Louisiana Economic Forecast™ SM

State and MSAs: 2023 and 2024

Prepared by: Dr. Loren C. Scott, President, Loren C. Scott & Associates, Inc.

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Louisiana Economic Forecast: State and MSAs 2023 and 2024

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Copies of the Louisiana Economic Forecast: State & MSAs are available for purchase by contacting Dr. Scott at LScottecon@gmail.com.

Acknowledgements

"My cup runneth over." Psalm 23:5

When the last word is written, there's that lean back in the chair in relief and satisfaction, then after a moment, the thought from Psalm 23---so many helpers. It starts with our generous sponsors---without whom there would be no "start." **Blue Cross Blue Shield of Louisiana**, **Cleco, Roy O. Martin**, and **J. P. Morgan Chase** supported us at the Platinum Level. Another eight came in at the Gold Level: **Acadian Companies**, **BRF**, the **Cyber Research Center**, **Entergy**, **HomeBank**, **ISC**, **Shell**, and **Turner Industries**. Please give a huge round of applause for their generous financial support.

Unlike state-level forecasts in other states, the LEF provides the reader with robust institutional details supporting the projections. This would not be possible without extensive work and effort by economic developers around the state. It starts with my friend **Larry Collins**---Director of International Commerce in LDED---whose extensive knowledge of projects all across the state is invaluable.

In every MSA there are economic developers, port personnel, and association heads that are eager to share critical information with us. These terrific sources include **Michael Hecht, Harrison Crabtree, Craig Spohn, David Doss, Adam Knapp, Kate MacArthur, Andrew Fitzgerald, Russell Richardson, David Broussard, Scott Gammel, George Swift, Jim Rock, Kevin Melton, Amanda Deblanc, Rich Self, Courtney Bryan, Eric England, Bob Fudickar, Vic Lafont, Mike Tarantino, Chett Chassion, Larry Deroussell, Dale Logan, Jason French, Dawn Cole, Connie Fabre, Lynn Hohensee, Sue Nickels, Katy LeBlanc, Rocky Rockett, Paul Sawyer, Lane Callaway, Liz McCain, David Bennett, Craig Romero, Brandy Christian, Ronald Wendell, Debra Randolph, Zazell Dudley, Julia Fisher, Gloria Pigner, Michelle Hall, John Paul Domiano, Creed Romano, Buck Vandersteen, Zach Nagar, Stacey Zawaki, and Stephen Price.**

It is tempting to try to list all the **private sector people** who took our phone calls during their jammed packed days and talked about their companies and economic developments in their region. These folks share hiring expectations and emerging trends that are vital to our projections. Thank you, thank you!

Stacy Gaskin was invaluable in administrative services, while **Stephen Rankin** assisted with our beautiful cover and back page photos.

First impressions are the most important, and **Julio Melara** and **Rolf McCollister** have made that possible for the LEF. Their heavily promoted---and attended---Top 100 Luncheon has been our first release site for decades now. These are two great friends and two great entrepreneurs to whom I am very grateful.

Hovering in the background, handling finances, copyrights, crucial content, general business advice, and encouragement is the smartest business person I know---my wife **Peggy Scott**. She is the oil that has kept this thing moving. Thank you, thank you, thank you!

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EXECUTIVE SUMMARY

Our projections this year are made in the face of considerable uncertainty. Federal Reserve actions to curb inflation are likely to tip the U.S. economy into a short, shallow recession in 2023. For not the first time in history, we expect Louisiana employment to grow (though modestly) right through that recession. That will be partly due to most areas just retrieving jobs lost due to the COVID shutdown.

We expect shifting in oil shipping patterns and a possible end to the Russia-Ukraine War to keep oil prices in the low $80s; however, increase LNG demand from Europe should maintain natural gas prices near $8 per mmBTU in 2023 before dropping to about $5 in 2024.

Given these basic assumptions we project the following from different regions of the state:

- The **New Orleans MSA** has a remarkable $17 billion in industrial projects underway, led by the $13.2 billion Venture Global (VG) LNG facility. Of the $26 billion in projects announced, FIDs are expected on several, including VG's phase 2 project ($8.5 billion) and Formosa Plastics $9.4 billion chemical complex. Huge monies ($5+ billion) will be injected into this economy for coastal restoration and flood control projects. We are forecasting 3,600 jobs in 2023 (+0.7%) and 8,600 jobs (+1.6%) in 2024.
- The 9-parish **Baton Rouge MSA** has $12 billion in industrial projects underway, including Air Product's new $4.5 billion blue hydrogen plant. Another $11 billion in announced projects await an FID, and we expect the majority of those to occur. Industrial construction and opening of the 2,000-person Amazon Fulfillment Center will help create 4,500 jobs (+1.1%) in 2023 and another 7,900 jobs in 2024 (+2%).
- While the Big 6, non-exploration companies in the **Lafayette MSA** will provide stability and some new jobs over the next two years, this region will be held back by weakened activity in the Gulf of Mexico. This MSA is expected to add 1,200 jobs in 2023 (+0.6%) and 4,100 jobs in 2024 (+2%).
- Several major new projects at the Port of Caddo Bossier, the opening of a new Amazon Fulfillment Center, and a serious rebound in drilling in the Haynesville Shale Play are driving the expected 2,000 new jobs in 2023 (+1.1%) and 3,900 new jobs in 2024 (+2.2%) in the **Shreveport-Bossier MSA**. It is very likely that the DiamondJack license will be picked up and a renovated site reopened over 2023-24.
- Battered by two destructive hurricanes, Winter Storm Uri and a flood, the **Lake Charles MSA** remains 57% below its pre-COVID employment levels. Many of those job losses are expected to return quickly, and FIDs are expected on at least two large LNG export projects. The reopening of the

now land-based Horseshoe Casino will also add jobs. We project 2,600 new jobs in 2023 (+2.6%) and another 4,600 jobs in 2024 (+4.4%).

- The deadly Hurricane Ida hammered the **Houma MSA** last fall, causing employment to fall almost as much as the COVID shutdown. The region has recovered only 22% of the jobs lost from the shutdown and Hurricane Ida---the worst record in the state. Many of these losses will be retrieved and a burgeoning shipyard sector will add to the job total. However, weak activity in the Gulf will be a drag on the area. We project 700 jobs in 2023 (+0.9%) and 1,700 jobs in 2024 (+2.1%).
- Vantage Health is a bright spot in the **Monroe MSA** economy, but the region will continue to suffer job leakages from Lumen over the next two years. Projections are for 100 new jobs in 2023 (+0.1%) and 400 jobs in 20924 (+0.5%).
- The **Alexandria MSA** is one of only two MSAs in the state to have fully recovered all jobs lost due to the COVID shutdown. This MSA's future depends heavily on (1) initiation of Cleco's $900 million Diamond Vault project and (2) the landing of significant prospects at the beaver Creek Industrial Park. A total of 300 new jobs are projected for 2023 (+0.5%) and 600 jobs for 2024 (+1%).
- The **Hammond MSA** is the only other region to have recovered all jobs lost due to the COVID shutdown. This is somewhat remarkable given the region lost 2,900 jobs when Hurricane Ida came roaring through. Stability at SLU and the North Oaks Medical System, combined with new jobs at Medline and Intralox will help create 600 new jobs in 2023 (+1.3%) and another 700 in 2024 (+1.5%).
- Employment in **rural** Louisiana has been trending downward for several years as population has moved to the urban areas of the state. This trend will continue over the next two years, although expansions at Syrah Resources, Strategic Fuels ,and several new sawmills will arrest this decline somewhat. Employment is expected to fall by 1,000 jobs in 2023 (-0.5%) and by 1,700 jobs in 2024 (-0.8%).

Slowed a bit by the national recession, the **state as a whole** is projected to add 14,300 jobs in 2023 (+0.8%) and another 30,800 jobs in 2024 (+1.6%). This will leave Louisiana about 38,000 jobs short of its pre-COVID employment level. Three major hurricanes, Winter Storm Uri, and floods have seriously arrested the state's growth.

Summary Table

Item	2022	2023	2024
BASIC ASSUMPTIONS:			
Real Gross Domestic Product: Growth	1.8%	-0.3%	2.0%
Inflation Rate	8.3%	3.2%	3.0%
30-Year Fixed Interest Rate	5.25%	6.5%	4.9%
Oil Price: barrel*	$98.10	$78.25	$82.00
Natural Gas Price: MMBtu**	$7.09	$8.10	$5.10
STATE PROJECTIONS:			
Non-Farm Employment (000s):	1,911.3	1,925.6	1,955.6
Absolute Growth Rate	41.6	14.3	30.8
Percent Growth Rate: Employment	2.2%	0.8%	1.6%
MSA PROJECTIONS: EMPLOYMENT (000s)			
Alexandria	62.4	62.7	63.3
Absolute Change	1.4	0.3	0.6
Percent Growth Rate	2.3%	0.5%	1.0%
Baton Rouge	400.2	404.7	412.6
Absolute Change	8.5	4.5	7.9
Percent Growth Rate	2.2%	1.1%	2.0%
Hammond	46.5	47.1	47.8
Absolute Change	0.4	0.6	0.7
Percent Growth Rate	0.9%	1.3%	1.5%
Houma	80.6	81.3	83.0
Absolute Change	-0.4	0.7	1.7
Percent Growth Rate	-0.5%	0.9%	2.1%
Lafayette	201.7	202.9	207.0
Absolute Change	5.7	1.2	4.1
Percent Growth Rate	2.9%	0.6%	2.0%
Lake Charles	101.3	103.9	108.5
Absolute Change	4.1	2.6	4.6
Percent Growth Rate	4.2%	2.6%	4.4%
Monroe	75.9	76.0	76.4
Absolute Change	0.7	0.1	0.4
Percent Growth Rate	0.9%	0.1%	0.5%
New Orleans	550.4	554.0	562.6
Absolute Change	11.8	3.6	8.6
Percent Growth Rate	2.2%	0.7%	1.6%
Shreveport-Bossier	176.7	178.7	182.6
Absolute Change	5.6	2.0	3.9
Percent Growth Rate	3.2%	1.1%	2.2%
RURAL EMPLOYMENT	215.5	214.5	212.8
Absolute Change	3.8	-1.0	-1.7
Percent Growth Rate	1.8%	-0.5%	-0.8%

Source: Loren C. Scott. *Around a wide range of $30 to $120 a barrel. **Around a range of $2.50 to $12 per MMBtu.

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UNDERLYING ASSUMPTIONS: 2023-24 FORECAST

It is a basic axiom of forecasting: the greater the uncertainty, the greater the difficulty in forecasting. That is why most forecasts over the past few years (including ours) have been most valuable as lining for the bottom of the bird cage. On top of that, many of the uncertainties have had an outsized effect on a major energy-producing state like Louisiana. Consider these major events in the last three years:

- In mid-March, the U.S. economy is shut down in response to the COVID virus. Real gross domestic product (RGDP) suffers its worst quarterly drop since the government began reporting quarterly data over 75 quarters ago. Oil prices suddenly plummeted from $62 a barrel to $20.

- Two major hurricanes and Winter Storm Uri hammer Lake Charles, and federal relief funds are historically slow in coming.

- Hurricane Ida rips through the Hammond, New Orleans, and Houma MSAs, setting the latter MSA's employment back to below the COVID shutdown level.

- The Biden Administration is elected and on day one places a moratorium on lease sales in the Gulf of Mexico---the first in a series of significant attacks on the fossil fuels industry.

- In early 2022, Russia invades Ukraine. Sanctions and embargoes are placed on Russia (which produces 10% of the global oil) driving the price from the $85 range to near $120 per barrel in June.

- The first two quarters of 2022 report negative growth in RGDP---the standard definition of a recession---yet July's employment came in at a very strong +528,000. Is the economy in a recession or not?

- In June, the Bureau of Labor Statistics reported the Consumer Price Index (CPI) rose at a 9.1% pace after reaching 8.5% in May. Is this a "transitory," or short run phenomenon, or a more entrenched inflationary problem? How high will the Federal Reserve have to raise interest rates and reduce the money supply to reverse inflation's course? Will the Fed's anti-inflationary actions send the U.S. into a recession?

Forecasters faced with these uncertainties have a tool to alert readers about how confident they can be in the prediction—a **confidence range** or confidence interval. Readers are given a "point estimate"---the forecaster's best estimate of what will happen in the future---followed by a confidence range of say +/- 10% around that point estimate. The greater the uncertainty of the point estimate, the wider the confidence range around that estimate.

In this report we will be providing point estimates for each of our forecasts, but the level of uncertainty is so great that we will not even attempt to provide confidence interval. What will be done in this "Basic Assumptions" section is to provide readers with the thinking and models behind generating the point forecasts. Readers will have to judge for themselves how wide the confidence intervals should be.

National Economy: Recession or No?

As mentioned in the 6th bullet point above, RGDP fell for the first two quarters of 2022. That is the classical definition of a recession, the one found in most economic principles texts, and is why many conclude the U.S. is presently in a recession. The final arbiter of when a U.S. recession starts and ends is actually an agency called the National Bureau of Economic Research (NBER). The two-quarter decline rule generally follows the NBER determination to a "t."

However, we think the NBER the first two quarters of 2022 will prove to be an unusual exception that does not fit the rule, and that we are <u>not</u> in a recession. The data on RGDP growth rates shown in Table 1 will help explain our reasoning.

The COVID Recession

The COVID shutdown occurred in mid-March 2020, near the end of 2020Q1, and the economy remained essentially closed through 2020Q3. The Bureau of Economic Analysis (BEA) in the U.S. Department of Commerce is responsible for collecting and reporting quarterly RGDP numbers. The decline of -31.7% was the worst decline in three-quarters of a century of these collections. The second worst decline was in the late 50s and it was in the 10% neighborhood. The COVID decline was over three times worse than the worst our economy had experienced since WWII.

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Table 1

Change in RGDP: 2021Q3 – 2022Q2

Quarter	Change in RGDP
2020-I	-5.0%
2020-II	-31.7%
2020-III	33.4%
2020-IV	4.3%
2021-I	6.4%
2021-II	6.7%
2021-III	2.3%
2021-IV	6.9%
2022-I	-1.6%
2022-II	-0.9%

Source: Bureau of Economic Analysis & Loren C. Scott & Associates, Inc.

There was something else that distinguished this COVID recession. **It was the only recession we have ever experienced where the net worth of families actually increased during the downturn!** The reason is the federal government pumped huge amounts of money into people's checking accounts via two large stimulus checks, a $300 supplement on top of unemployment insurance claims, and the temporary child tax credit. This bump in net worth occurred across all income groups, and also led to a huge, $2.3 trillion increase in peoples' savings.

Initial Recovery from COVID

To appreciate the importance of this phenomenon to the recovery from COVID, consider the components of RGDP as shown in Figure 1. We are trying to measure how many goods and services are being produced in our society. But how do you add up cars, houses, eyeglasses, restaurant meals, etc.? The answer is by adding how much is spent on these items.

As seen in Figure 1 there are five main components of the RGDP pie. The largest by far is the personal consumption expenditures (PCE) of the general public on cars, clothing, food, etc. This represents over two-thirds of the pie. It is very difficult for RGDP to grow if this component is falling. The second biggest

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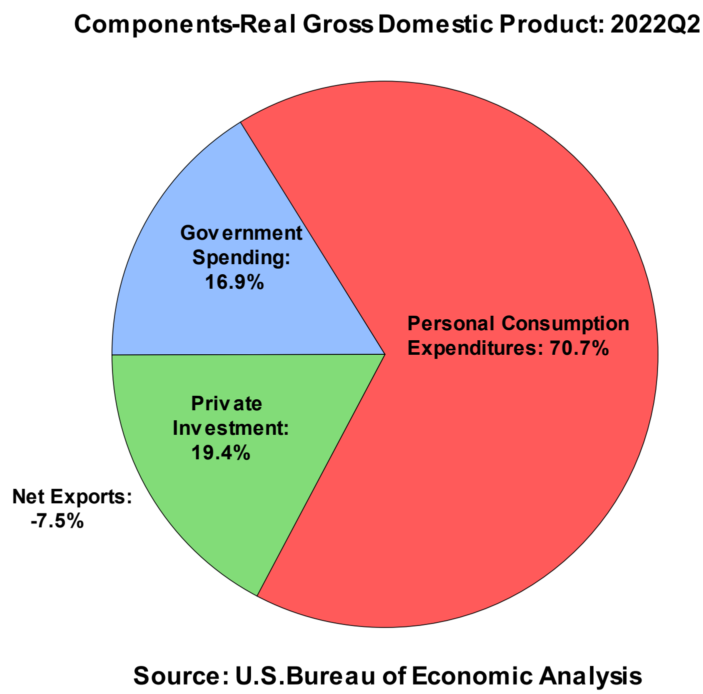
component is business investment spending on machinery, buildings, equipment, etc., followed by federal, state and local government spending

Figure 1



The final component---net exports---is a little trickier since it has been a negative piece of the pie for quite some time. We buy more from foreigners (imports) than they buy from us (exports), so it is a net negative number.

A combination of pent-up spending during the shutdown, combined with the surge in family net worth caused the PCE component to roar out of the COVID recession like a freight train. Typically, an excellent RGDP growth rate would be about 3-3.5%. Note how large the figures were in the first four quarters post-shutdown. In 2021-III, RGDP growth returned to a more normal 2.3%.

2021-IV: Key to a "No-Recession" Call

Then came a big surprise in 2021-IV when RGDP came in at an unexpected, whopping 6.9%, well over twice what was expected. Was the economy fundamentally roaring or was there something else in the details? The answer is the latter, and it involves a typically small component of the pea-green slice of the pie in Figure 1.

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Within the private investment component is a small, usually inconsequential piece called the "change in business inventories." Surprisingly, of the 6.9% increase in RGDP in 2021-IV, 4.9 percentage points (almost three-quarters of the growth) was due to a big increase in business inventories. What happened? Going into the Christmas season, retailers were concerned about supply chain issues, so they really stocked up on inventories in November and December. However, we buyers were also concerned about supply change issues, so many of us did our Christmas shopping in September and October. Because buyers and sellers were out-of-sync, retailers ended up with huge inventories in 2021-IV.

So, guess what happened in 2022-I? Retailers had to work off that excess in inventories. The "change in business inventories" switched from a big positive in 2021-IV to a huge negative in 2022-I. In fact, about two percentage points of the 1.6% decline was due to the inventory phenomenon. A further complication in that quarter was that the negative part of the pie---net exports---was unusually negative because we came out of COVID faster than our trading partners (something that has since reversed). In the next quarter, (2022-II) the inventory adjustment continued, contributing two more percentage points to the RGDP decline of -0.9%.

Hovering in the background, the large PCE component, the government spending, and the remainder (net of inventories) of private investment spending have stayed reasonably solid. The main point: **The two negative RGDP quarters beginning in 2022 were not a sign of a recession. They were simply adjustments due to the supply-chain-charged inventory buildup back in 2021-IV**.

9.1% Mean Recession Inevitable?

Having said that, we believe Louisianans should prepare for a rather shallow national recession beginning probably in early 2023 and lasting about three quarters.[1]

There are two key reasons to expect this national downturn. First and foremost is that the U.S. has a non-trivial inflation problem. The CPI in July came in at 9.1%, a figure the Fed cannot ignore. The Fed will attack this problem with two primary tools. First, the Fed has, and will continue to, raise interest rates. It raised its key rate by 75 basis points in June (the largest rate increase since 1994) and

[1] This is in keeping with projections by the economics team at Wells Fargo Bank, "U.S. Economic Outlook: July 2022," July 14, 2022.

by another 75 basis points at its July meeting. We would not be surprised to see another 200-basis point increase by the end of the year.

Clearly, this will cool off spending on interest-rate sensitive items, in particular durable goods for private consumers (think housing, appliances, furniture, cars) and general investments by businesses. A two-percentage-point increase on a $16 billion loan to construct the Driftwood LNG facility in Lake Charles may be enough to change a positive Final Investment Decision (FID) into a wait-and-see.

A second tool the Fed will use is open market operations to take lendable money out of the financial system. In other words, the Fed will go from a n easy money policy of the past several years to a tight money policy going forward. The Fed would like to manage a soft landing for the national economy. We suspect the inflation problem is too serious to permit that.

Monetary policy is not the only headwind the economy is facing. The oddly-named Inflation Recovery Act (IRA)is supposed to fight inflation by reducing the deficit, and that is to be accomplished by raising taxes. Raising taxes is peculiar fiscal policy in the face of a looming recession. Increasing business taxes causes firms cost curves to shift upward, which in turn causes them to produce less output and hire fewer people---the very makings of a recession.

We expect the national recession to occur over 2023-I through 2023-III with a recovery starting in 2023-IV. **On net the expectation is for 2023 RGDP to average -0.3% with a recovery to a 2% growth rate in 2024**.

