income losses in the state. This implies that for many of the industries that are shedding jobs, it is the least paid workers (usually the workers that cannot work from home) that are being laid off. Since lower paid employees do not move the overall state income numbers on aggregate as much as the proportionate drop in employment suggests, personal income isn't falling as much as in past recessions. These patterns also mimic national trends among women and minorities in the workforce. Women have experienced a job loss of nearly 13.5 million jobs (and a labor force participation rate drop of nearly 5%) and have recovered approximately 9 million over the past six months nationally. Both job growth and LF participation has flat lined for this demographic. The state data is not as rich as the national data, but the patterns among all data are consistent.

# The Winners and Losers of the COVID Economy (Cont.)

### Figure 9: Employment Growth —Top 15 Industries (Percent)



## **Employment and Labor Income Growth**

While it is relatively easy to get caught up in the magnitude of losses during times of economic crisis, state-level economies are non-linear during expansionary and contractionary phases. Figure 9 represents industries that are employing more people relative to pre-pandemic levels. As in Figure 7, all employment growth is expressed in percent change terms and ranked for the top 15 expanding sectors. While some service industries are expanding payrolls, most of these industries are related to high-skilled manufacturing. Many of these jobs are relatively difficult to replace via automation and require technical skills along with higher education. These jobs pay more and this also serves to boost income levels while overall unemployment is historically high. North Louisiana is particularly well suited to take advantage of this structural shift in the statewide economy. As technology based firms grow across an ever expanding I-20 technology corridor, skills-based manufacturing is replacing unskilled labor. Louisiana Tech, as well as other universities in the area, will be critical in filling the information and training gap as the workforce transitions.

Figure 10, analogous to Figure 8, expresses income growth rates for the top 15 industries, and is a far more nuanced picture of income growth in the state. Here, industries that are coping with relatively higher domestic demand due to the pandemic, as well as economic growth centers, are driving wages upwards. Some of these industries reflect a larger shift in the statewide economy to higher technical manufacturing, while others are probably only temporarily on this list due to the uncontrolled nature of the healthcare crisis. The longer the healthcare crisis continues to ravage the state, the more distortionary effects reflected in this graph will be seen. At the national and state level, the recovery has clearly stalled. The recovery picture is likely to be slow, and a sizable portion of statewide wealth will be reallocated. Those firms and individuals that are the most nimble and adaptable to the changing economic landscape will likely reap the greatest economic benefit.



### Figure 10: Labor Income Growth — Top 15 Industries (Percent)

# Tourism Takes a Beating BY JOSHUA WHITLOW

As COVID-19 continues to ravage the economic climate of America, business owners are tasked with one goal: to survive at any cost. Nowhere is this mandate more heavily felt than in Louisiana's tourism industry. This industry is comprised of many smaller sub-industries such as food services, hotels and lodging, amusement parks and recreations, independent artists and performers, as well as gambling industries. All total, these sectors of the state economy comprised over \$68 billion worth of economic activity before the COVID-19 crisis.

Tourism industries in Louisiana have lost in excess of \$25.5 billion in total value and \$7.9 billion in labor income since this COVID crisis started. These overall losses represent 44% of output of the industry and 43% of labor income. There are an estimated 229,719 jobs lost in this sector at the height of the jobs crisis and only about 55% of them are estimated to have recovered so far.

Figures 11 to 13 describe different perspectives of the magnitude of the loss discussed above. Figure 11 shows the employment loss as a percent of what it was for each sector. Figure 12 shows the estimated labor income lost due to the job losses displayed in Figure 11. Similar to the phenomenon described in pages 8 to 11, some of the worst hit industries for employment do not translate to aggregate lost labor income. This implies that in many of the industries where workers were laid off, the job cuts occurred among relatively low-wage workers. Figure 13 summarizes the scale of the output loss among tourist attraction industries. Many of these industries were closed for substantial periods of time during this year, or operated on a reduced capacity that is reflected. The long-term survival of these industries will depend on the public policy response to address the health crisis.



## Figure 11: Tourist Attraction Industries Employment Loss (Percent)



### Figure 12: Tourist Attraction Industries Labor Income Loss (Thousands)

### Figure 13: Tourist Attraction Industries Output Loss (Percent)



# Big Scores and Big Impacts at Louisiana Tech University BY C. PATRICK SCOTT, PH.D.

2020 saw construction begin on the rebuild effort of the J. C. Love Baseball Field that was damaged beyond repair by an F3 tornado that touched down in Ruston on April 25, 2019. At the same time, Louisiana Tech is also rebuilding its Lady Techster Softball and Soccer Complexes (additionally both complexes are to share a new joint two-level facility for coaches' offices, locker rooms, equipment storage, etc.). The Lady Techster facilities represent the largest investment in women's athletics in North Louisiana which uniquely and strategically positions Louisiana Tech compared to other universities in the area.



### Figure 14: Percent of Impact — Top Ten Industries by Growth

The combined estimated cost of these constructions is expected to exceed \$42 million. This type of economic event naturally creates positive ripple effects throughout the community and the state at large. The Center for Economic Research, housed in the College of Business at Louisiana Tech, estimates that the regional economy produces \$2.64 for every dollar spent in these construction endeavors. Figure 14 depicts a pie chart of the percentages among the top ten industries impacted by these construction projects. Advertising and promotion, educational services, both private and public transit as well as independent artists and performers are all sectors of the economy expected to experience the largest growth proportional to their initial size.

Broadly speaking, initial economic impacts create two kinds of additional economic effects: indirect and induced effects. Indirect effects represent the additional business to business transactions while induced effects capture the additional consumer spending from growing income levels. The indirect and induced effects of these facilities are expected to support an additional 236 jobs in the total state economy with a combined labor income of about \$11.6 million. Approximately 59% of the economic benefit is expected to remain within the North Louisiana parishes. This is mostly due to the structure of the state economy and relative difficulty exporting ancillary services. The total market value of these indirect and induced effects is nearly \$68 million.

These sports complexes are also good for tax revenue. At the parish and sub-parish level, tax revenues are estimated to exceed \$3.6 million for the construction alone (not considering the actual sporting events held there). State tax revenues are estimated to total nearly \$3.9 million.







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