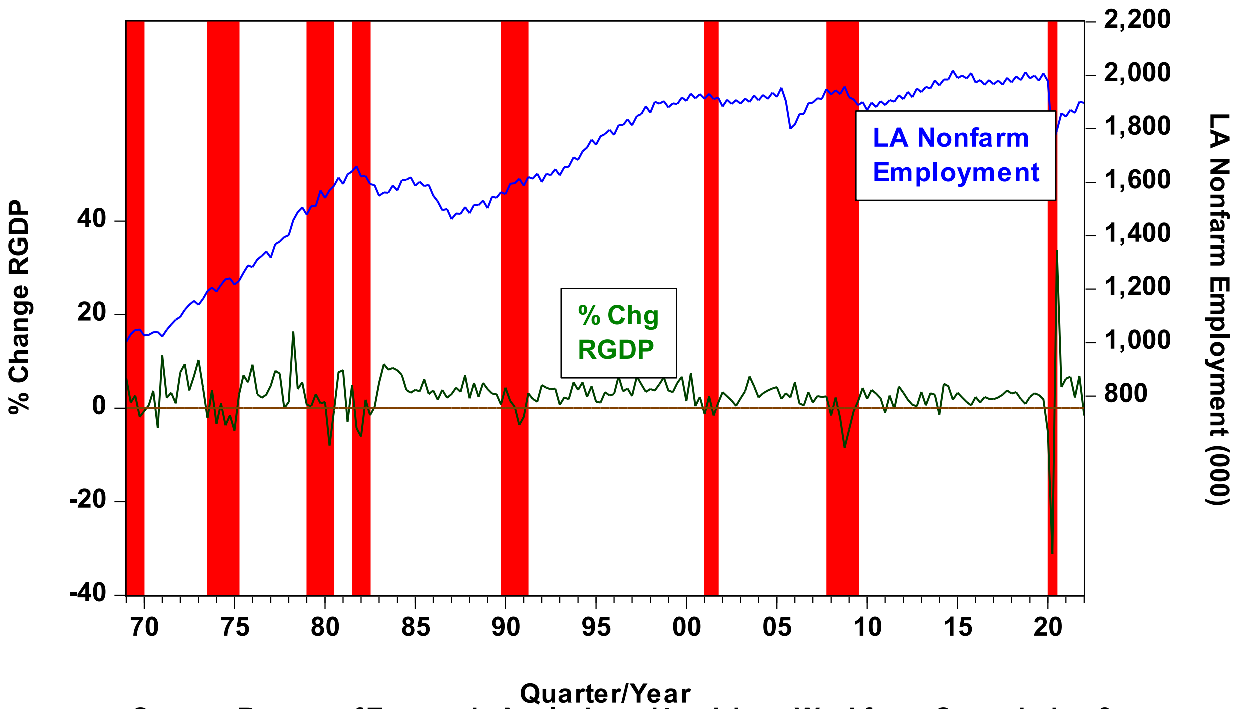
Impact of National Recession on Louisiana?

If there is a national recession, how might it impact the Louisiana economy? Here there is some reasonably good news. Typically, national recessions do not hit Louisiana very hard. The reason is that the first thing people quit buying during a recession are purchases that can be postponed, specifically durable goods. While a family does have to buy food, gasoline, and electricity, it does not have to buy a car, a house, furniture, appliances, etc. Plus, the Fed is raising interest rates, which means financing those purchases is more expensive as well.

Louisiana has a relatively small durable goods manufacturing base---only 3.2% of employment versus 5.2% for the U.S. as a whole. Importantly, what little durable goods manufacturing the state has is not in manufacturing durable consumer goods. There are no car manufacturing plants or appliance factories. Our durable goods manufactures are heavily into ships for the military and servicing offshore drilling, and manufacturing equipment for the fossil fuels industry.

Figure 2

Louisiana Nonfarm Employment V. Change in RGDP



Source: Bureau of Economic Analysis and Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

As a result, note the relationship between Louisiana Nonfarm employment and the change in RGDP in Figure 2. If Louisiana's fossil fuel industry is doing well---as in the recessions of 1969, 1974, 1979, and 1990---it is common for state employment to grow right through the national recession. If the fossil fuel industry is struggling at the time, our employment falls, but nothing like in a major durable goods manufacturing state like Michigan, Georgia, or Alabama.

This time around, Louisiana may not be lucky enough to escape unscathed. As we will detail below, the fossil fuel industry is very much under attack by the Biden administration. That industry will not be there to keep the state's head above water in 2023.

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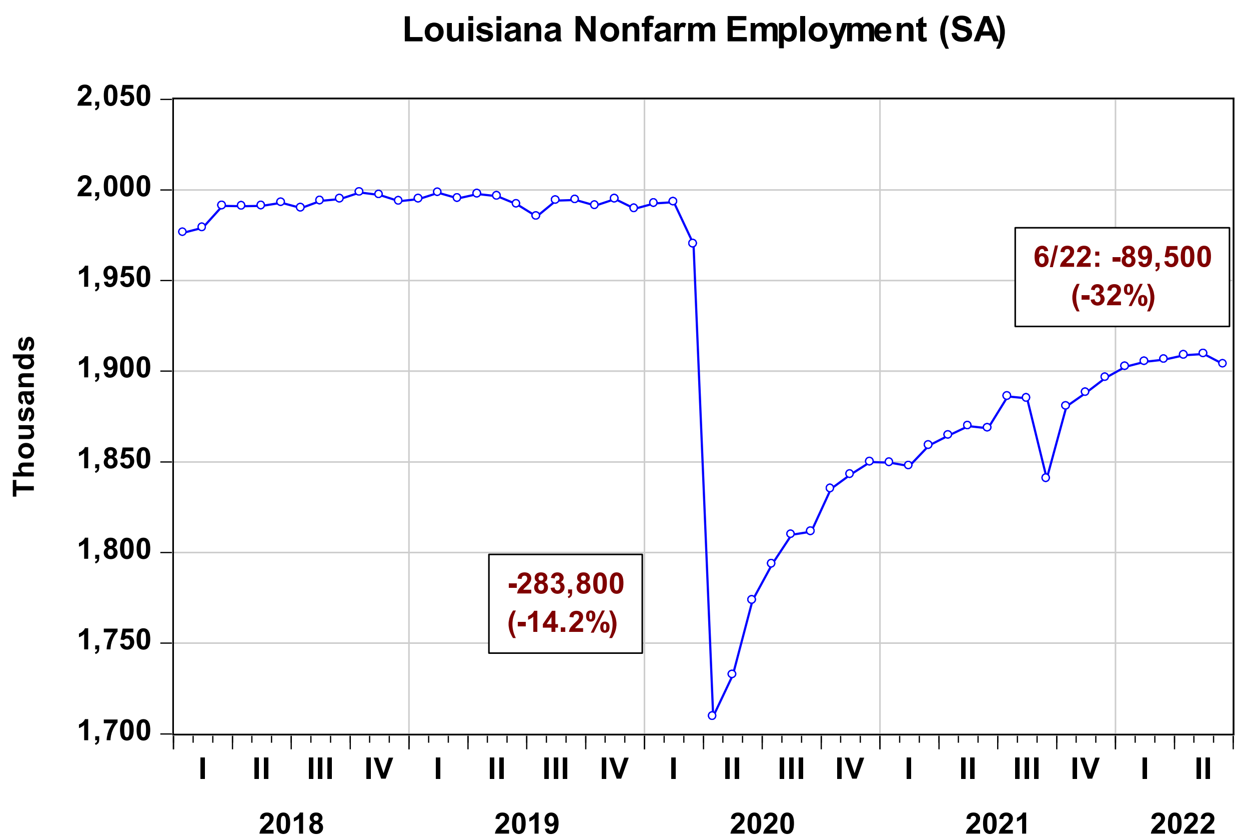
Will COVID Recovery Effect Recession Impact?

There is another important consideration as one examines the impact of a national recession on Louisiana's employment. The state has yet to recover all the jobs lost due to the COVID shutdown in March 2020.

Figure 3



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Figure 3 tracks Louisiana's seasonally adjusted monthly employment from January 2018 through June 2022. Louisiana lost 283,800 jobs (-14.2%) when the economy was shut down. By June 2022, the state had recovered only 68% of those lost jobs (or stated another way, the state is 32% below its pre-COVID shutdown employment). As seen in Figure 4, only Alaska (59%) and the District of Columbia (52%) have a poorer recovery record.

Figure 4

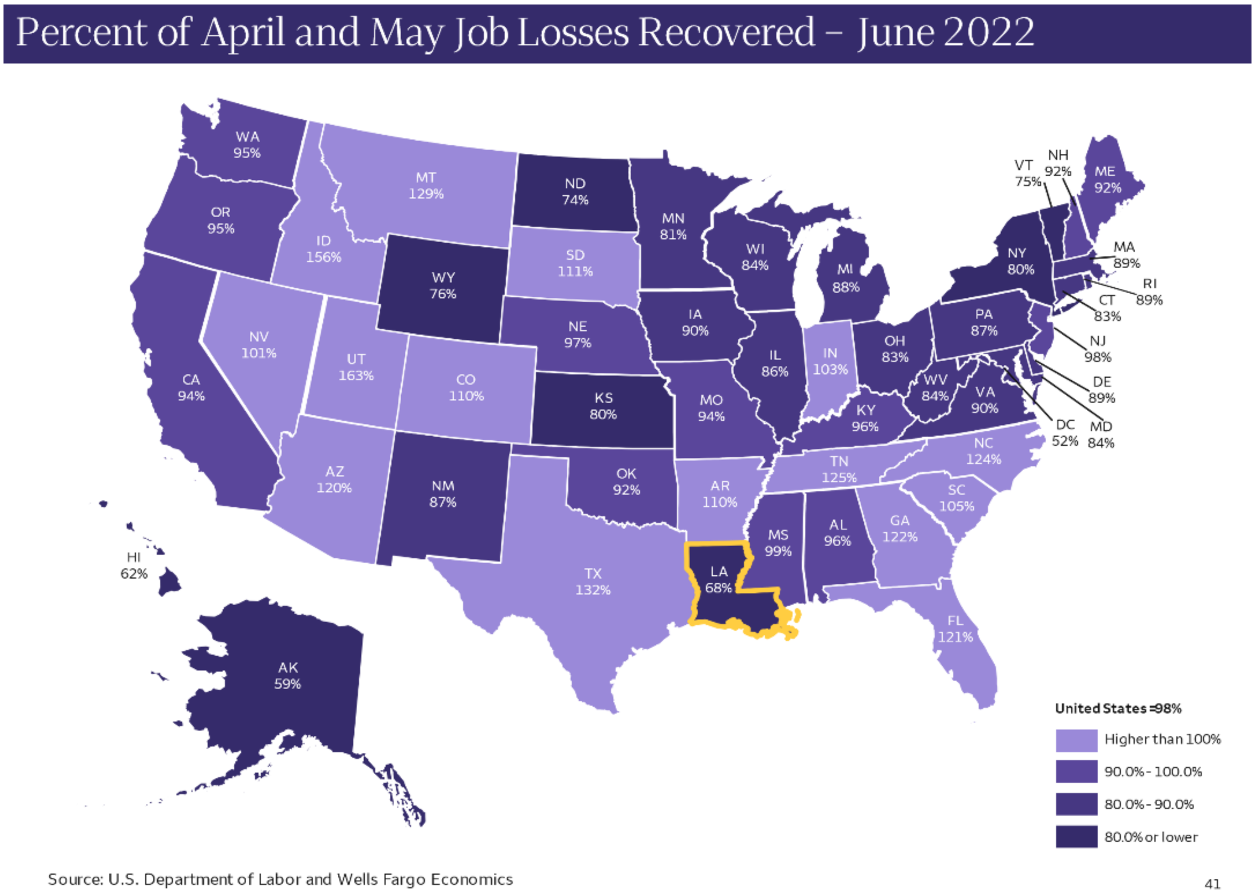


Chart used with permission

Louisiana's weaker performance is largely due to **acts of nature**. Since the shutdown, the southwestern part of the state experienced two serious hurricanes (Laura and Delta), Winter Storm Uri, and a major flood. Then, last fall, Hurricane Ida laid waste to the Houma MSA, the Hammond MSA and much of the New Orleans MSA. These weather events especially set back the recovery efforts in the Houma and Lake Charles areas.

Another recovery-hindering factor is that the state's largest MSA---New Orleans---is heavily dependent on the **tourism industry**. New Orleans is host to the nation's 6th largest convention center, plus its unique nature attracts visitors from all over the world. As we will document in the New Orleans forecast section, the convention business still lags pre-COVID levels significantly. COVID restrictions and sheer fear of the virus have pressed the brakes on the tourism industry. Thus, tourism-dependent regions are far from total recovery from the shutdown.

Plus a Tight Labor Market

There is a final factor to throw into the recession-employment thought mix---our unusually tight labor market. We conduct about 150 phone interviews with company officials from all types of industries. Without exception the complaint is an **inability to find enough workers**.

Louisiana's unemployment rate in May 2022 was only 4%, an unusually low figure. It is clear that a combination of fear of COVID, plus the large bump in savings created by the stimulus checks and the temporary child tax credit, is keeping many people from participating in the labor force.

Soon, that savings pool will run out, and financial pressures will entice more and more workers back into the labor force, into an economy that is trying mightily to recover the rest of that 32% COVID employment deficit (see Figure 3). What this all means is **we believe this will be another one of those national recessions in which Louisiana's employment actually <u>grows</u>**. The prospect that it is likely to be a rather shallow national recession only adds to that belief.

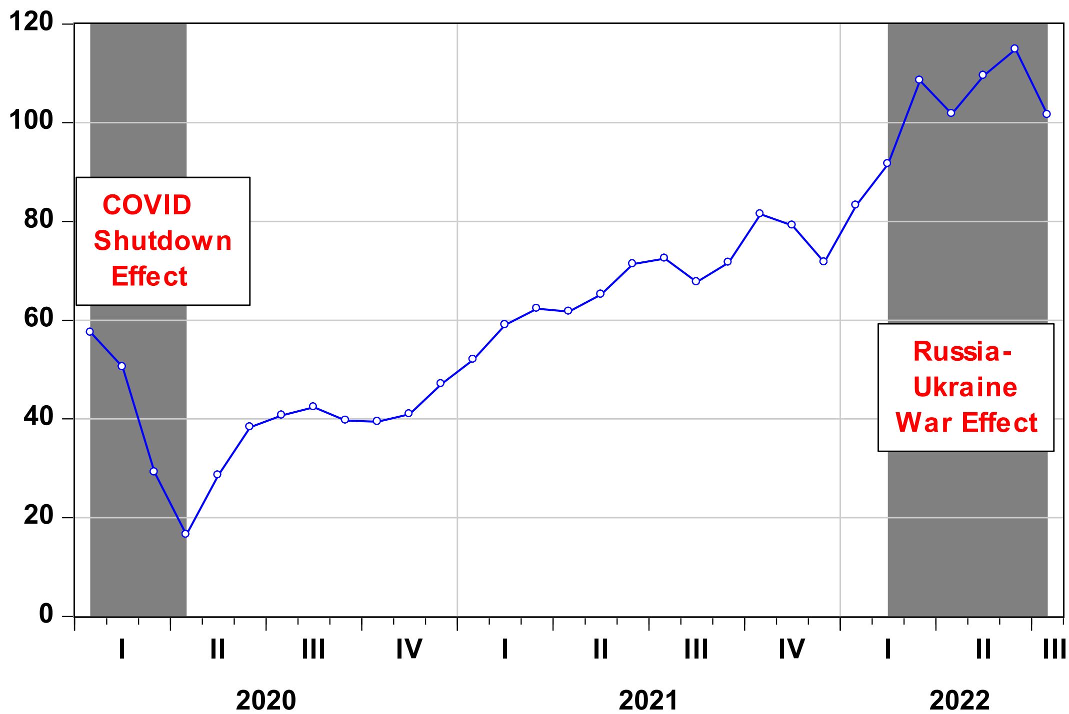
Oil Prices: Recession & War Resolution?

When teaching forecasting techniques to MBAs and Executive MBAs at LSU, students were told that the price of oil is the second most difficult item in the economy to forecast.[2] Reason number one is that two-thirds of the oil reserves in the world are under the lands of countries where the government runs the oil company. You never know what they will do. Who could have predicted that in late 2014 the Saudis would sudden pump tons of oil on the market, driving the price to below $30 a barrel at one point in an attempt to kill the U.S. shale industry?

In addition, there always seems to be some darn thing in this industry that whipsaws oil prices. This is shown vividly in Figure 5.

Figure 5

Price: West Texas Intermediate Oil - Monthly
1/2020 - 7/2022



Source: Federal Reserve of St. Louis & Loren C. Scott & Associates, Inc.

[2] Number one is the weather or climate.

The COVID Shutdown

Who, sitting in an office in 2019, could have predicted the COVID shutdown that dropped the price of West Texas Intermediate from $59 to $17 a barrel in just four months? This drop was totally demand-side driven. People stayed home, rarely ventured out of their homes, and never flew on a plane. The decline in demand in the first half of 2020 (-18.4 mmb/d) was the worst the industry had ever experienced by far.

As economies worldwide began to reopen, demand returned slowly. The oil price rebound was dramatically aided by the decision by OPEC+ to take 9.7 mmb/d off the market. By January 2021 prices had risen sufficiently that the cartel decided to add 500,000 b/d back and meet monthly to decide further additions. By July 2021, OPEC+ had added back 4 mmb/d of their cuts. A decision was made that month to add 432,000b/d each month through September 2022 until their full 9.7 mmb/d had been restored. Demand rose enough that the price had settled in the $80 a barrel range.

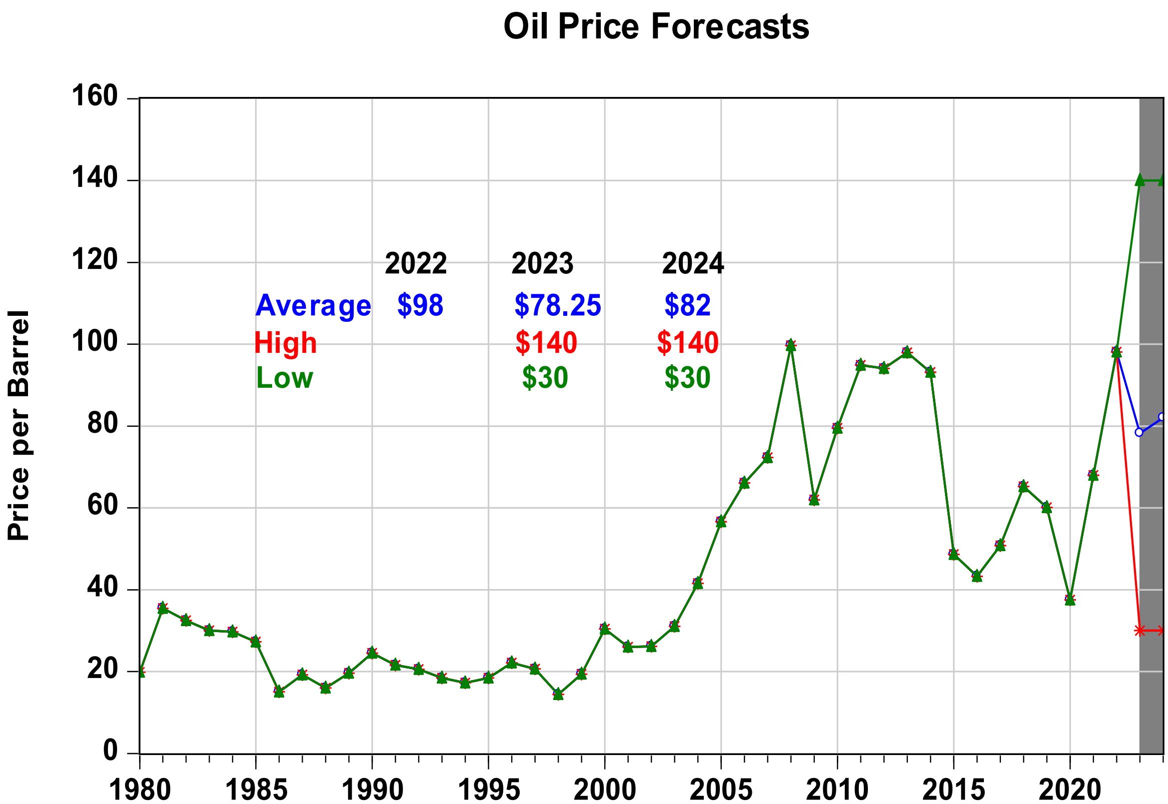
Russia Invades Ukraine

In early 2022, Russia unexpectedly invaded Ukraine. Among the western allies in particular the response was to try to eliminate purchases of Russian oil. Both the U.S. and the U.K. initiated total embargoes of Russian crude. Other European countries started looking for alternative sources. Some shipping companies refused to carry Russian oil. Some insurance carriers refused to insure ships carrying Russian oil. Since Russia produces about 10% of global oil production, the removal of part of their output caused a bump in oil prices into the near $120 range as seen back in Figure 3.

Oil Prices: Where to Next?

Of course, the question for forecasters is not where oil prices have been it is where are they going next? Figure 6 illustrates the history of oil prices from 1980 through 2022, along with our forecast for 2023-24. **We are projecting oil prices will average $98 this year, $78.25 in 2023 and $82 in 2024**. Note there is a remarkably large confidence interval around these forecast ($30 -$140 a barrel) reflecting the huge amount of uncertainty in this market.

Figure 6



Source: Federal Reserve Bank of St. Louis FRED data bank & Loren C. Scott & Associates, Inc.

Back in the High $80s

Readers may be surprised at the $98 a barrel estimate for 2022 since---as seen in Figure 5---the "war effect" had driven prices well above $100 a barrel from March through July. However, at this writing, oil prices have declined into the high $80s, a number which we expect will decline even farther. There are two factors behind this decline. One is that **OPEC+** agreed to bump their production from 432,000 b/d in July and August up to 648,000 b/d in those two months. In September their increase will be 100,000 b/d.

But the more important factor is that **more and more Russian oil is working its way back onto the global marketplace**. There are countries that remain unmoved by Russia's invasion and are very moved by the fact that they can get Russian Urals crude at a $40 discount to Brent crude. China has shifted a significant amount of demand to Russian, doubling its imports of Urals crude. India has not joined in the embargoes because that country relies on Russia not only for crude oil but also for military supplies. Turkey relies heavily on oil from pipelines running from Russia to Turkey and would be in a serious bind if an embargo was attempted.

Readers should also note that there are some 3,700 crude carriers floating the oceans delivering crude wherever there is the best price. Some do not have qualms about carrying Russian crude and their insurance carriers are equally unmoved. China is purchasing its own VLCCs (Very large Crude Carriers) to bring cheap Urals oil to Asia. Some shippers are even using ship-to-ship transfers to circumvent the embargoes. Either way, more and more Russian oil is returning to the global market and the "war effect" back in Figure 3 has started to disappear.

U.S. Oil Production Returning

In addition to the OPEC oil and Russian Urals oil being added to supply, U.S. oil production continues to rise as well, though at a much slower rate than pre-COVID. At this writing, U.S. oil production remains about 1.5 mmb/d below its pre-COVID peak.

Historically speaking, this weaker than normal production recovery is odd. Typically the rig count rises in nice correlation with oil prices. This time around the rig count response to higher oil prices has been much more muted. Partly this is due to a **choking off of capital to the exploration companies**. The publicly-held companies are being heavily influenced by ESG-minded institutional investors---pension plans, mutual funds, university endowments---that want greener investments and less in fossil fuels. Those exploration companies that rely on the private equity market are finding their investors have become less interested in production and more on boosting shareholder returns. When Matador Resources and Continental Resources announced a major increase in capital spending to boost production, their stock prices got hammered.

Another factor slowing the rig count recovery has been **antagonism from the Biden Administration** towards fossil fuels. For example:

- Immediately on taking office the President stopped construction of the XL Pipeline

- He ordered a moratorium on lease sales on public lands and waters. The latest 5-year plan for new lease sales ended June 30, 2022. At this writing a plan has been introduced for lease sales on public lands. It (1) dramatically reduced the number of acres for lease and (2) raised the royalty rate from 12½% to 18½%. No plan for offshore leases has been announced and now looks at least two years out.

- He appointed Deb Haaland as Secretary of the Department of Interior. Ms. Haaland has been public in her opposition to fossil fuels and her desire to eliminate the internal combustion engine from the nation's highways.

- An unelected official within the EPA says the agency may issue a ruling that the Permian basin (source of 43% of U.S. oil production) is in "non-attainment" status under the agency's ozone regulations.

The recently passed Inflation Reduction Act does contain some stipulations to release the hold on leases. The law requires the government to reinstate within 30 days the $192 million lease sale conducted back in November 2021. Two more sales in the GOM and one in Alaska are required before October 2023. The Department of the Interior is required to offer at least 60 million acres offshore and two million acres onshore during the prior year before it can renew any renewable energy leases

The clear signal from the Biden Administration is that the fossil fuel industry can expect little to no encouragement. Under those conditions, U.S. production will continue its slow creep upward, but it will be a while before it reaches its pre-COVID peak.

Recession Slows the Demand Side

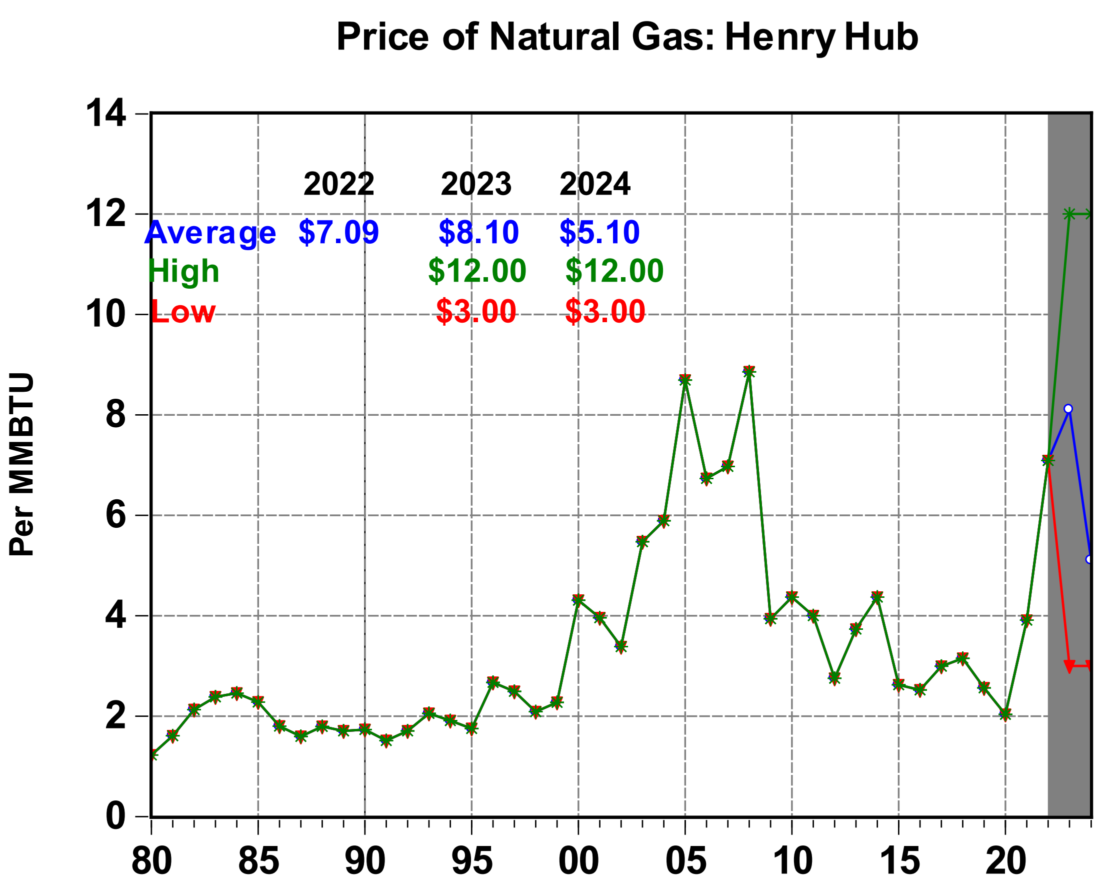
Oil supply increases from OPEC+, the U.S., and resolution of the Russian oil distribution barriers will put downward pressure on oil prices. This downward pressure will be further pushed along by demand reduction as the U.S. and the world enter a recession in 2023. These are the factors behind our projection of the price averaging a lower $78.25 in 2023. Demand factors associated with a recovery from the recession in 2024 should push the price back up into the $80s range.

Natural Gas: Impact of Russian Invasion

Figure 7 tracks the price of natural gas at the Henry Hub in South Louisiana from 1980 through 2022 and provides our forecast for 2023-24. There was an early spike in natural gas prices just after the turn of the century. In fact, there was a move afoot to construct LNG import terminals along the Gulf Coast due to the shortage of the fuel.

The advent of the shale fracking movement changed all that. The U.S. went from a condition of shortage to one of way more than adequate supply. The emphasis totally reversed from LNG import terminal to export terminals. The price of natural gas declined into the $2-$4 per mmBTU where it stayed for over a decade.

Figure 7



Source: Federal Reserve Bank of St. Louis FRED data bank & Loren C. Scott & Associates, Inc.

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In the late fall of 2021 natural gas prices suddenly jumped to over $5 per mmBTU. The wind quit blowing in the North Sea, a major source of electricity generation in the EU. The EU scrambled for alternative methods of generating electricity and focused on gas-powered turbines. Part of that extra gas needed came via LNG imports from the U.S., putting upward pressure on the fuel's price here.

Russian Invasion Creates a Dilemma

When Russia invaded the Ukraine in early 2022, the EU found itself in a real pickle. EU countries wanted to denounce the invasion and to hurt Russia economically by embargoing Russia's natural gas imports into the EU. The problem is the EU relies on imports from Russia for about 45% of its natural gas. Germany is particularly dependent on Russian natural gas. Several major pipelines from Russia feed into the EU, perhaps the most important being the Nord Stream 1 Pipeline flowing under the Baltic Sea into Germany. Russia recently toyed with the EU by shutting down this pipeline for "maintenance" so the Union could fully grasp the consequences of an embargo.

The EU is struggling to find alternatives to Russian gas as the possibility looms of Russia cutting the Union off should the EU go too far in support of Ukraine. One option is **more LNG imports**. In fact, the EU is frantically importing LNG and putting it into storage for the upcoming winter months. This solution is very limited because (1) there is a capacity limitation on EU <u>import terminals</u> and (2) there are also capacity limitations on EU <u>gas storage levels</u>. The effort to boost LNG imports has bumped U.S. gas prices to another level ($8+).

There is a possibility of increasing **imports from Africa** and increasing the use of **renewables**. Neither will come near filling the gap from a loss of Russian natural gas.

That leaves one last, very ugly option: **reduce usage**. <u>Residences</u> may be forced to use less natural gas for heating this winter. It is important to note that most of the EU is on latitude above Toronto. Winters can be very fierce.

If <u>industry</u> is forced to use less gas, that too could be catastrophic. The BASF chemical complex in Ludwigshafen, Germany is huge (see Figure 8). It employs 39,000 people, contains over 200 different plants, 60 miles of roads and is larger than Louisiana's entire chemical industry. Officials are actually making plans to possibly shut the facility down if a gas shortage erupts.

Figure 8

BASF Ludwigshafen

Picture used with permission

U.S. Versus European & Asian Prices

The right side of Figure 9 demonstrates how this convoluted natural gas market has skewed prices in the U.S. versus Europe and Asia. This July, the U.S. price at the Henry Hub was about $6.03 per mmBTU. The Asian price was $38.03 and the European price was a whopping $54.78! Louisianans have been grousing about their utility bills this summer. Imagine what those bills are like in Europe!

The huge gap between U.S. and European/Asian natural gas prices has had a major positive economic benefit to Louisiana. Chemical firms in Europe and Asia cannot possibly compete in the global market with chemical firms in the U.S. These foreign chemical firms are taking the next logical step. They are moving where the cheapest molecules of gas are----Louisiana and Texas. As we review the economies of the different MSAs in the state later, an important message are the large, new capital investments by the chemical industry in Louisiana.

Figure 9

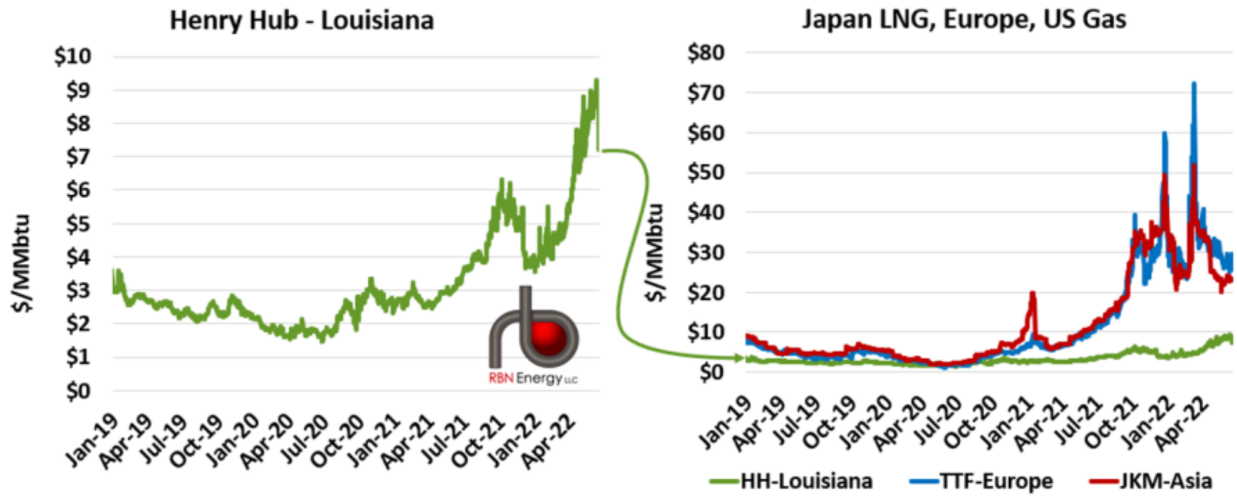

Figure used with permission

One might reasonably inquire why the shipping industry cannot simply adjust in the natural gas market the way it is doing in the oil market as described above. The short answer is that while there are some 3,700 ships carrying crude oil and products, there are only about 700 moving LNG. Too, crude oil terminals are ubiquitous, but LNG import terminals much less so. Simply altering shipping patterns cannot work the same magic for LNG that it does for oil.

Natural Gas Prices: 2023-24

We expect the pressures on the natural gas market created by the Russia/Ukraine conflict to continue into 2023 and keep natural gas prices in the $8 range. They would likely be even higher, except we expect some muting due to the demand-lessening pressure of the expected recession in 2023. Our forecast of $5.30 per mmBTU in 2024 assumes a resolution of the Russia/Ukraine war and a return to more normalcy in the European market. Reasonable people might consider that assumption "heroic."

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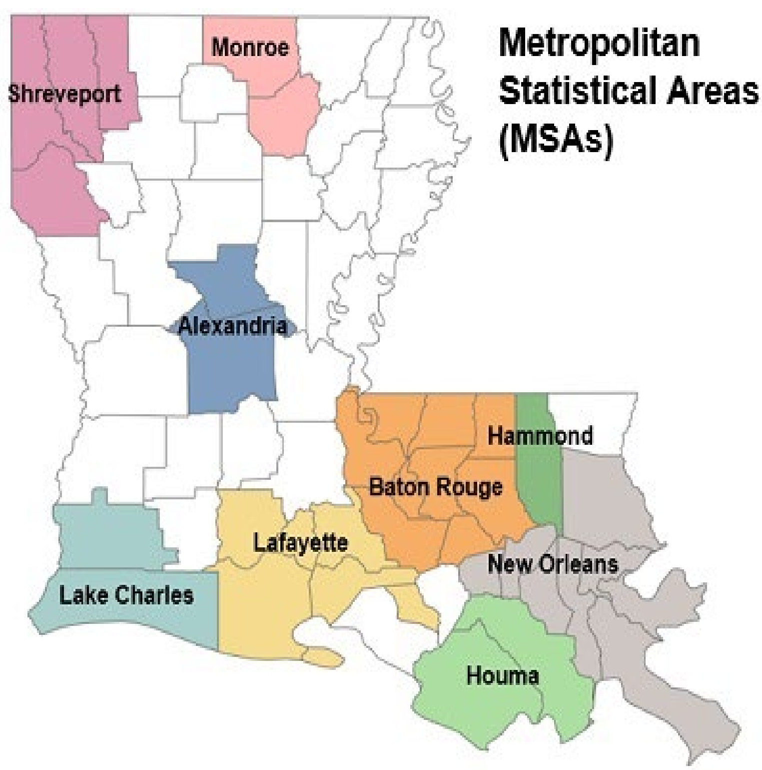
THE LOUISIANA METROPOLITAN STATISTICAL AREAS

Below we will analyze separately the prospects for Louisiana's **metropolitan statistical areas** (MSAs). The U.S. Bureau of Economic Analysis has taken 35 of Louisiana's 64 parishes and combined them into nine separate MSAs. These MSAs are delineated in Figure 10 (source: LAWorks.net). The parishes without color---those outside the MSAs---are designated as "rural" parishes, of which there are 29. These rural parishes generally have a large agricultural economic base. Exceptions include the energy-dominated St. Mary Parish, the heavily military Vernon Parish, and Lincoln and Natchitoches Parishes which contain significant universities.

Figure 10
Louisiana Metropolitan Statistical Areas



Map from Laworks.net

For those unfamiliar with Louisiana's MSAs, readers can refer back to this figure as we review the economic prospects for each area below.

THE NEW ORLEANS MSA

Will $26 Billion in Announced Projects Materialize?

As seen back in Figure 10, the New Orleans MSA is located in the southeast corner of the state and is the largest in the state population-wise. It is composed of eight parishes---Orleans, Plaquemines, Jefferson, St. Charles, St. John the Baptist, St. Tammany, St. James, and St. Bernard. A short history of this MSA can be found in Appendix A. Because of its geographic location near the mouth of the Mississippi River, this MSA is a major port region, including the nation's largest in terms of tonnage moved (the Port of South Louisiana), the huge Port of New Orleans, and the Port of Plaquemines.

Because the river provides access to deep draft ships, numerous refineries (including the nation's second largest) and chemical plants line its banks. Numerous exploration companies such as Chevron and Shell have significant locations in the area in order to direct exploration activity in the Gulf of Mexico.

As mentioned in the "National Economy" section above its unique culture and cuisine---plus the French Quarter---make the city proper a major tourism/convention site. Its Morial Convention Center is the 6th largest in the country. Tourists are also attracted by the region's gaming industry. New Orleans is the home to what is presently the state's only land-based casino, two other riverboat casinos, and the Fairgrounds racetrack. In addition to several community colleges, the University of New Orleans, Tulane University, Loyola, and Dillard are located within its boundaries.

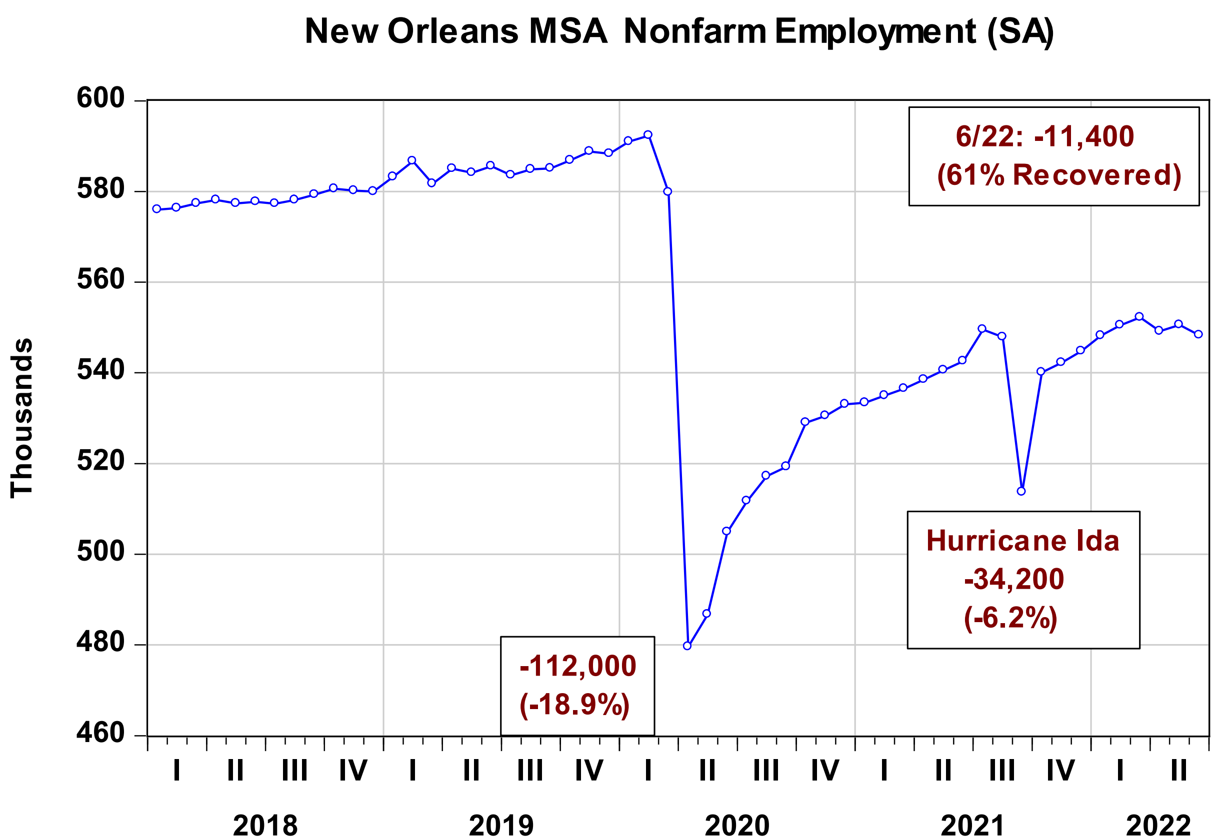
As of 2021, there are about 550,400 people employed in the region. The New Orleans MSA is firmly established in this first-place position, being about 38% larger than the Baton Rouge MSA.

Recovery from the COVID Shutdown: Hurricane Ida

This MSA has a good ways to go before recovering the 112,000 jobs lost due to the COVID shutdown. As seen Figure 11, which tracks the MSA's monthly employment (seasonally adjusted), The New Orleans region had recovered only 61% of those 112,000 jobs by June 2022. Only the Houma and Lake Charles MSAs had a poorer recovery performance than this MSA.

It is clear in this chart that Hurricane Ida played no small role in diminishing this recoupment rate. When it hit in September 2021, the region experienced a 34,200 (-6.2%) job setback. The good news is that the rebuilt/reinforced levees around the city held. There was no flooding, but power was out for several days. The area to the west in St. John Parish---especially the city of LaPlace---was not protected and experienced serious flooding. About four months later, in January 2022, the MSA's employment recovery from Ida was complete, though much flood damage---especially in St. John Parish---still remained.

Figure 11



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Recovery from the COVID Shutdown: Tourism

COVID has been particularly harsh on the tourism industry, and New Orleans proper is a major national and international tourist attraction and a huge convention city. Its convention center is the 6th largest in the U.S.

Table 2 demonstrates just how badly the city's convention business was impacted by the epidemic. In 2019, there were 138 conventions scheduled in New Orleans, none were canceled, and none were done virtually. Few people even knew about Zoom or Teams. Of the 155 conventions scheduled for 2020, 66 were canceled, and 46 were switched to the virtual format---unpleasant news for the restaurant/hotel industry.

Table 2

New Orleans Convention Data

Conventions	2019	2020	2021	2022
Conventions Scheduled	138	155	124	100
Conventions Canceled	0	66	48	0
Virtual	0	46	42	1

Source: EventsinAmerica.com/events/Louisiana/new-orleans/top-trade-shows & Loren C. Scott & Associates, Inc.

Heavy cancelations and movements to virtual continued into 2021, with 48 cancelations and 42 conventions going online. Apparently, comfort with being in crowds began to return in 2022. There have so far been no cancelations of conventions, and importantly, only one is scheduled to be online. However, note that the number of conventions scheduled in 2022 is some 55% lower than in in 2020. Obviously, the tourism component of the New Orleans economy has been a real factor in the area's slow recovery from the shutdown.

Big Boost from Industrial Construction

This MSA's recovery from the shutdown would have been even slower had it not been for some $17+ billion in industrial construction projects underway in the region, including the following:

- **Venture Global** (VG) finally pushed the "go" button on its huge 36-train, $13.2 billion LNG export terminal in Plaquemines Parish. Several Special Purchase Agreements (SPAs) with customers in Spring 2022 pushed the company over the financial threshold for a May Final Investment Decision (FID). Construction will continue throughout our forecast period.

- VG will need access to a plentiful supply of natural gas for liquefaction. **Enbridge Pipeline** is spending $400 million to build the Gator Express and Venice Extension Pipelines to service VG's terminal.

- A refinery in Chalmette that has been idle since 2010, will be converted to a renewable diesel production complex. **PBF Energy** is spending $550 million to convert the unit to make diesel out of non-fossil inputs like soybeans and corn oil and other derived fats. The project will create 20 new jobs paying $70,000 annually.

- **Koch Chemicals** is in the final stages of building a $1.85 billion methanol plant in St. James Parish. This is the same as the Yuhang Chemical project mentioned in last year's Louisiana Economic Forecast.

- Also in St. James Parish, **ElementUS** is constructing an $800 million project to extract rare earths from alumina byproducts at the Atlantic Alumina site. Once completed this project will support 200 new jobs at $85,000 annually.

- As mentioned in last year's report, **Shell/Equilon** is spending $234 million over three years on maintenance and upgrades to their facility, an investment that will create five new jobs.

- Finally, **Kinder Morgan** is joining with Neste to build an $88.6 million plant that will refine waste, residues and other raw materials into renewable fuels and feedstocks for plastics. The investment involves retrofitting several tanks, improving infrastructure, and adding a new boiler. This project is almost complete---scheduled to open in 2023Q1 with 25 new jobs.

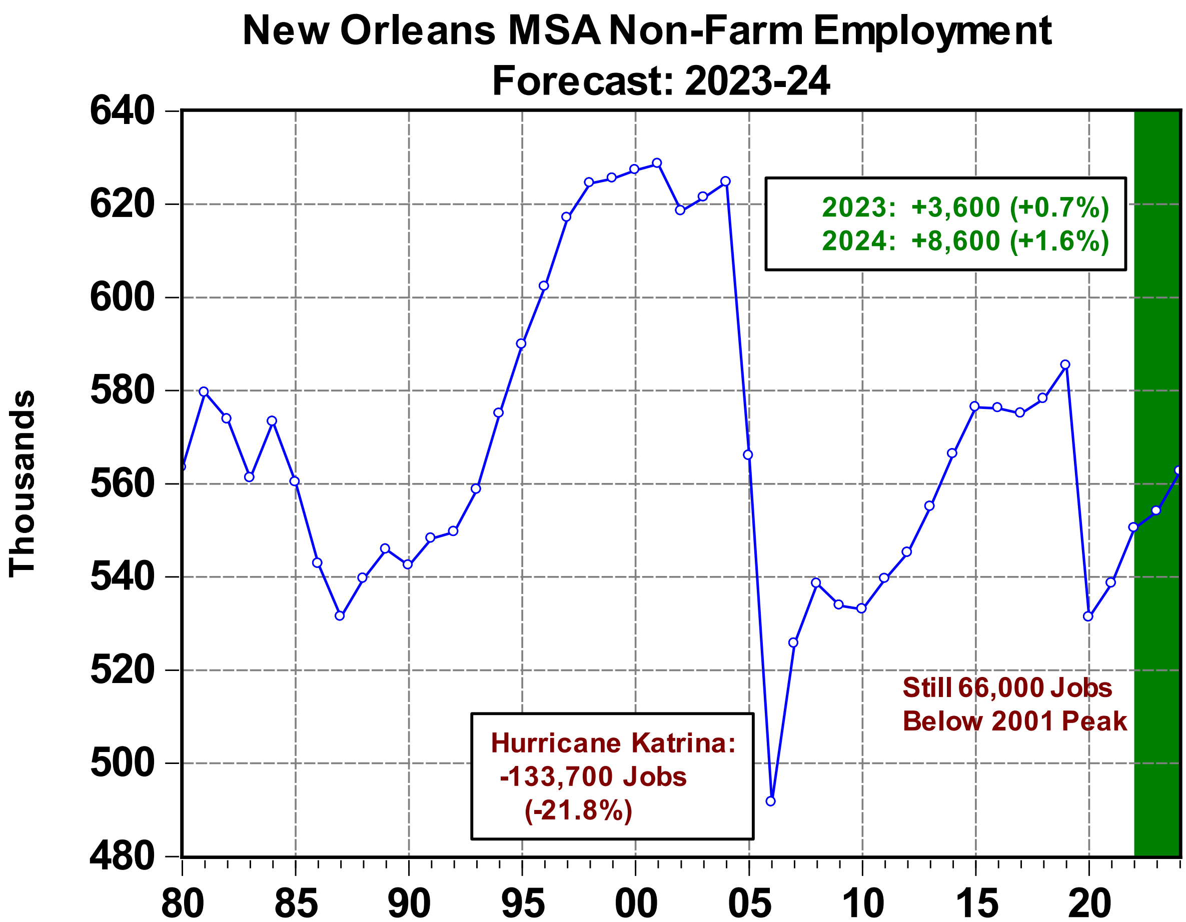
Outlook for 2023-24: New Orleans MSA

Figure 12 tracks the employment history of this MSA over 1980 through 2022, along with our forecasts for 2023-24. For readers who are interested, a write up of the history of this MSA from 1980-2020 can be found in Appendix A.

A side note: Figure 12 demonstrates vividly just how destructive Hurricane Katrina was to this economy. In one fell swoop, the MSA lost a remarkable 133,700 jobs, over a fifth of its economy. Even with our projected gains through 2024, this region will remain 66,000 jobs below its 2001 peak employment level.

We are projecting that this MSA's employment will grow, though slowly, right through the national recession, **adding 3,600 jobs (+0.7%) in 2023**. Though the tourism business should experience a setback due to the recession, we expect strong industrial construction and natural recovery of COVID-related losses to buoy this economy through the national downturn. **A much better performance is expected in 2024, with the MSA adding 8,600 jobs (+1.6%)**.

Figure 12



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Big + or Little + Depends on Critical FIDs

The New Orleans MSA will enter the next two years with a nice tailwind from massive spending by the first five projects underway that were listed in our bullet points above. **We roughly estimate that about $5 billion a year will be spent on those five projects over 2023-24**. That is a lot of money to inject into an economy.

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Exactly how much the MSA's employment will be bolstered over the next two years hinges largely on whether some **$26 billion in announced projects** actually issue Final Investment Decisions (FIDs). Here is a list of the ones to watch closely:

- Perhaps the most important project to watch is the planned $9.4 billion **Formosa Petrochemical** complex in St. James Parish. This project would involve ethane crackers and downstream manufacturing plants. Some 1,200 high-wage jobs would be created. The company has already invested significantly in the site, widening LA3127, relocating utilities, putting in testing piles and pipeline removals. An FID would have already been issued, except in an unprecedented move the Army Corps decided to re-examine its previously issued permits under pressure from the Biden Administration. We are still optimistic that the project will move forward.

- There are two, large LNG export terminals that are examining the Plaquemines Parish area. Venture Global is planning a second $8.5 billion facility called **Delta LNG**. This project will also involve a 287-mile pipeline (Delta Express Pipeline) from the Perryville Hub in North Louisiana to the site. An FID on this project is expected by year-end.

- Also outside our forecast period is a likely FID call on the $3.2 billion **Pointe LNG** project. We understand this project is still in the pre-filing stage before FERC, so it is unlikely an FID will be issued before 2024.

- We are hopeful that within the next two years an FID will be issued on the $2.6 billion, 2-plant **IGP Methanol** project planned for Plaquemines Parish. This project has been delayed due to a decision to make it a "blue methanol" plant, i.e., one where all the carbon produced will be sequestered. Expectations are for an FID on the first $1.3 billion plant to be issued in 2024.

- Encouraging signs are coming from the old Avondale Shipyard site. **Hilo HRE Global** purchased the location and has already invested $100 million to restore rail access, docks and cranes, and have established a free trade zone. The company is on target to sign five developments. HRE is planning to invest another $193 million in 2023 and $313 million in 2024 at the location.

- We assign a very high probability to an FID soon on the proposed $500 million **Greenfield Louisiana** grain terminal planned in St. John Parish. This would be a 36-silo terminal on 248 acres that would employ 200+ jobs at $70,000 annually. It would be the first new grain elevators within the Port of South Louisiana in 40 years. It should be completed by 2025.

- We understand the **Syngas Energy Holdings** methanol plant in St. James Parish is still moving forward. A $350 million project, the facility would be located 10 miles south of the Sunshine Bridge and would employ 100 people at $78,600 per year.

- A smaller, but still significant potential is in the **Calucem Cement** specialty cement plant planned for New Orleans East on a 9-acre site on the Industrial Canal. A $35 million project, it would employ 70+ people at $51,700 annually. This project may move quickly enough to open in the latter part of 2023.

A special piece of goods news surrounds the huge **Shell Refinery site in Convent**. Readers may recall that this refinery was closed in late 2020, shedding 700 Shell employees and another 400 contractors. Initially, Shell was courting potential buyers for the site. Then it looked like the place would remain idle for 5-8 years. The high-natural gas price situation in Europe (discussed in our "Assumptions" section above) has turned prospects for this site on a dime. Now it is being considered for a number of refinery/chemical facilities. In August, Shell announced a **$1.4 billion alternative fuel production facility** at the site with construction to start in early 2025.

On a more negative note, in last year's LEF we reported on $323 million to be spent on **three new solar farms** in St. James Parish. In August, the St. James Parish Council issued a temporary moratorium on any new solar farms in the parish, which has these projects on an unspecified hold.

Billions for Coastal Restoration & Flood Control

Mega dollars will be injected into this MSA over the next two years for coastal restoration and flood control projects. Among these are:

- Work will begin in earnest on the **St. Charles/St. John massive levee system** from Hope Canal near Garyville to the Bonnet Carre Spillway. Recent legislation added funding to this project to bring it to $1.2 billion. Less than a fifth of this funding has been spent. The remainder should be expended by the end of 2024.

- Also to be finished by the end of 2024 is the **$878 million back levee project in Plaquemines Parish**. Mud from the Mississippi River will be used to rebuild disappearing wetlands.

- Louisiana's **Coastal Protection and Restoration Authority** has awarded $2.8 billion in grants for projects within this MSA. The awards are allocated for $1.2 billion in 2023 and $1.6 billion in 2024. One of the largest projects is about $734 million for the Mid-Barataria Sediment Diversion Project.

- The New Orleans region will also be the beneficiary of a new allocation of $10.1 million in **GOMESA** funds to be used for coastal restoration.

- While not in the coastal restoration/flood category, this MSA will be receiving $610.8 million over the next two years for **state road projects**---a figure that is little changed from last year's allocation. The two top road projects among these awards are:

    - $79.8 million to 4-lane LA3241 from LA36 to LA434
    - $52 million to widen I12 from LA1077 to LA21.

Other Private/Public Construction Projects + GDIT

In addition to the expansions listed above there are some significant construction projects in New Orleans proper (behind the levees) that will promote growth in the region, including:

- Over the next two years, the 4-year, $450 million **renovation of the Superdome** will be completed in time for the 2025 Super Bowl. This facelift was a part of the contract to extend the Saints in New Orleans through 2050.

- A $260 million **renovation of the old Big Charity Hospital** is underway. 1532 Partners is in charge of the project to create 300 residential units, a charter high school, and some commercial activity. This project is scheduled to be completed towards the end of 2025.

- **Ochsner** has a $100 million super clinic construction in the Clearview Center that will create over 200 new jobs. The entire **Clearview Center** is undergoing a $100 million renovation.

- Economic developers in this region were warmed by the announcement by **General Dynamics IT** that the company would be opening an office on the UNO campus to provide IT services to the Navy. The company's fifth location in Louisiana, employment at this site will start at 50 jobs and grow to 200 over our forecast period.

New Orleans Gaming Market: Changes Ahead

This MSA is the home to three casinos and the Fairgrounds Racetrack. Figure 13 tracks gaming revenues in this MSA by quarter from 2014Q1 through 2022Q2.

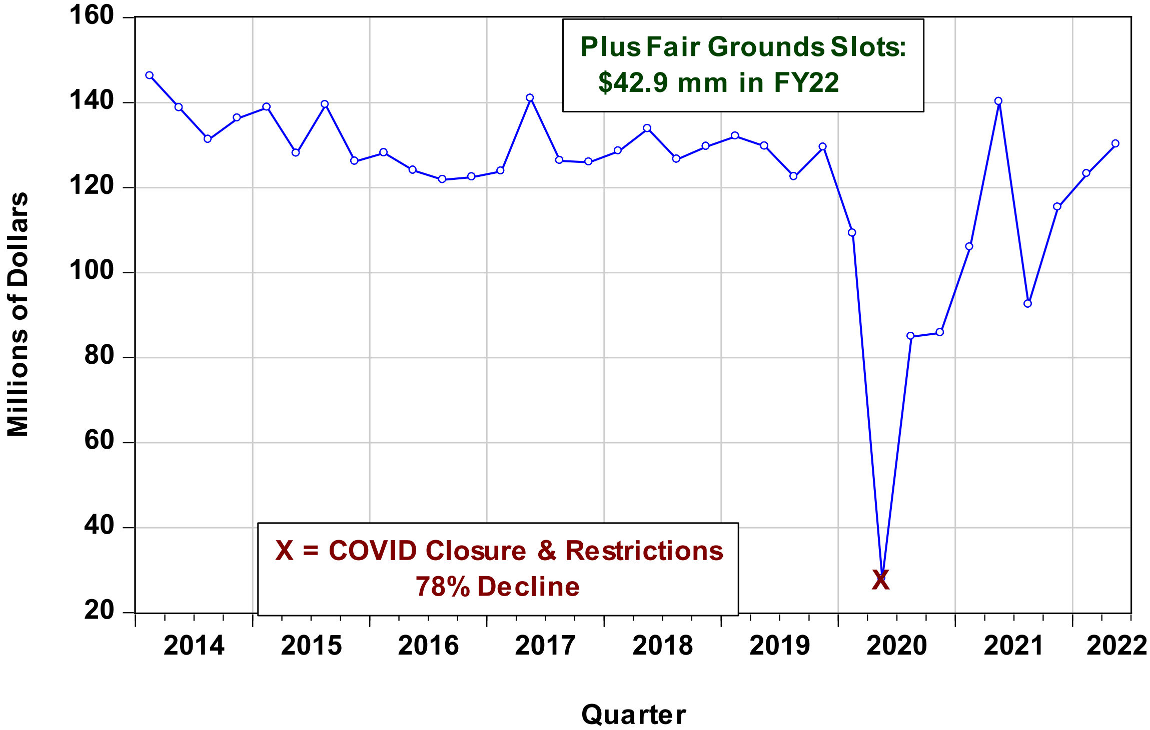
These gaming establishments generate about $175 million in gross revenues each quarter, a figure that has varied little over time with three noticeable exceptions. First, there was the dramatic 78% decline associated with the COVID shutdown. This was followed by a spike in the second quarter of 2021 after the stimulus checks were sent out. Finally, note the significant decline in the third quarter of 2021 associated with Hurricane Ida.

Very meaningful changes are afoot in the region's casino sector. Up until recently Caesar's Casino at the foot of Canal Street was the only land-based casino allowed in the state. All others were required to be on water on a riverboat or barge.

The Legislature passed a law that the riverboat/barge casinos could move on land if sufficient investments were made in hotel and convention space. We are aware of at least three to four riverboats that are moving on land, including the **Treasure Chest Casino** in Kenner. This casino has begun construction on a $95 million land-based facility that should open late 2023. Typically, the move to land-based also means more employees.

Figure 13

Casino Gross Revenues: New Orleans



Source: Louisiana Gaming Control Board Reports & Loren C. Scott & Associates, Inc.

Perhaps in response to this looming new competition, **Caesar's Casino** began a $325 million renovation this year that will involve a new 340-room hotel tower above the valet entrance, a new restaurant and other design improvements. Once completed in 2024, Caesar's plans to hire an additional 500 employees.

Northshore: NIMBY Impacts Going Forward?

The past couple of years have been rather curious for economic developers watching the Northshore. Two very large jobs projects were rejected by the community. One was the $325 million, 1,500-job proposed Peninsula Pacific Entertainment Casino that was voted down with a resounding 63% nay vote.

While voting down a casino in one's community may be predictable in a parish that has long voted anti-gaming, the local government rejection of the 450-job Medline Distribution Center is another matter altogether. Those two NIMBY signals may produce headwinds against other future projects for this area.

Despite these curious signals, there has been some very positive economic news for the north side of Lake Pontchartrain.

- The delayed opening of the new 140,000 square foot **Amazon Distribution Center** is now scheduled to open in late 2023Q1. North of 200 jobs will accompany the ribbon cutting.

- **Chevron** houses its Gulf of Mexico Business Unit in Covington. The company has interest in 264 leases in the Gulf of Mexico (GOM) (second largest in the GOM), almost all of these in the deep waters. Figure 14 gives a pictorial presentation of Chevron's reach in the Gulf. Employment at the GOMBU has risen from 357 last year to over 450 in 2022.

Figure 14

Chevron Deepwater Assets

Picture used by permission

- Also in the realm of the GOM is the supply boat company **Hornbeck**, located in Covington as well. Hornbeck is now a private company and is

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returning to a growth mode. Employment at its headquarters now exceeds 175 and is expected to rise to the 225 range. Hornbeck has 40 boats operating and recently purchased 13 new boats in the larger 3,500 dead-eight tons class---which is the future of offshore supply boats. The company's business has really picked up due to increasing rig activity in the northern hemisphere, especially in the Caribbean and the north slope of South America.

- **C-Innovations** provides remotely operated vehicles (ROVs) and autonomously operated vehicles (AUVs) for offshore oilfield (90%) and government work. The company employs 48 in its Covington office and another 270 offshore. Both employment numbers are expected to expand marginally over 2023-24.

- **Pool Corp** employs over 300 at its headquarters in Covington and expects that number to grow about 5% per year. The firm has about 4,000 workers worldwide and has enjoyed a boom during the COVID period as more people worked from home, took fewer vacations, and added a pool for their relaxation time.

- Another key player on the Northshore is the Gilsbar Group, which in the last year has divided into two separate companies. One is **Gilsbar Insurance**, which employs 104 people. The other is **HealthComp**, which is now the nation's largest third-party administrator, with 240 employees.

- Of the $610.8 million in **state road lettings** for this 8-paish MSA, fully one-third or $196.8 million will go to road projects in St. Tammany Parish. The Parish will also receive $1.6 million in 2023 and $3.6 million in 2024 of **coastal restoration monies**. Under the recently passed Infrastructure Bill, St. Tammany will receive $26.9 million for improvements from LA36 to LA435.

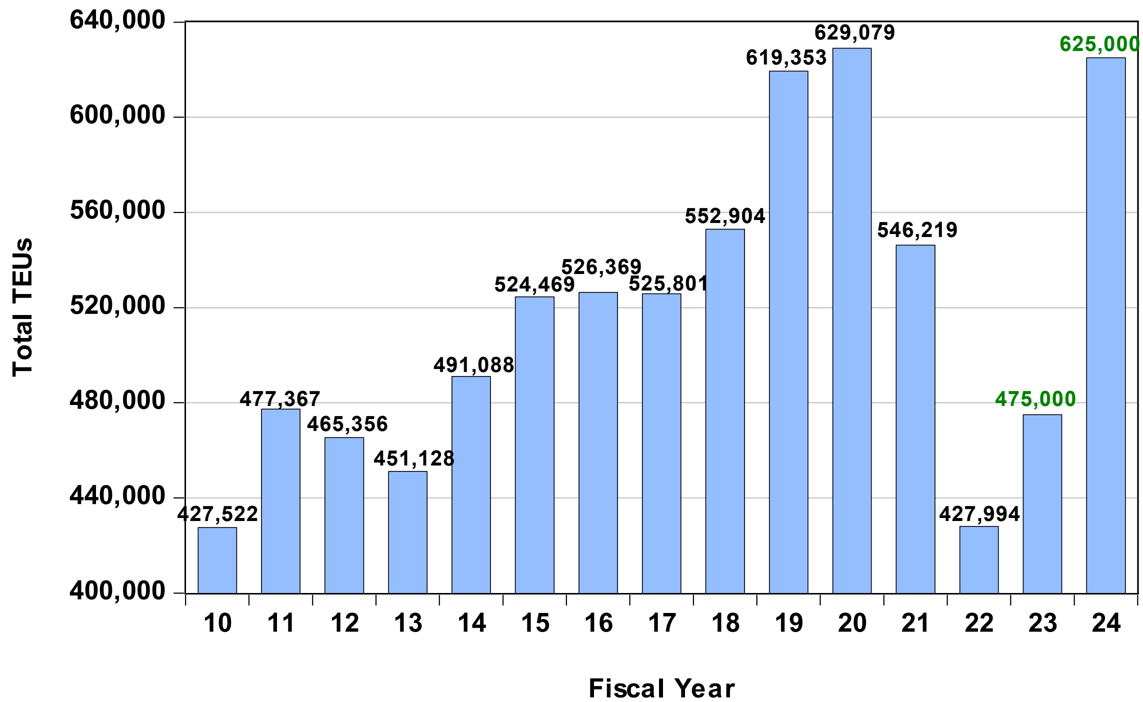
- A $20 million **Avala Hospital** is now under construction, and when opened will hire 100+ employees.

Port of New Orleans: LIT in the Future

The **Port of New Orleans** is a major port for accepting container cargoes and other bulk imports such as steel. As seen in Figure 15, container traffic at the Port had been increasing nicely until COVID hit, dropping the TEUs handled by the Port by over 200,000 units or about 32%.

Figure 15

Port of New Orleans TEU Traffic



Source: Port of New Orleans & Loren C. Scott & Associates, Inc.

Both breakbulk tonnage and cruise ship passenger traffic were pummeled by the epidemic. Cruise ship passengers dropped from 1,208,551 in FY19 to only 6,441 in FY21. Breakbulk tonnage fell from 2,133,772 to 1,277,705 over that same time period. Both of these activities began nice recoveries in FY22, but the TEU count continued to decline (see Figure 15).

Note in Figure 15 that the Port is expecting a substantial rebound in FY23 and especially FY24. A key factor in this optimistic forecast is that **Alliance Ocean Network** has added the Port of New Orleans to its port-of-call for traffic to and from Asia. Alliance is making a **$100 million investment** at the Port to expand the Napoleon Avenue Container Terminal, adding four new 100-foot-guage

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container gantry cranes. This will increase the capacity at that site to one million TEUs and improve the ability to work larger ships.

Further in the future, and beyond our forecast range, the Port has submitted coastal use permits, completed vessel navigation simulations, conducted a phase 1 traffic study and wetlands jurisdictional determination on a proposed $1.5 billion container terminal that would be located on 1,100 acres at Violet in St. Bernard Parish. $50 million has been allocated from state capital outlays for a roadway to connect the site to I510. Labeled the **Louisiana International Terminal**, its construction would not start until about 2025 in phases.

Michoud Assembly Facility: Launching Artemis

One of this MSA's largest employers by site is the collection of companies at the **Michoud Assembly Center**. Michoud was chosen as the site to manufacture part of the space launch system (SLS), specifically (1) the core stage and (2) the Orion capsule. The units for the first launch have been completed, and Artemis 1 will likely begin its unmanned mission to the moon around press time for the LEF.

Boeing has about 1,000 people working on the core stage, and **Lockheed** uses about 181 people working on the capsule. The companies are working now on the 2nd and 3rd core and the 3rd capsule. Facilities support is provided by **Synen Space Services** with its 368 workers.

The federal government's largest payroll services provider---**the USDA Finance Center**---is located on the MAC campus with almost 1,000 employees. **GE/LM Wind Power** has 36 people working at their Michoud site manufacturing blades for wind power farms. The **Coast Guard** keeps 189 of its personnel on the campus as well. Employment at these three units is not expected to change materially over 2023-24. Adding in other NASA personnel, contractors and security brings the MAC employment total to an impressive 3,006.

THE BATON ROUGE MSA

Awaiting Amazon & $11 Billion in FIDs

The Baton Rouge MSA is the second largest in the state behind the New Orleans MSA. A brief history of this MSA can be found in Appendix B. In 2015, this MSA's employment rose above the 400,000 level for the first time in its history. However, COVID drove that number down to 384,600 jobs in 2020. By 2022, the MSA was back above the 400,000 mark, but just barely at 400,200.

The largest number of parishes (9) is in this MSA: East Baton Rouge, West Baton Rouge, Livingston, Ascension, Iberville, St. Helena, Pointe Coupee, East Feliciana, and West Feliciana (see Figure 10). According to the Bureau of Economic Analysis, in 2020, East Baton Rouge Parish had the highest population in the state at 456,781. Interestingly, three of the top eight fastest growing parishes in the state, in terms of population, over 2010-2020 were in this MSA---Ascension (+18%), West Baton Rouge (+14.4%) and Livingston (+11.4%).

A combination of (1) access to the Mississippi by deep draft ships and (2) access to plentiful natural gas make this region a haven for the petrochemical industry. Louisiana is the 6th largest producer of chemicals---especially first-stage bulk chemicals that can be moved via ocean-going ships---and the Baton Rouge MSA is their largest home in Louisiana. Huge national and international firms like BASF, Dow, ExxonMobil, Eastman, and others have very large facilities.

Louisiana also has an enormous pipeline network in the state, enough miles of pipelines to circle the globe four times plus. Access to those pipelines and access to the river to move their products helped Baton Rouge land the nation's fourth largest refinery, ExxonMobil and a across the river a smaller lube plant (ExxonMobil) and another smaller refinery (Placid).

The combination of the chemical plants and refineries is typically referred to as the petrochemical industry. These are very capital-intensive facilities located largely outdoors. A vast industrial construction industry---the largest in the state---resides within these plants daily to maintain them. In some cases, the number of contractors working at a plant equals the number of people wearing the petrochemical company's shirt. Huge contracting firms such as Turner Industries, Performance Contractors, ISC, MMR, and Cajun Contractors make their headquarters in Baton Rouge.

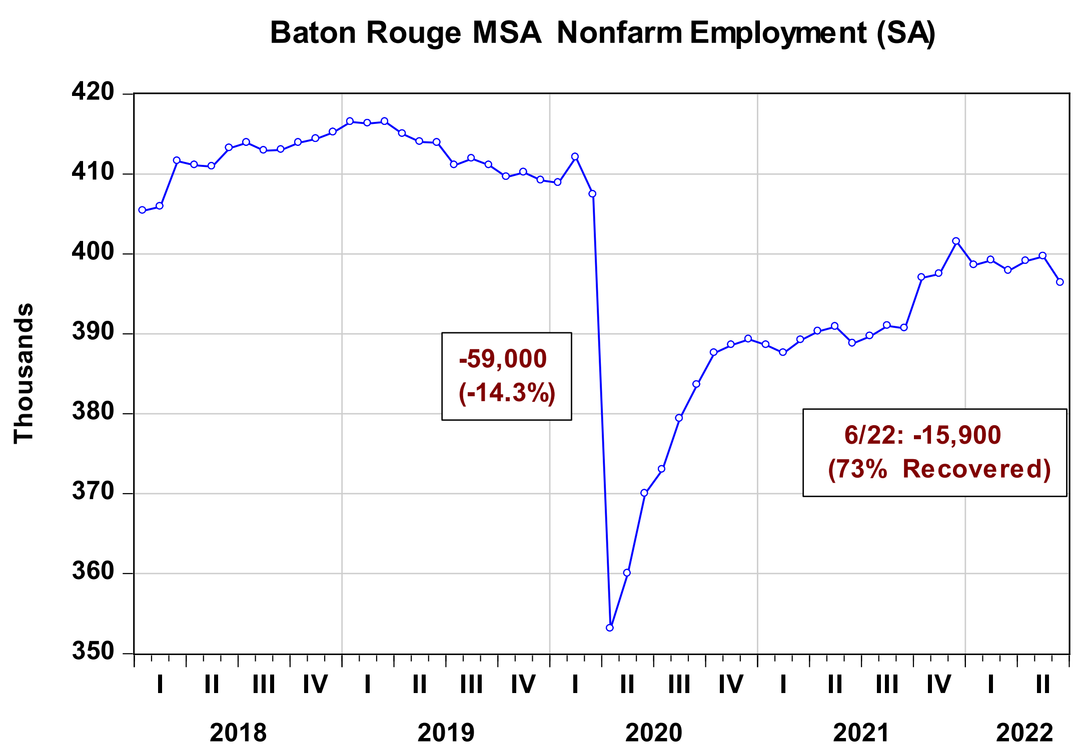
Baton Rouge is as far up the Mississippi River as deep-draft ships can go, stymied by the Old River Bridge in north Baton Rouge. Inside this region is the nation's 7th largest port, the Port of Greater Baton Rouge. Louis Dreyfus has a large grain elevator at the port, and Drax Biomass runs its wood pellets through the port heading for power plants in Europe.

Government plays an outsized role in this MSA since Baton Rouge is the home of the State Capitol and its vast office complexes. Two state-supported universities are in Baton Rouge, LSU and the historically black college---Southern University. Started up only a few years ago, Baton Rouge Community College is among the more successful of the community colleges in the state. Electronic Arts (game play technology) and the state-of-the-art IBM facility power a developing high-tech sector.

COVID Recovery: Slow Trudge

Figure 16 tracks this MSA's monthly, seasonally adjusted employment numbers from January 2018 through June 2022. The COVID shutdown laid a -59,000-job hit on the Baton Rouge region.

Figure 16



Source: Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

In the first six months after the shutdown the region began to spring back solidly, retrieving 34,500 of the lost jobs. Since late 2020 the recovery has been rather plodding. By June 2022, the region had recovered 73% of the COVID job losses and remained 15,900 jobs short of its pre-COVID peak. This would place the MSA in a tie for 5th among Louisiana's nine MSAs in terms of its COVID recovery.

Readers may be puzzled to see this weak performance given the makeup of the MSA's economy. One would think the state capitol and large local government sectors would have fully recovered given the federal support received, but in fact government employment in the MSA is 3,700 jobs below pre-COVID. The biggest deterrent to the recovery has been the region's construction sector---still 8,200 jobs below its pre-COVID peak. **Government and construction are responsible for 75% of the 15,900-job shortfall shown in Figure 16**.

Parsing out the reasons for the shortfall should actually be a source of optimism for a sharp uptick soon in the employment line in Figure 16. On the government side, the state finished FY22 with a surplus and is not expecting financial issues in the immediate future. East Baton Rouge sales tax collections are rising at a double-digit rate---up over 13% in the first five months of 2022.

There should be even more optimism for a recovery of those 8,200 construction jobs. This MSA has over $12 billion in industrial projects underway, and construction on many of them is just getting started. For example:

- **Air Products** only recently announced it will begin construction of a massive $4.5 billion blue hydrogen complex in Burnside. Once operational in 2026, it will employ 170+ people at $93,000.

- The second largest project is the third $1.6 billion methanol plant at the **Methanex** complex in Ascension Parish. Construction was paused on this project during COVID, but it is now scheduled for completion in late 2023 or early 2024.

- **Shintech** continues to fill in its large site in West Baton Rouge Parish. Site work has begun on its fourth unit---the $1.3 billion SPP4, and the company has a smaller $50 million logistics project underway.

- Construction continues on the $1.2 billion renewable energy expansion at **REG** in Ascension Parish. This will triple the size of the existing facility and add 60 new jobs at $45,000. REG makes diesel out of animal fats.

- Phase 3 of **BASF's** MDI production facility was just announced this summer. This $780 million project will ultimately add 37 jobs (paying $86,000-$105,600) to the over 1,000 people presently working at the BASF complex. The company will also spend $19.8 million on a smaller project to increase its production of chemical intermediates.

- Construction will start in mid-2023 on **Origin Materials'** $750 million biomass facility in Ascension Parish. The plant will use wood residues to produce polyethylene terephthalate used in packaging, textiles, and apparels. To open in mid-2025, it will create 200 jobs at $90,000 annually.

- In Geismar, **Westlake** continues work on its $519 million vinyl Chlorine monomer plant.

- Upgrades and installation of new equipment continues at **ExxonMobil'**s huge refinery in Baton Rouge. The company's $410 million Baton Rouge Refinery Integrated Competitiveness Suite will improve the refinery's flexibility to respond to different crudes, add a new mooring system at the docks, and reduce VOC by 10%. This site is also being considered for an advanced recycling facility.

- In Baton Rouge, **Formosa Plastics** expanding its PVC production with a $332 million project.

- **Huntsman-Rubicon** has a $280 million expansion underway to increase its MDI production. This will add 3 permanent jobs to the company's present workforce of 450 employees and 275 contract workers.

- In Holden, **Weyerhaeuser** is spending $157 million over three years on upgrades to its lumber mill, including a new planner mill, upgraded continuous dry kilns, and upgraded computer and environmental processes. The project will create 4 new jobs and retain 119.

- **Air Liquide** is close to completion of its $145.5 million air separation unit in Port Allen. Once completed the company will add 10 new jobs and an additional $1 million to its payrolls.

- There is a lot of action at the **CF Industries** site in Geismar. A $122 million green ammonia project is underway, and CF is about to begin work on a $198.5 million CO2 compression and hydration unit to capture CO2. The latter should be finished near the end of 2024 and add 12 new jobs at $100,000 per employee. A much larger project is under consideration for the complex, which will be discussed below.

- In Baton Rouge, **Coca Cola** is spending $42 million to expand its bottling facility. The project will add 120,000 feet of warehouse space and fund upgrades of computers and equipment. Already at 558 employees, this project will add another 15. This project is scheduled for completion in 2023Q3.

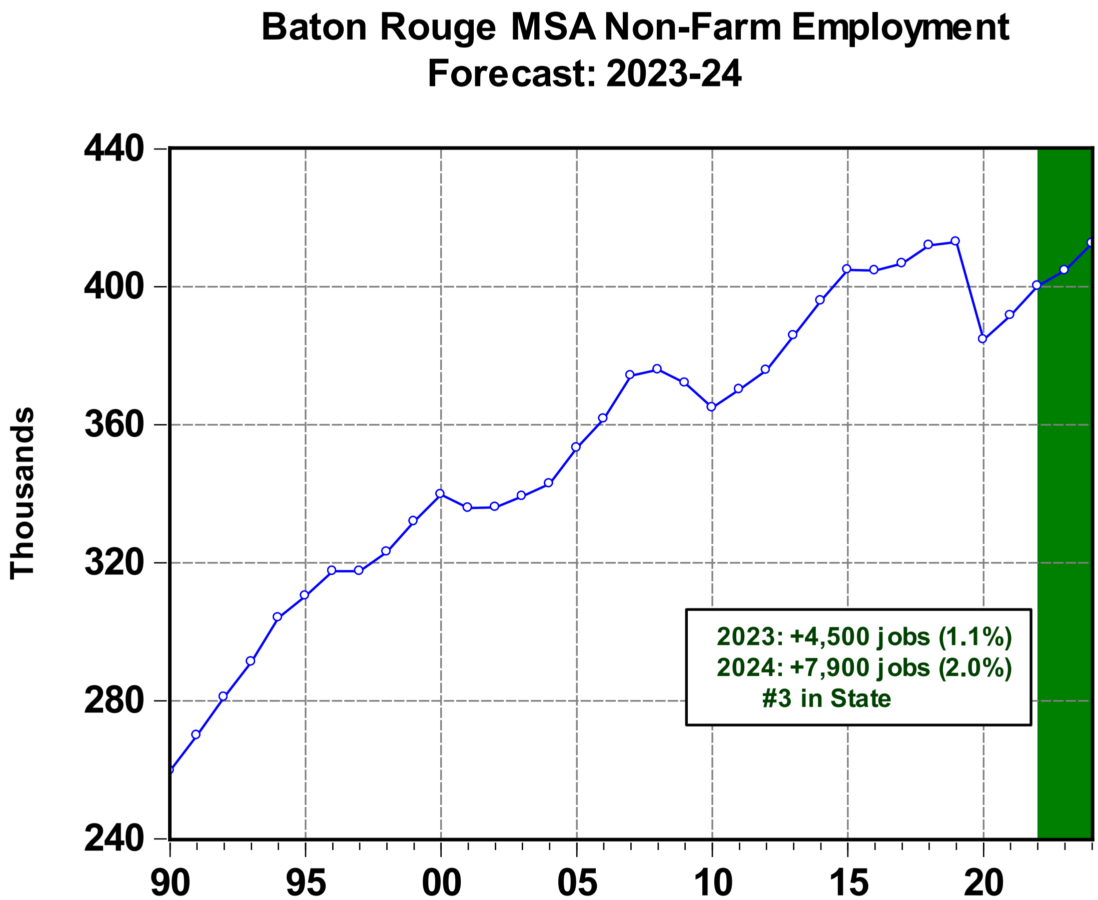
- The **1,4Group** is constructing a $35 million plant to produce insect repellent and preservatives for potatoes in storage. Located in Ascension Parish, the new facility will hire 35 people paying $68,619.

What is important about this list is not only its impressive length, but also **how many projects have just been announced and are just getting started** (including the largest project on the list). This suggests the MSA's 8,200 COVID shortfall in construction jobs is going to diminish and diminish rather quickly.

Forecast 2023-24: Amazon, Industrial Construction & Flood Control

Figure 17 tracks nonfarm employment in the 9-parish Baton Rouge MSA over 1990-2022, along with our forecast for 2023-24. **We are projecting that the MSA's employment will grow right through the expected national recession in 2023, adding 4,500 jobs (+1.1%). That will be followed by a particularly good 2024, when the area is projected to add 7,900 jobs (+2%)**. If these projections hold, the Baton Rouge MSA will be the 3rd fastest growing MSA in the state over the next two years.

Figure 17



Source: Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

Surge in Industrial Construction

Three key elements support this optimistic forecast. First and foremost is an expected jump in industrial construction employment. As shown in the bullet points immediately above there are a number of projects that only recently issued their FID and will be ramping up activity at their sites in 2023. In many cases, these construction levels will be maintained through 2024.

On top of these ongoing projects, there are nearly **$11 billion in projects that have been announced** for the area for which an FID has yet to be issued. They include the following:

- **CF Industries** expects to make an FID on a proposed $2 billion blue ammonia plant in Geismar. The adjective "blue" means the production process will involve capture and sequestration of any carbon resulting from the manufacturing process. This project would create 103 high-paying jobs ($110,582). We place a high probability on this project moving forward.

- A 2023 FID is also expected on **Nutrien's** proposed $2 billion clean ammonia plant in Geismar. The company would capture 90% of the carbon created and Denbury Carbon Solutions would transport it to a saline aquifer near Donaldsonville. Expectations are for construction to begin in 2024 and an opening in 2027. We place a high probability on this project moving forward.

- **Shell Chemical** is planning a $1.4 billion world-scale olefins facility in Ascension Parish that would create 12 new jobs (at $85,000). An FID is expected in early 2024, with an opening scheduled for 2027. We place a high probability on this project moving forward.

- An FID is expected perhaps before this report is issued for **Mitsubishi's** proposed $1.4 billion methyl methacrylate manufacturing plant. To be built on a 67-acre site next to REG, the new facility will add 125+ jobs paying $97,000.

- **Gron Fuels** is working on offtake agreements to finalize financing for a first-phase $1.2 billion renewable diesel plant. The fuel will be made out of soybeans, canola oil and animal fats, and will be housed on 141 acres at the Port of Baton Rouge. Minor source air permits and the ITEP have been approved, front-end engineering and design work is complete, and we understand Koch Brothers may now be a partner in the venture. Additional phases of the project would bring the total investment to $9.4 billion. As part of the project Fidelis New Energy would construct a 200-megawatt net-negative carbon impact biomass power plant to generate electricity for Gron. Fidelis would burn timber that is unmarketable trees or trees on the ground due to hurricanes.

- Less is known about the prospects for the **Magnolia Renewable Fuels** project proposed for the Port Allen rail terminal. The company would produce renewable gasoline and green hydrogen out of chopped southern yellow pine thinnings. The first phase of the project would involve an investment of $800 million and a second phase would boost total investment to $1.5 billion. Phase 1 would create 32 new jobs paying $99,000 annually. Project is on track to FID.

- A 112-acre plot of land has been purchased in Iberville Parish by **Kindle Energy** to build a $740 million advanced class, combined cycle power plant. The power produced would provide electricity for a collection of electric co-ops known as 1803 Electric Cooperative, Inc. Kindle hopes to start up the plant in 2025. We assign a better than 60% probability to this project moving forward.

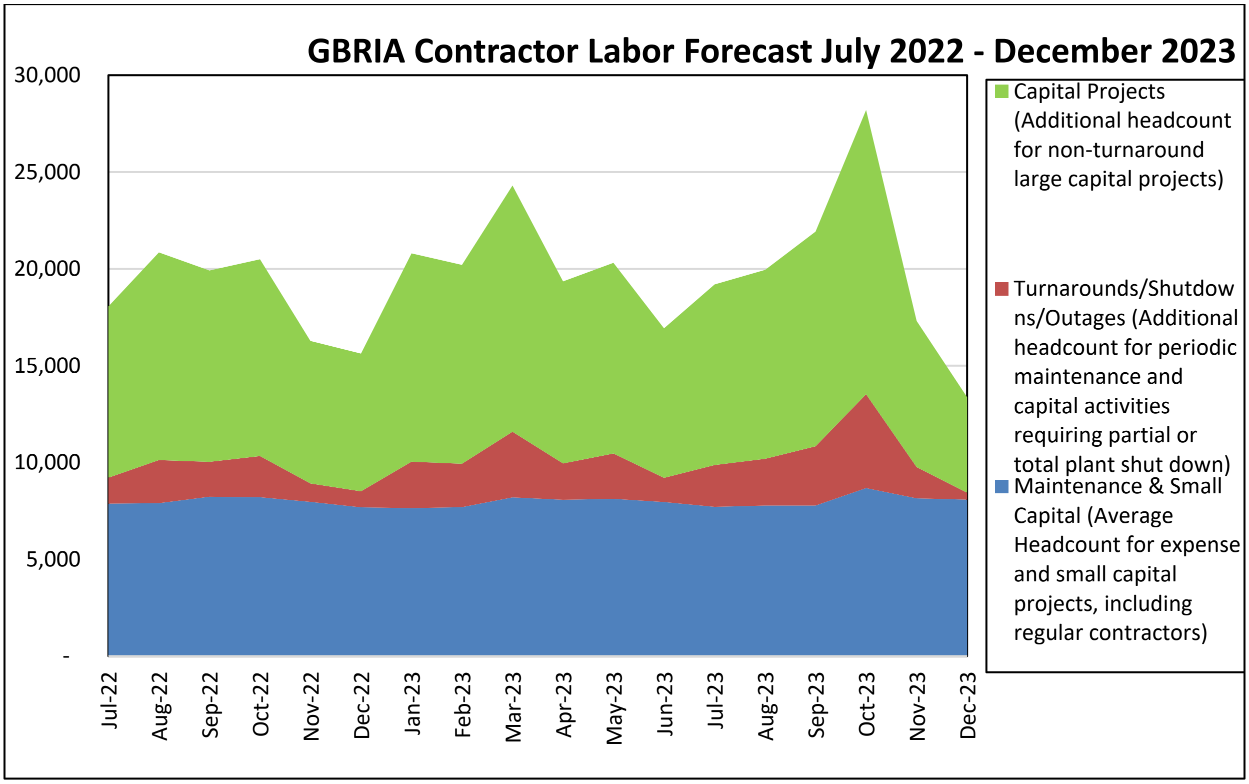
- There is a very high probability that **Air Liquide** will move forward on its proposed $139 million air separation unit to support the new Methanex plant presently under construction. Four jobs would be created at this facility paying $100,000 each.

- Finally, **Placid Refinery** in Port Allen is considering a $94.5 million upgrade to its facility. The refinery presently employs 223 people and would add another five with this investment.

All this means the industrial construction sector is teed up for a major barrage of activity and jobs. We are told that engineering firms are jammed with front end engineering work, and industrial construction firms are swamped by bid-prep demands.

This is confirmed by the recent manpower survey conducted by the **Greater Baton Rouge Industrial Alliance** which is documented in Figure 18. Labor needs for capital projects are in the large pea-green part of the graph. Growth in this section is projected to **skilled craft headcount from 18,063 in July 2022 to 24,302 in February 2023 and further up to 28,205 in October 2023---an increase of over <u>10,000 jobs</u>**.

Figure 18



Used with permission

Amazon Finally Arrives

A second key element behind the MSA's rather rosy future is that the huge **Amazon fulfillment center** at the old Cortana Mall location is scheduled to open by mid-2023. This $200 million robotics fulfillment center covers 3.5 million square feet---nearly double the size of the original Cortana Mall.

Importantly, developers have increased the parking spaces at the site by some 47% over the original plan. Estimates are that once the center is opened as many as 2,000 people will be employed. This estimate factored heavily into our 2024 employment forecast for the MSA.

Employment boosts on a smaller---but still important---scale are coming from other recent announcements. **Rural Sourcing** is opening a software development firm in the old Fuqua Hardware building and is adding 100 jobs this year and growing to a total of 150 over our forecast period.

REV Fire (formerly Ferrara) in Livingston Parish is making a $12.5 million investment to increase its workspace by 81,500 square feet and add new equipment. The

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firm will add 105 new jobs to its present 394-person workforce. Also in Livingston Parish, **Bercen** is completing a $17.5 million expansion that will retain 55 jobs and add another eight paying $75,000 annually. **Focus Foods** is spending $1.7 million to move its operations from Celtic Studios to the Valluzzo-McDonalds distribution plant. This firm---which provides meals to 30,000 K-12 students across seven parishes--- will add 100 jobs to its 333-person workforce.

A site has been chosen by **Our Lady of the Lake Hospital** for a new $100 million Cancer Institute. An estimated $60 million, 80,000 square foot main building will contain medical and surgical oncology, a chemotherapy/infusion center, imaging and diagnostic services, a pharmacy, and a conference center.

Hefty Flood Monies Coming

The hugely destructive flood that hit this MSA in 2016 resulted in an impressive amount of curative money being sent this way by the feds. Some eight years later the bulk of that is about to be spent.

HUD allocated <u>$1.2 billion</u> for **flood resiliency protection** to the 10 most impacted parishes by the 2016 flooding. Most of this will be spent in this MSA and about 90% of the total should be spent over 2023-24.

Of the HUD RESTORE fund of $1.7 billion for **housing recovery** only about half has been expended. Within the next two years, all of this balance should be spent.

About a third of the $468 million allocated for the **Comite River Diversion Canal** has been spent, with the remaining two-thirds to take place over 2023-24. Four bridges have yet to be built: (1) the McHugh Road Bridge, (2) the Highway 964 bridge, (3) the bridge at Highway 19, and (4) the Highway 67 bridge. The completion date of this important project has been pushed to 2024Q4 or 2025Q1.

Only about 10% of the $255 million allocated for **clearing, widening and dredging Wards Creek, Jones Creek, and Bayou Fountain** has been spent. This project is scheduled to complete in 2024.

The $300 million **Housing Mitigation Grant Program** was generated to elevate homes, buy homes and tear down homes to mitigate against the risk of another flood. About half of this allocation should be spent over 2023-24.

Livingston Parish received a $50 million grant through the USDA to clear 450 miles of creeks and waterways to drain the Parish into Lake Maurepas. This project was completed. Then after Hurricane Ida, the USDA thought the Parish did such a good job that another $50 million was allocated to Livingston to clear an additional 450 miles of waterways.

Ascension Parish has been allocated $40.8 million in 2023 and $129.1 million in 2024 for **coastal restoration** projects. Livingston Parish has been allocated $948,000 from the **GOMESA** monies for coastal restoration and flood control projects.

Prepare for Orange Barrels

In additional to the publicly-funded flood control projects listed above, readers should prepare to dodge orange barrels around numerous road projects over 2023-24. The biggest and most disruptive by far, will be commencement of the **widening of I10 from LA415 to the I10/I12 split**. The $716 million Phase 1 from Washington Street to Essen Lane is supposed to start near the end of 2022.

State **road lettings** for this 9-parish region have grown from $529.6 million last year to $693.3 million. Among the larger projects are:

- $165.5 million for the LA415/LA1 connector;
- $51.9 million for the I10/Pecue Lane exchange Phase III; and
- $33.2 million to widen LA70 from the Sunshine Bridge to LA22.

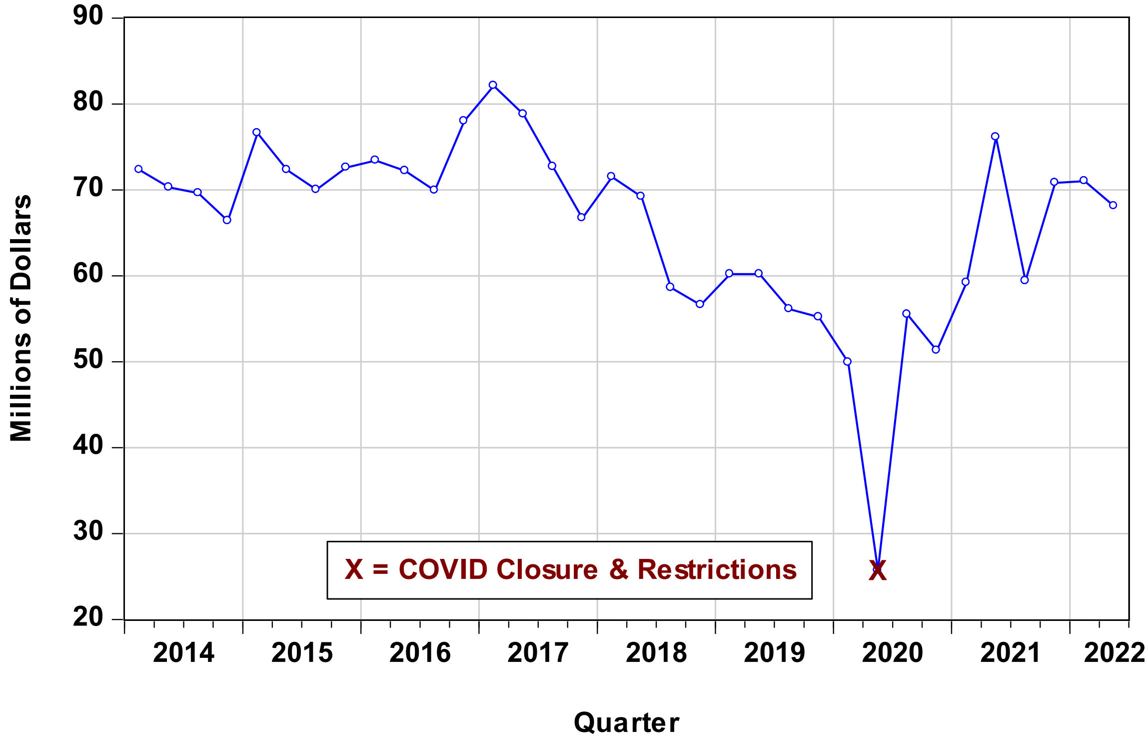
Riverboats to Land

Figure 19 shows the trend of gross gaming revenues by quarter from the area's three casinos from 2014 through 2022Q2. The Baton Rouge gaming market is by far the smallest of the four major gaming markets in the state, with $68 million in gross revenues in 2022Q2 versus $130 million in New Orleans, $151 million in Shreveport/Bossier City, and $180 million in Lake Charles.

After reaching a peak of over $82 million in 2017Q1, gross revenues began a serious slide down to about $50 million just before the COVID shutdown. Like in other gaming markets, the shutdown of the casinos created a mighty drop in 2020Q2. When the economy reopened, gaming revenues sharply recovered and enjoyed a special spike in 2021Q2 when the federal stimulus checks arrived at citizens' homes. Revenues have remained $10-$15 million above the pre-COVID levels ever since.

Figure 19

Casino Gross Revenues: Baton Rouge



Source: Louisiana Gaming Contro Board Reports & Loren C. Scott & Associates, Inc.

A marked change is occurring in this market that will likely increase both gross revenues and employment at the casinos. Both Hollywood and Belle of Baton Rouge are preparing to move their operations form riverboats to on land. **Hollywood** (which was purchased by CQ Holdings) has already begun the move, breaking ground on its new land-based casino in August 2021. Its new $60 million casino is scheduled to open towards the middle of next year, along with a planned employment jump from 300 to 500.

The poorest performing state-regulated casino in the state has historically been the **Belle of Baton Rouge**. CQ Holdings also bought this casino, and we understand the company will approach the Gaming Control Board for permission to move this casino into the Atrium and to renovate the attached, now-closed hotel. If this move is approved, we expect more capital spending at the site ($25 million+) and more jobs.

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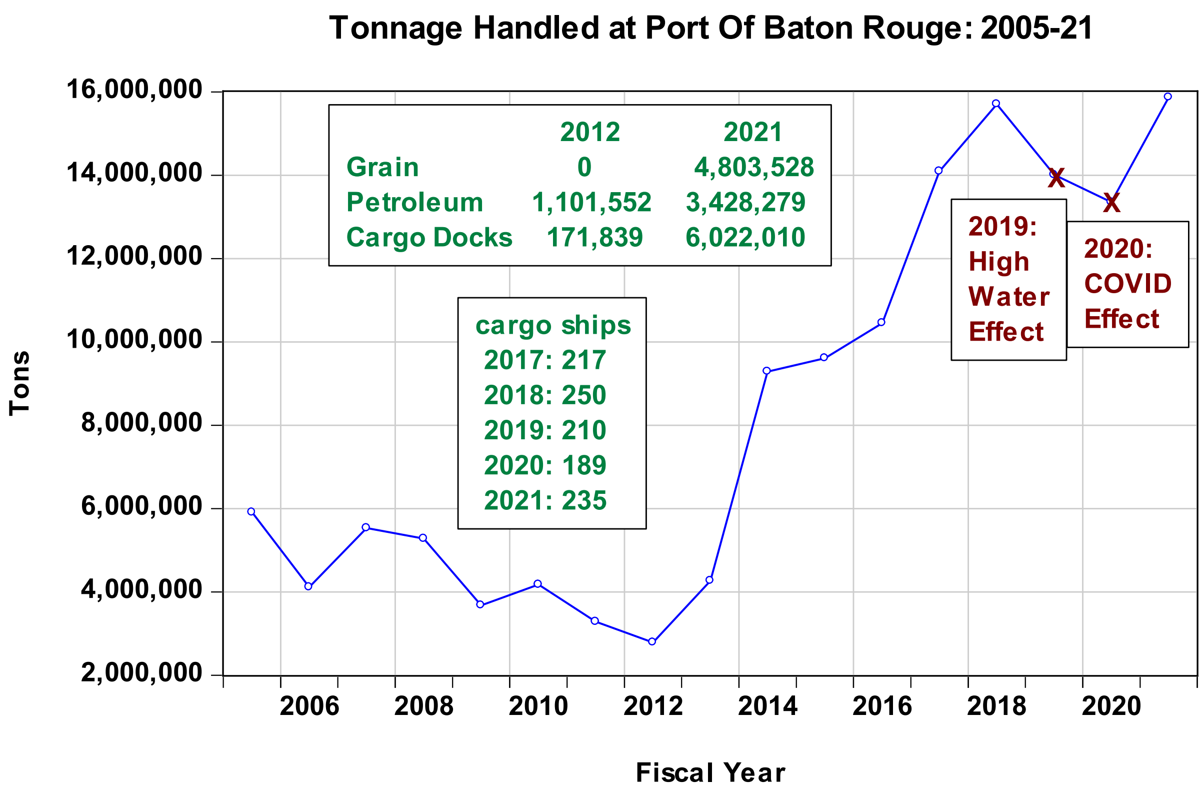
Recovery at the Port

Baton Rouge is home to the nation's 7th largest port in terms of tonnage---the **Port of Baton Rouge**. As seen in Figure 20, the Port enjoyed a spectacular spurt of growth between 2012 and 2018. Then, high water on the Mississippi River limited ship traffic in 2019 and COVID effects drove tonnage down further in 2020. By 2021, Port Tonnage had recovered from both events.

Figure 20



Source: Port of Baton Rouge & Loren C. Scott & Associates, Inc.

The top left insert in the figure explains the source of the largess in tonnage since 2012. **Louis Dreyfus'** new grain elevator alone added almost five million tons to the total. The development of **Genesis Energy's** facilities markedly bumped up petroleum tonnage. In 2021, Dreyfus brought 83 ships to the Port and Genesis was responsible for 71 ship visits.

SECOR AMH has developed the Inland River Marine Terminal at the Port and has a growing business handling containers. Containers handled at the Port have jumped from just over 8,000 in 2017 to 11,142 in 2021---a 39% increase. **Drax**

Biomass makes wood pellets in North Louisiana and north Mississippi and moves them down river by barge to the Port, where the pellets are stored in the two dome-shaped buildings on the north side of the bridge. In 2021, 31 ships moved Drax pellets from the Port to the UK where they are burned to produce electricity.

The Port has secured $20 million from the state port priority program for an expansion of its northern liquid bulk terminal berth. This will allow the Port to handle a fourth deep draft vessel. Construction is expected to start in late 2022 and involve a 15 month build out.

THE LAFAYETTE MSA

Exploration Industry Still Big Question Mark

The second most oil-dominant MSA in the state is the 5-parish Lafayette MSA. A brief history of this MSA can be found in Appendix C. Located in the south-central part of Louisiana along and below I-10, it is composed of Lafayette, St. Martin, Vermillion, Acadia, and Iberia Parishes (see Figure 10). In 2022, there were about 201,700 people employed in this region, and of that amount 5.2% were directly employed in oil and gas extraction and support activities for the industry. That is more than three times the state average and is closely connected to the oil and gas exploration that goes on in South Louisiana and the Gulf of Mexico.

Not surprisingly, there are many fabricators (e.g., Frank's Casing) and service firms (e.g., Halliburton) that came to the area because of their close ties to the exploration sector. Because of their special skills, business for these firms extends to the Permian Basin and all the way to North Dakota. Many firms handle both U.S and international service and exploration work. Several large companies serving the offshore industry utilize the very productive **Port of Iberia** located in this MSA.

A distinct advantage Lafayette has over Houma (another oil-dominated MSA) is that Lafayette is far more diversified. Consider the following non-energy firms:

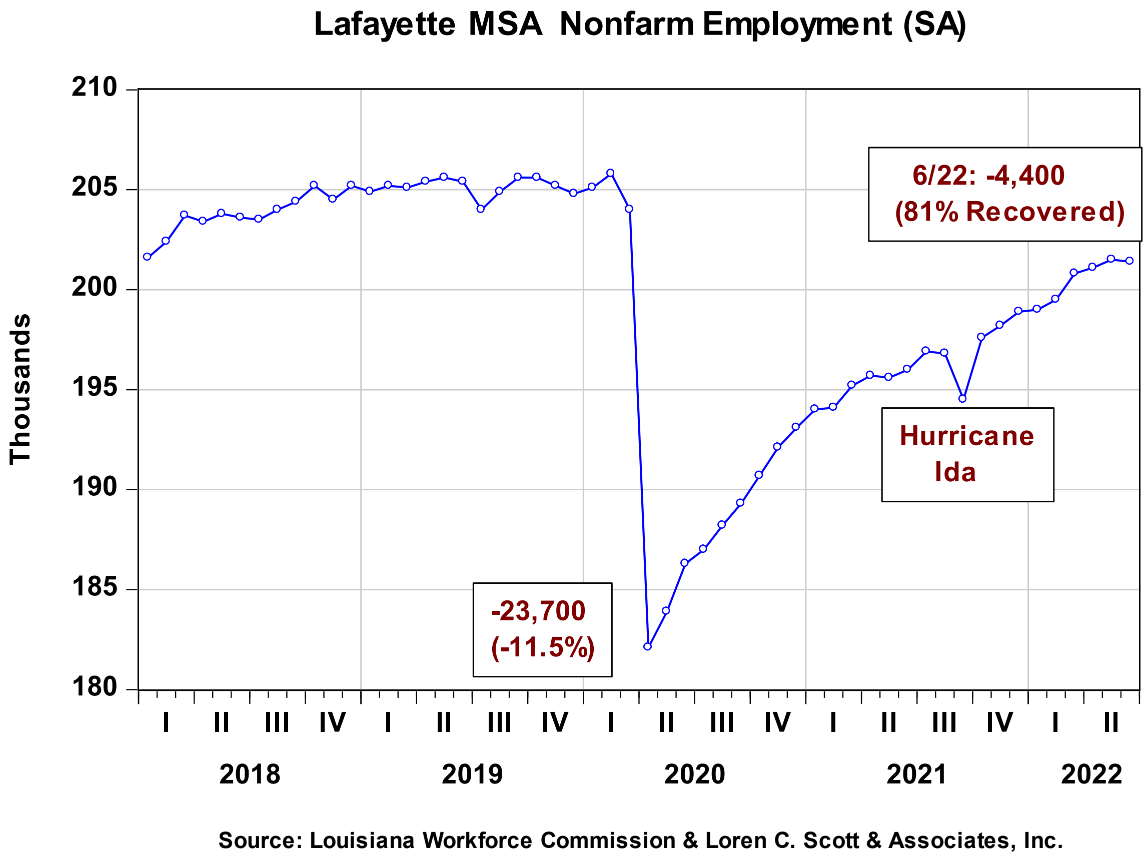
- **Acadian Ambulance:** 1,450 employees and a subsidiary that monitors over 200,000 alarms in 40 states and monitors businesses and houses via videos
- **Stuller Inc.:** 1,415 employees and the nation's largest jewelry settings manufacturer
- **LHC:** 982 employees just in Lafayette and the nation's second largest home-health company
- **Waitr:** 690+ employees plus a nationwide home food delivery complex
- **CGI:** 700+ employees and a growing high-tech firm
- **Safe Source:** 540 employees and working toward 1,200+ to make personal protective equipment
- **SCP Health:** 304 employees providing ER and hospitalist medicine doctors to hospitals in 30 states

Lafayette is also the home of one of the state's larger public universities---the **University of Louisiana at Lafayette**---making it a significant university town.

Steady Recovery from COVID

As seen in Figure 21, the Lafayette MSA has experienced a steady recovery from the COVID shutdown but still remains about **4,000 jobs** shy (81% recovered) of its pre-COVID peak. The region felt a small setback from Hurricane Ida (see the small "V" in the fall of 2021) but took only a month to get back on track.

Figure 21



Such a healthy recovery track can largely be traced back to two factors. One is that the firms in the list of bullet points above---with one exception---have all shown a steady rebound from the shutdown. The only exception was SCP Health which moved many of its operations to Atlanta. The second factor was the initial opening of Safe Source with 540 new employees.

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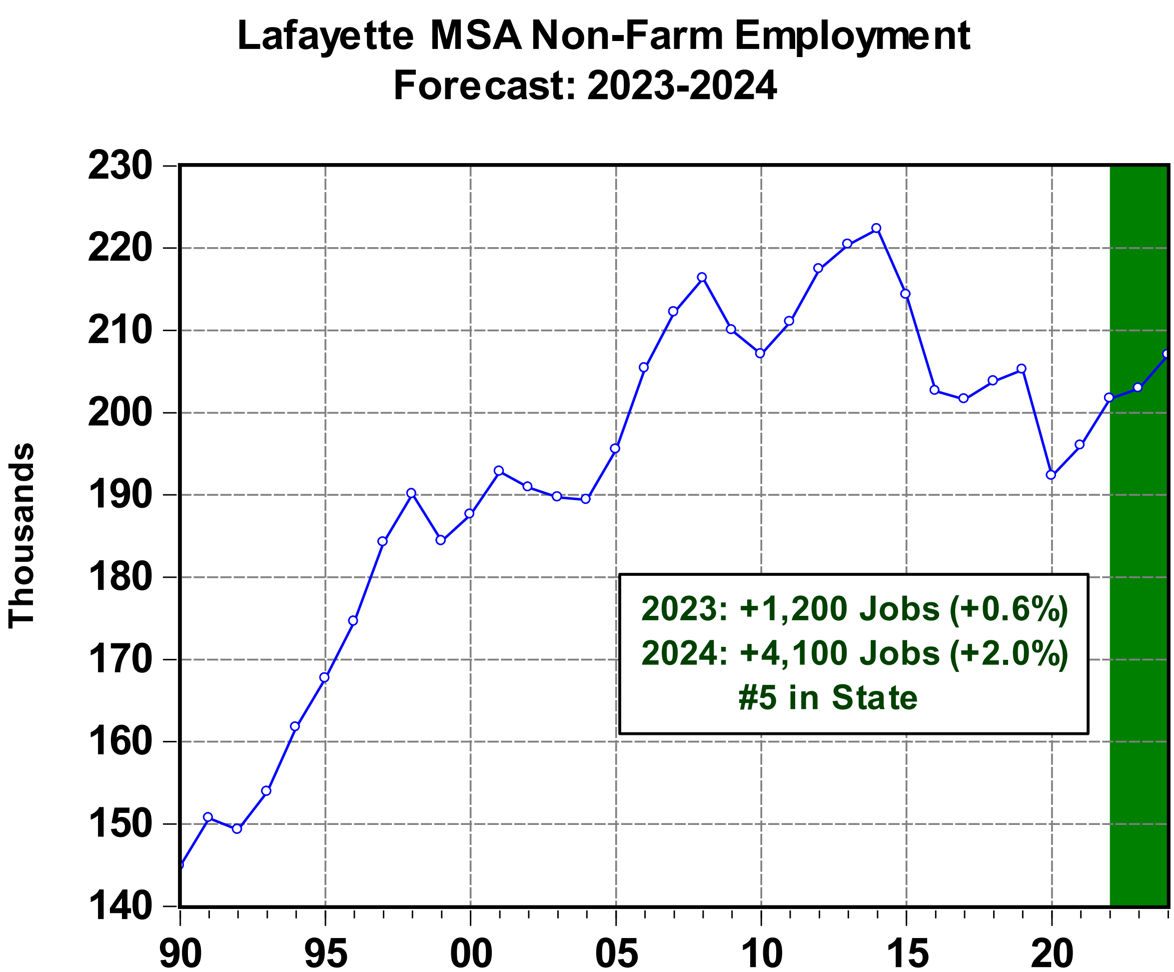
As will be illustrated below, most of these firms are expected to expand their workforces over the next two years, filling in the gap in jobs recovered. Safe Source may even double its workforce size.

Forecast for 2023-24: Dragging an Anchor

Figure 22 traces the Lafayette MSA's nonfarm employment from 1990 through 2022 and adds our projections for 2023-24. **We forecast this MSA will add 1,200 jobs in 2023 (+0.6%) and another 4,100 jobs in 2024 (+2%)**. This will be the fifth best growth rate among Louisiana's nine MSAs and will get the MSA about 2,000 jobs above its pre-COVID employment level. However, the MSA will still be well below its peak employment reached back in 2014.

Figure 22



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

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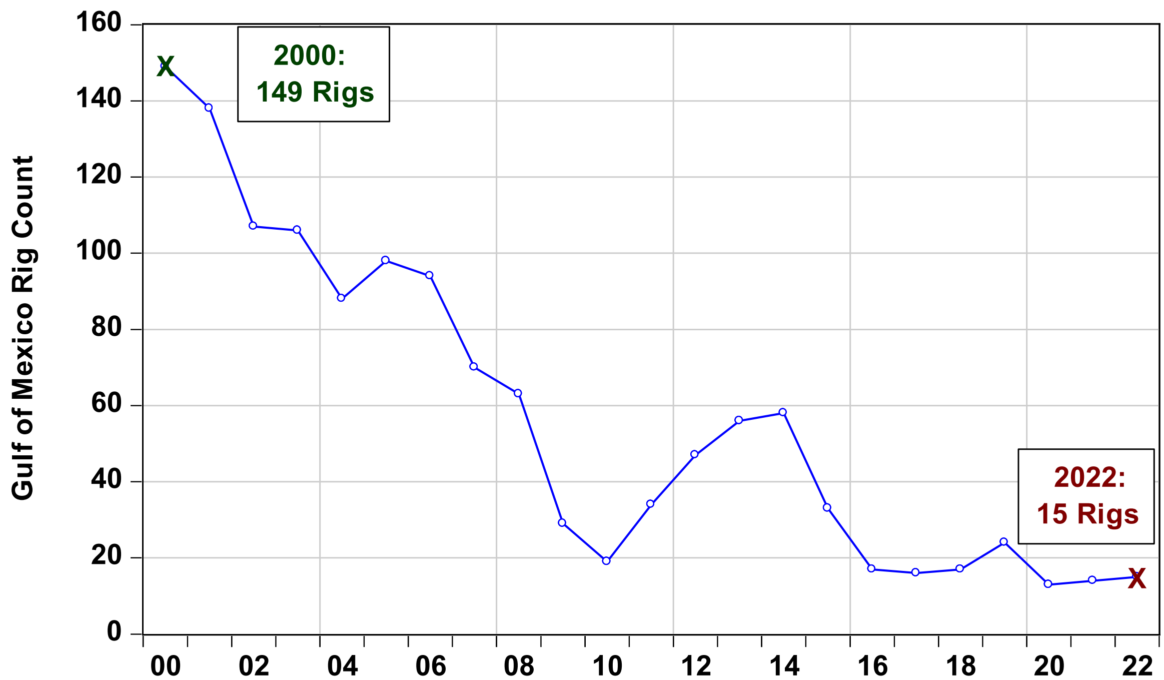
GOM Is an Anchor in the Sand

What is primarily behind the region's significant decline since 2014? The answer is this region's bread and butter remains servicing exploration and production activity in the Gulf of Mexico (GOM). Figure 23 reveals the problem with that dependency. The rig count in the GOM was as high as 149 rigs just 22 years ago. For the past seven years (with one exception) the rig count has been below 20---a stunning 87% decline!

Figure 23

Gulf of Mexico Rig Count: Month of August



Source: Baker Hughes & Loren C. Scott & Associates, Inc. Data are for Louisiana & Texas

Under normal circumstances one would think today's oil prices might be stirring at least a modest boom. After all, oil prices are in the neighborhood of where they were in 2011-2014 when the rig count climbed to near 60.

Plus, the **breakeven price** in the GOM is noticeably lower than in 2011-14 as a result of technological advancements, better seismic technology, the standardization of production platforms, the ability to drill in much higher pressure waters, the development of the tieback procedure and many more.

On top of that, exploration and production in the GOM is one of the **least carbon-intensive** locations on the planet for fossil fuels. For safety reason, the importance of eliminating methane leaks is critical. It takes far fewer wells to produce oil offshore than in the shale plays onshore, where diesel powered trucks and generators profligate. Environmental and safety rules are much stricter in the GOM than in other regions of the world. The Gulf is the best place to go if you need fossil fuels.

All this suggests the line in Figure 23 should be moving upward over our forecast period. The wildcard, however, is the **Biden Administration's** aversion to fossil fuels. The provisions of the Inflation Reduction Act require that last November's lease sale be reinstated and that lease sales be scheduled for 2023. Department of Interior Secretary Haaland has proven to be an avid opponent of fossil fuels. One should expect obstructions to be thrown up. If lease sales are held, expect climate advocates to continue using the same effective tool used to stop last November's lease sale---the courts.

As the economic ship known as the Lafayette MSA economy moves forward, it will be dragging an anchor. That anchor is the Gulf of Mexico.

Diversity Moves the Ship Forward

The good news is we are projecting that the ship will move forward and this despite an expected national recession in 2023. The movement will be rather slow in 2023 (only +0.6%), because some of Lafayette's larger firms---for example Stuller Settings---are not immune from the effects of a national recession.

Growth from 4 of the Big Five + a 6th

Lafayette's diverse economy is saving it from being moribund over the next two years. With one exception, its "Big 5" is in a growth mode. For example:

- The largest firm---**Acadian Companies**---now has 1,450 employees in the Lafayette MSA and would like to grow this number by 125. Staffing is a serious problem, even with wages up 28% and a program to pay people to go to the community college to learn to be an EMT or paramedic. This very successful company celebrated its 50th year on September 1, 2021.

- **Stuller Settings** just added about 300 workers in the last year and is now at 1,415 employees. The company would like to reach 1,500+ workers in 2023. This is the one company within the Big 5 that may have the most difficulty if there is a national recession in 2023. The company sells its products nationwide, and jewelry is one of those purchases easily postponed if times get tough.

- **LHC** has been a stalwart in the Lafayette MSA for several years, growing from a small family owned company to one of the largest home healthcare companies in the country. There are 982 LHC employees in Lafayette and 28,920 nationwide. LHC was acquired by UnitedHealth Group in March, because UH needed a platform for hospice and home health. LHC filled that need, and LHC's headquarters are expected to stay in Lafayette.

- Another solidly growing firm in the area is **CGI**, which provides IT consulting services and IT strategy services. Now at just over 700 employees, the company is on schedule to reach 800-850 by 2024. CGI's mid-level professional services people are paid $90,000+ annually.

- Another large player in Lafayette is **Waitr**, now being rebranded as ASAP. The company's employment in Lafayette has grown from 583 in 2020 to 690 today. Known for delivering restaurant food to homes, the company is adding apparel, sporting goods, auto parts and other items to its delivery menu.

- A sixth member will be added to this elite group henceforth. **Safe Source**, partnering with Ochsner Health, has opened two manufacturing facilities and a headquarters in Lafayette and St. Martin Parish (see Figure 24). The firm manufactures personal protective equipment such as surgical tie masks, hair covers, shoe covers, N95 masks, etc. Already at 540 employees, the company is targeting 1,200 over 2023-24.

Figure 24

Safe Source PPE Facility under Construction in Broussard

Reprinted with permission from Ochsner

Medicine, Schools, Ships & Planes

This MSA's economy will get a boost or at least stability from a number of other sources over the next two years. For example:

- **Halliburton** has three sites in the area that employ 512 people working largely offshore. A modest increase in employment is expected, though securing enough qualified workers remains daunting.

- **Viemed**---a provider of in-home medical equipment and post-acute respiratory healthcare services--- is a relatively new addition to the MSA's economy and has been in a growth mode since arriving. The company now has 353 employees in Lafayette and 715 across the nation. We expect more growth in Viemed's employment.

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- After starting out in Lafayette, **SCP Clinical Partners** has moved some of its operations to Atlanta and Dallas. Initially, this caused employment in Lafayette to decline from 540 to 304. SCP is still committed to the Lafayette location and, in fact, has a renovation of its facility underway. Employment is expected to be stable over 2023-24.

- **Metal Shark Boats** has a major facility in Jeanerette that employs 240 people. The company conducts R&D on autonomous vessels and remotely operated vessels for the Navy (see Figure 25). At last report, the company has built 9 of 50 vessels for the Navy. Employment at this site is expected to be stable over 2023-24.

Figure 25

Source: Metal Shark Boats. Used with permission

- After relocating to Lafayette about three years ago, **SchoolMint**---the leading provider of K-12 solutions for strategic enrollment management---has engineered several mergers. SchoolMint now employs 200 in the Lafayette area and another 26 in New Orleans. In March 2022 the company announced its permanent headquarters at a downtown location. Expectations are for further growth at this company.

- **Aviation Exteriors** paints exterior planes for FEDEX at the Acadiana Airport. A recent announcement from the company indicated a $2.5 million investment in tooling and equipment and $2 million on facilities upgrades. This will enable AE to take on more work and expand into maintenance and passenger-to-cargo conversions. This will also enable the firm to enlarge its workforce from 88 to 188, with jobs paying $56,867 annually.

- On a smaller scale, **Calls Plus** is adding 50 jobs to its 37-job workforce at its multilingual call center.

While in no way comparable in size to the huge projects in New Orleans, Baton Rouge and Lake Charles, there are some notable capital expansions planned for the Lafayette MSA.

- **Ochsner Health** will be spending $100 million on a 6-floor tower and a 550-space parking garage. Ochsner also is near completion of an internal medicine and imaging clinic under construction in Broussard.

- **Delta Biofuels** has announced intentions to build a $70 million biomass fuel pellets plant on 16 acres near Jeanerette. The pellets would be made out of bagasse and can be used in lieu of wood pellets. Once opened the plant would employ 126 people at an average salary of $62,500. No FID yet.

- **Cargill** recently announced plans for a $34 million investment to modernize a salt processing facility in Breaux Bridge. On-going over the next 3-5 years, the investment will retain the 70 jobs at the site.

- In May, **Supreme Rice** announced a $16.2 million expansion that will add parboil facilities for ready-to-eat products. Already at 181 employees, this investment will result in 20 more jobs.

Potential for Boom at the Port

Folks looking for growth prospects in this region would do well to keep an eye on the Port of Iberia. Tenants whose clients are mainly in the GOM are primarily coasting, but those with ties to the industrial expansions in south Louisiana are looking at a more prosperous future. Their prospects are being enhanced by the dredging of the **Acadia Gulf of Mexico Access Channel** (shown in Figure 26) to the Intercoastal Waterway. About $58 million is being spent to dredge the channel to 16 feet deep. This will make it possible to barge out from the Port large modules that become part of the LNG export and chemical plants being built and expanded all along south Louisiana. Seven pipelines have to be lowered in addition to the dredging.

Figure 26

Acadia Gulf of Mexico Access Channel

Map used with permission by Port of Iberia

Chart Industries will be one of the beneficiaries of the industrial construction boom. The company uses alloy welding techniques to make cold boxes for the LNG export industry. At 150 employees now, Chart wants to double its footprint at the Port, is adding three new buildings, and wants to add another150-160 jobs. **Bayou Coatings**, among other tasks, does concrete coating on pipes. Gas feeding the LNG industry makes the pipes so light they rise up, so the concrete coating keeps them down. At round 200 employees now, Bayou is expecting to add another 50 as FIDs are issued on new LNG facilities.

Red Guard constructs explosion-proof facilities for industrial plants and offshore locations. Growth in the former business has the company examining increasing its 50-person workforce by 50%. **Turner Industries** has moved onto a 95-acre site at the Port in anticipation of a booming modular business on the horizon. Only a small management crew is onsite now.

Those Port clients more directly reliant on GOM business are not as optimistic. One of the bigger players at the Port is **Louisiana Cat**, a company that largely focuses on the marine market. As that market has been less than robust, the company's employment has dropped from 200 to the 125-150 range. Cruise ship work has helped stabilize activity at Louisiana Cat. **Crosby Energy Services**---a specialty welding/fabrication shop---was at 60 employees and is now down to five or so.

Louisiana Cat owns **Custom Compression** at the Port, a company that builds compressors for the fracking business in West Texas. At 100 employees, the revival in the Permian Basin has bumped their employment needs by 25-50. **Seadrill** uses a 60-acre site at the Port to manage drillship repairs. Its workforce is stable at about 60-80 people. **Logan Industries** is a smaller firm (about 25 employees) at the Port that manufactures and maintains coil tubing for deep water lift cranes. The Port site is primarily a storage and shipment location.

Road Lettings Down One-Third

The Lafayette MSA will have monies flowing in for road projects and coastal restoration work over the next two years. However, the news is not all totally good**. State road letting**s over 2023-24 are at <u>$227.2 million</u>, down one-third from $332 million last year. The two biggest projects scheduled are:

- $47.8 million to overlay I10 from Jeff Davis to I49, and;
- $26.4 million on University Avenue to raise the median, add sidewalks, and make intersection improvements.

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Lafayette will also be receiving $86 million from the **Infrastructure Bill** for:

- The South Ambassador Caffey/Highway 90 interchange;
- New 2-lane frontage roads and interchanges at (1) US90 and Ambassador Caffey and (2) US90 and Albertson Parkway.

The Infrastructure Bill also contains $162.6 million for Atchafalaya projects.

The State's **Coastal Protection and Restoration Authority** is providing $42 million to the region in 2023 and another $11.2 million in 2024. Another $3.14 million for the coast will come from GOMESA funds.

THE SHREVEPORT-BOSSIER MSA

A Basket Full of Good News

Louisiana's fourth largest MSA is located in the northwest corner of the state. A brief history of the MSA is in Appendix D. Four parishes---Caddo, Bossier, Webster, and DeSoto---make up the Shreveport-Bossier MSA (see Figure 10). There are an estimated 176,700 non-farm jobs in these four parishes in 2022.

Unlike the other eight MSAs, a key metric for this MSA is its relatively high dependency on durable goods manufacturing employment, which makes the area much more susceptible to national recessions---an important consideration for 2023. Some of the larger durable goods manufacturers are:

- **Sabre Industries –** (formerly, CellXion) a manufacturer of cellular towers
- **Frymaster –** a manufacturer of deep fryers and similar products for McDonalds and KFC
- **Ternium –** a steel components manufacturer
- **Benteler Steel –** a large steel plant at the Port of Caddo Bossier
- **Fibrebond** – in Minden, which manufactures modular electric buildings for data

Three major players in this market are:

- The **Caddo-Bossier Port** which is home to several firms including Ronpak, Sports South, the Ternium steel firm, the Pratt recycling company, Morris-Dickson, OMNI, Calumet Packaging, and Benteler Steel. Altogether, tenants at the Port employ about 1,583 people.
- The **Cyber Research Center** which is a major new and growing player in the region with 1,700 employees at its three centers.
- **BRF** employs 614 people at its various facilities, including its incubator support for new firms. It is home to the new Center for Molecular Imaging & Therapy.

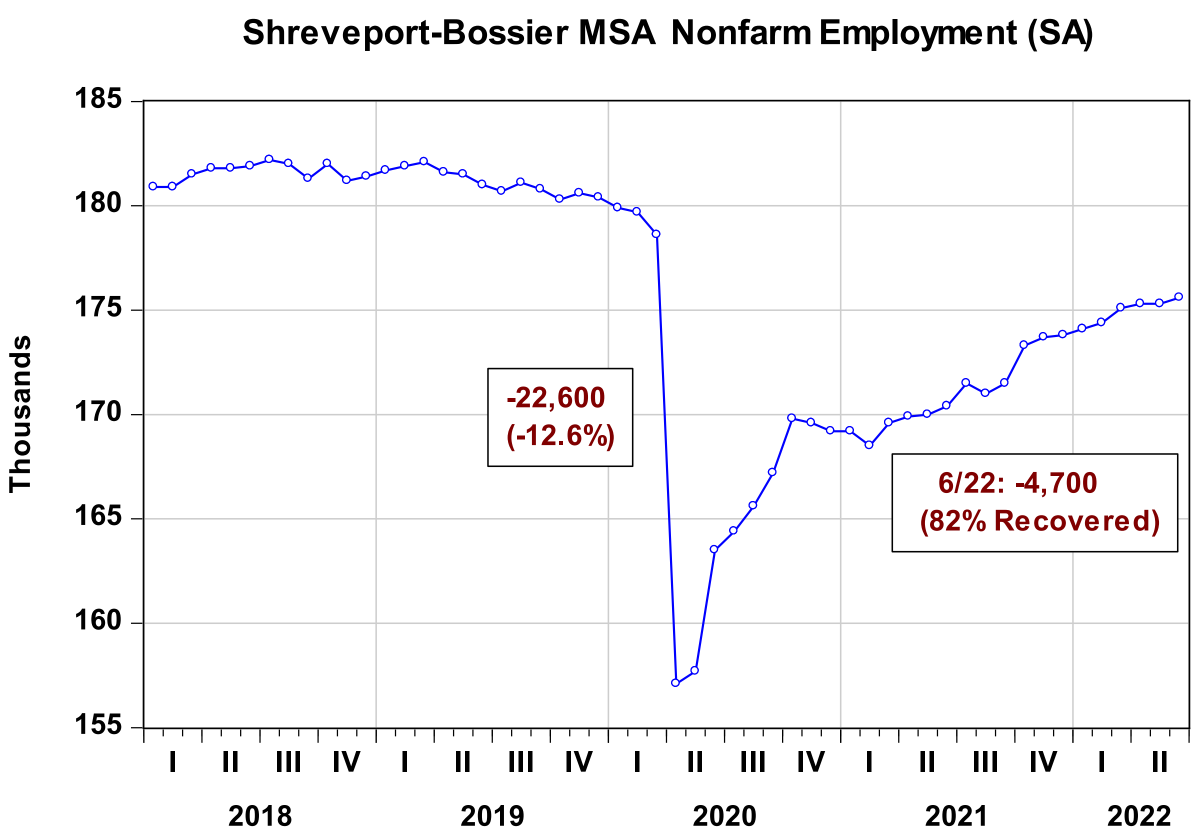
Shreveport-Bossier is also home of the **Haynesville Shale**---a very large deposit of natural gas. One of the first plays to use the fracking technology, exploration companies invested $4.5 billion in new dollars (including about $3.2 billion in mineral lease payments) into the northwest section of the state in 2008. The following year, that figure rose to $7 billion (including about $1 billion in mineral lease payments). The Haynesville is poised to be a significant factor in this region's economy over the next two years.

The military plays an important role in this MSA, because Bossier City is home to **Barksdale Air Force Base**, an employer of 8,597 military/civilian workers. Shreveport-Bossier is also the state's second largest casino market. This MSA now has five **large river boat casinos** plus the **Harrah's Racetrack**, which together employed 2,875 people in 2022-QI.

Recovery from COVID: 82%

Figure 27 tracks this MSA's monthly nonfarm employment (seasonally adjusted) from January 2018 through June 2022. The COVID shutdown tapped this region's employment by -22,600 jobs, a 12.6% decline in only one month.

Figure 27



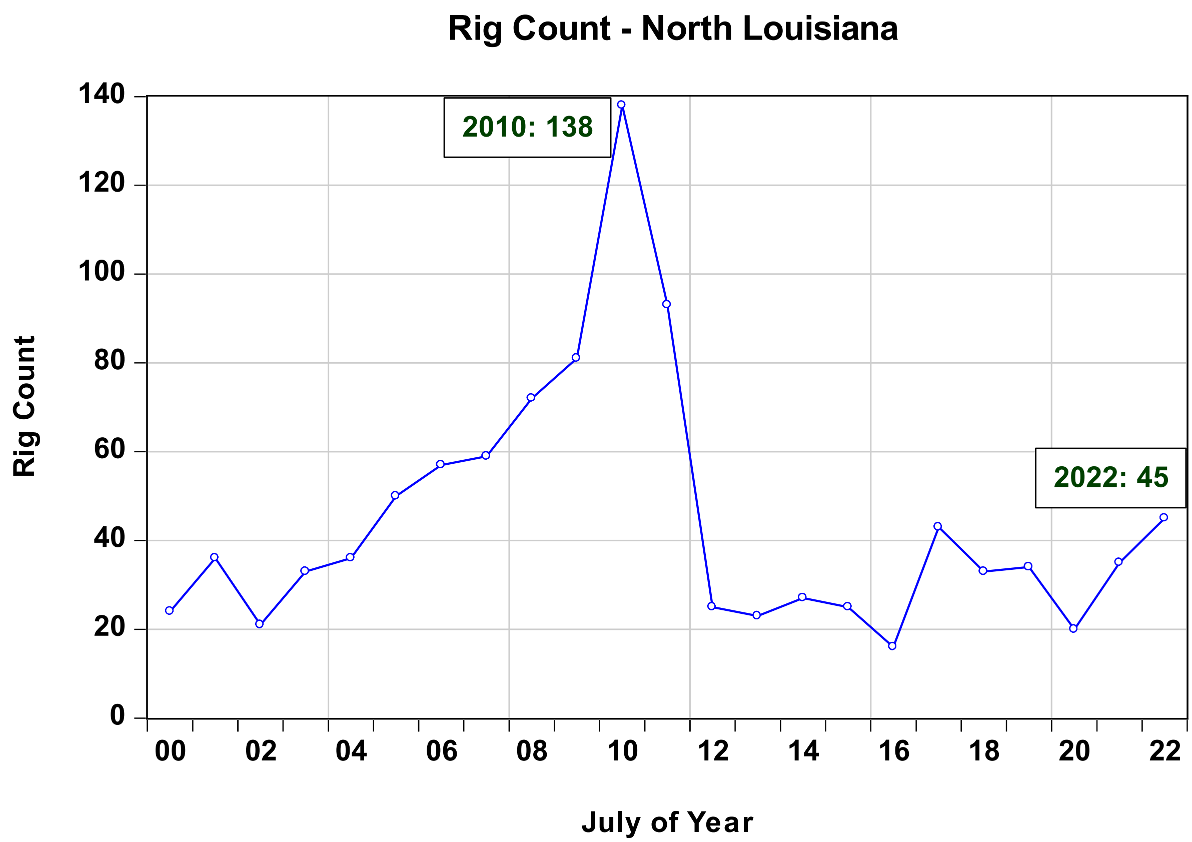
Source: Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

Note that with the exception of a short hiccup in late 2020 this MSA's employment has risen steadily. By the middle of 2022, the Shreveport-Bossier MSA had recovered 82% of its COVID job losses.

Part of this recovery performance was due to the natural effects of people returning to their jobs as the economy gradually reopened. This phenomenon should continue until the region returns to its pre-COVID employment levels.

There was another important factor at work---**resurgence in Haynesville Shale drilling**. Data in Figure 28 show the rig count in North Louisiana from 2000 through 2022.

Figure 28



Source:Baker Hughes & Loren C. Scott & Associates, Inc.

Of course, the rig count has fallen dramatically since the "gold rush days" of 2008-10, but attention is called to the data for the last two years. The rig count has jumped from 20 in 2020 to 45 in 2022, a 125% increase.

Rejuvenation in the Haynesville can be largely traced to the present and proposed LNG export facilities being developed in south Louisiana and southeast Texas. These export facilities need reliable and cheap natural gas. The Haynesville is much closer (read cheaper) than natural gas from the Permian Basin in West Texas. More pipelines are being built to move Haynesville gas to the Gulf Coast. In fact, the owners of the proposed Driftwood LNG near Lake Charles want to own and control their natural gas supply---about 1.5 bcf/d. The firm is buying leases in the Haynesville for that purpose. In August, Driftwood purchased 5,000 acres in the Haynesville from EnSight IV Energy Partners for $125.5 million. The acreage includes 44 producing wells and five wells in progress.

The Haynesville is further pumped by today's unusually high natural gas prices which are in the $8+ range per mmBTU. While we expect these prices to come down a bit (see Figure 7 and our natural gas price write up above), they are expected to be an added enticement to drilling in the Haynesville. In other words, our expectation is that **the resurgence in the Haynesville will continue through 2024, adding to our employment projections for this MSA**.

Forecast 2023-24: The Port, Amazon, Advanced Call, Haynesville & Barksdale

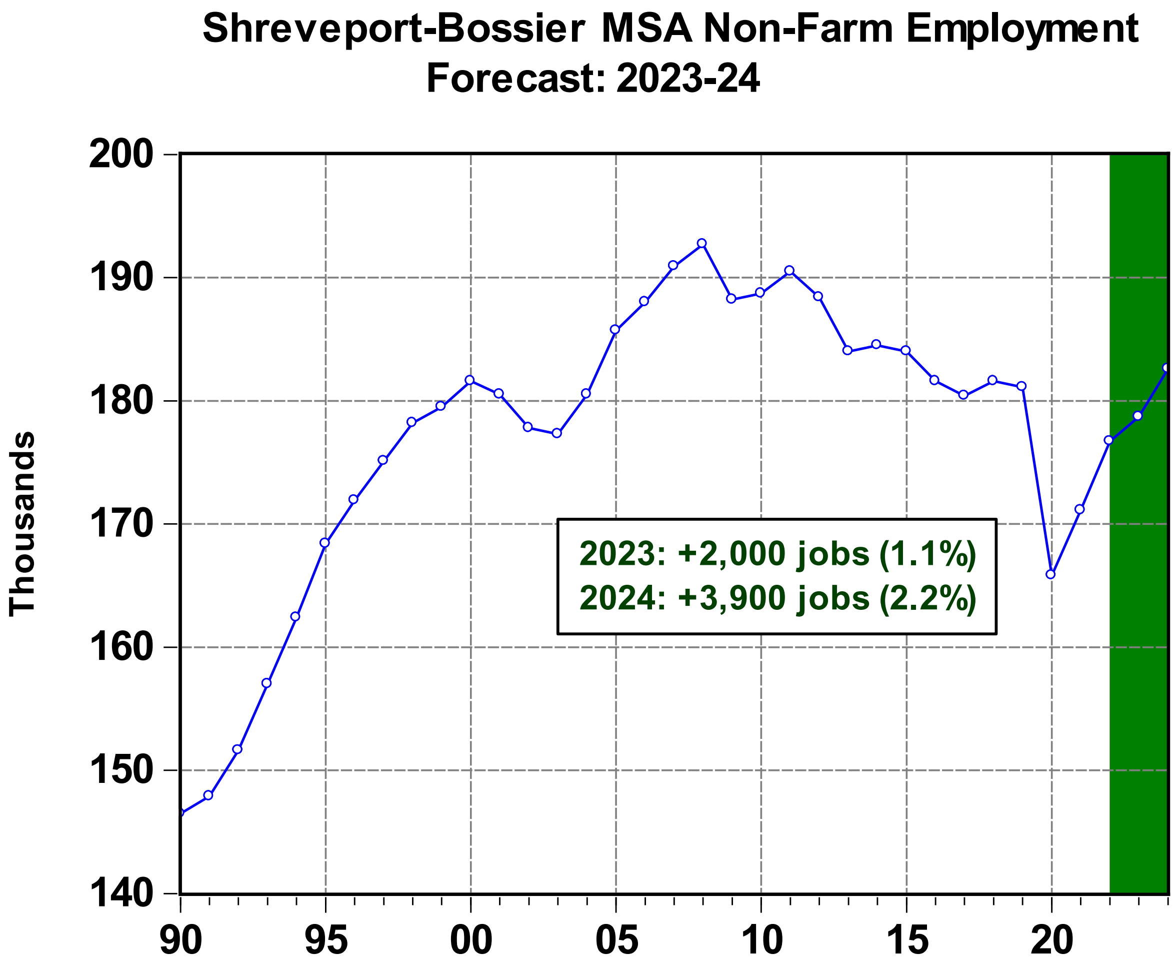
Figure 29 illustrates the Shreveport-Bossier MSA's nonfarm employment from 1990 through 2022, along with our forecast for 2023-24. Despite a looming national recession, this MSA has so many irons in the fire that its employment should expand right through the national downturn. **We are projecting 2,000 new jobs for 2023 and another 3,900 jobs in 2024.**

Not only will this performance regain all the COVID-related losses, but it will also reverse the declining track the economy was on before the COVID outbreak. Part of this rebound is simply the economy re-establishing the COVID losses, but most of the resurgence is due to newly announced projects in the region. We are aware of over **$3 billion in announced or potential projects** for this MSA, a number not seen since the Haynesville Shale boom in 2008-09.

Amazon Finally Opens

After some delays in the completion of **Amazon's $200 million fulfillment center** in Hunter Industrial Park, the site is now on schedule to open in September 2023. These fulfillment centers typically employ 1,000+ workers. One reason for our nice forecast for this region in 2024 is the substantial bump provided by this center.

Figure 29



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Boom at the Port

These are exciting economic times at the **Port of Caddo-Bossier**. **Tenaris**---a subsidiary of Ternium---is expected to close on the purchase of Benteler Steel in 2022Q4. The Benteler site can be seen in the lower right-hand corner of the Port picture in Figure 30. There are 350 people employed at this pipe mill now. Originally, Benteler planned to make this a 2-function site: (1) pipe manufacturing and (2) a steel mill. Only the first of these was built by Benteler. The hope is that Tenaris will add the second, which would mean a large capital expenditure and more high-wage jobs.

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Figure 30

The Port of Caddo-Bossier

Picture used with permission

Ternium already has a significant steel facility at the plant which employs 167. The company issued an FID for a $98 million expansion to add a steel coil paint line. Ternium had just invested over $55 million at this site over the past two years. The new investment should be operational in mid-2024 and add 35 new jobs.

OMNI is completing a $2.75 million expansion this year. Its 211-person workforce should be stable over 2023-24. Major employer **Ronpak** will be completing a $25 million expansion by next year. The company will add 42 jobs to its present total of 210 employees. **Morris-Dickson** is planning an $8 million distribution center over our forecast period. Presently employing 180 people, this expansion should push this number to 225. Employment at **Sports South** is projected to remain stable at 260.

A nice $18 million investment for site improvements and equipment upgrades is ahead for **Pratt Industries.** With 118 employees now, employment may increase by less than 10 over 2023-24. **Sunny Point Aggregates** came to the Port in mid-May and leased 43 acres to build a $62 million regional fracking sand proppant processing facility. Once complete, Sunny Point will create 60 new jobs and a 30 foot-deep, 700-acre lake for recreational purposes.

Little change in employment is projected at two of the smaller tenants at the Port, **Calumet Packaging** (75 employees) and **Odyssey Logistics** (25 jobs). Total employment at the Port is 1,583, a number that is projected to increase to 1,711.

Cyber Research Center Still on a Roll

Few would have guessed when it was founded 13 years ago in 2009 that the **Cyber Research Center** would become the economic engine it has become today. There are 1,700+ people employed at its three main centers.

The Center's new Louisiana Tech Research Institute (Figure 31) is scheduled to open near the end of 2022, adding another 400 workers. One center, General Dynamics IT (1,400 employees), has indicated a desire to double its workforce over the next 5 years.

Figure 31

Rendering of Louisiana Tech Research Institute

Drawing used with permission from Cyber Research Center

Even more encouraging is that Center officials are working on two other significant job-creators. Project X is a cybersecurity unit for the federal government that could create about 1,000 jobs over 3-4 years. Project Z is associated with the new weapons generations facility coming to Barksdale AFB (described below). This new firm would be involved in the engineering and parts in support of the weapons facility.

Reversal of Fortunes at Barksdale

Readers can glance back a few pages to Figure 29 illustrating this MSA's nonfarm employment since 1990, and the drop that has occurred since 2008. A great deal of that decline is due the rig count in the Haynesville falling from 138 to as low as 13 (see Figure 28).

Another nontrivial factor in this employment decline is the reduction in activity at Barksdale AFB as seen in Table 3. The civilian/military presence at the base has shed over 1,100 jobs in the last 11 years.

Table 3
Troop & Civilian Employment at Barksdale AFB

Year	Civilians	Military	Total
2012	**1,090**	**8,,655**	**9,745**
2019	**2,368**	**6,838**	**9,206**
2020	**2,263**	**6,654**	**8,917**
2021	**2,268**	**6.329**	**8,597**

Source: William Callaway & Barksdale Forward & Public Affairs-Barksdale AFB & Loren C. Scott & Associates, Inc.

Beginnings of a reversal in fortunes at the base began this May when $33 million was awarded for site work on the much-anticipated **weapons generation facility**. Actual construction of the $170-$225 million facility will likely start in early 2023 after the completion of a Historic American Building Survey allows the demolition of an old storage facility on the site.

Ground has already been broken for a $70-$90 million exchange on I220 for access to the weapons unit. Construction will be underway in fall 2022 for a new

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$36 million gate into the base for better access to the East Reservation. By 2024, we expect the numbers in Table 3 to start to grow again.

Plus Excellent Economic Development Wins

In addition to the good news reported above, the Shreveport-Bossier MSA has been the beneficiary an unusual bounty of economic wins in the past year. **Advanced Call Center Technologies** has opened a unit in the Eat Ridge Plaza business center. The firm started hiring in February and will create 600 new jobs in the region. The **Teal Jones Group** is building a $110.5 million southern yellow pine lumber plant near Plain Dealing. The plant should be finished in 2023Q3 and will employ 125+ people making dimensional and specialty lumber products.

Power company **AEP** will spend $100 million on a 77,000 square foot transmission control center in Shreveport on 30 acres within the Resiliency Technology Park. Construction should be complete by mid-2023, and AEP will add 20 jobs (at $115,000 per job) to its present 20-job workforce. Another power company---**Cleco**---has announced plans to transform the old Dolet Hills power plant site into a $250 million solar farm. The farm is scheduled for a 2025 opening.

BRF has 614 people working at the headquarters or at firms recruited to its campus. BRF worked with the Congressional Delegation to secure a $37 million appropriation for the Global Strike Command and is very close to announcements on two new medically-oriented firms attracted to Shreveport. In Bossier City, **Imperial Trading** is spending $20 million to expand its distribution center which services Circle Ks and other convenience stores. The expansion will result in 125 new jobs.

The **Ochsner-LSU Health Partnership** expects its employment levels in the region to remain stable over 2023-24, but the entity also expects to spend about $25 million annually on capital projects at the Kings Highway campus, at St. Mary Medical Center, and at the Feist-Weiller Cancer Center.

This MSA scored a significant win in the battle for state road funding. **State road lettings** for 2023-24 total $331.7 million, up over 2 ½ times over last year's $129.5 million in lettings. Among the larger projects:

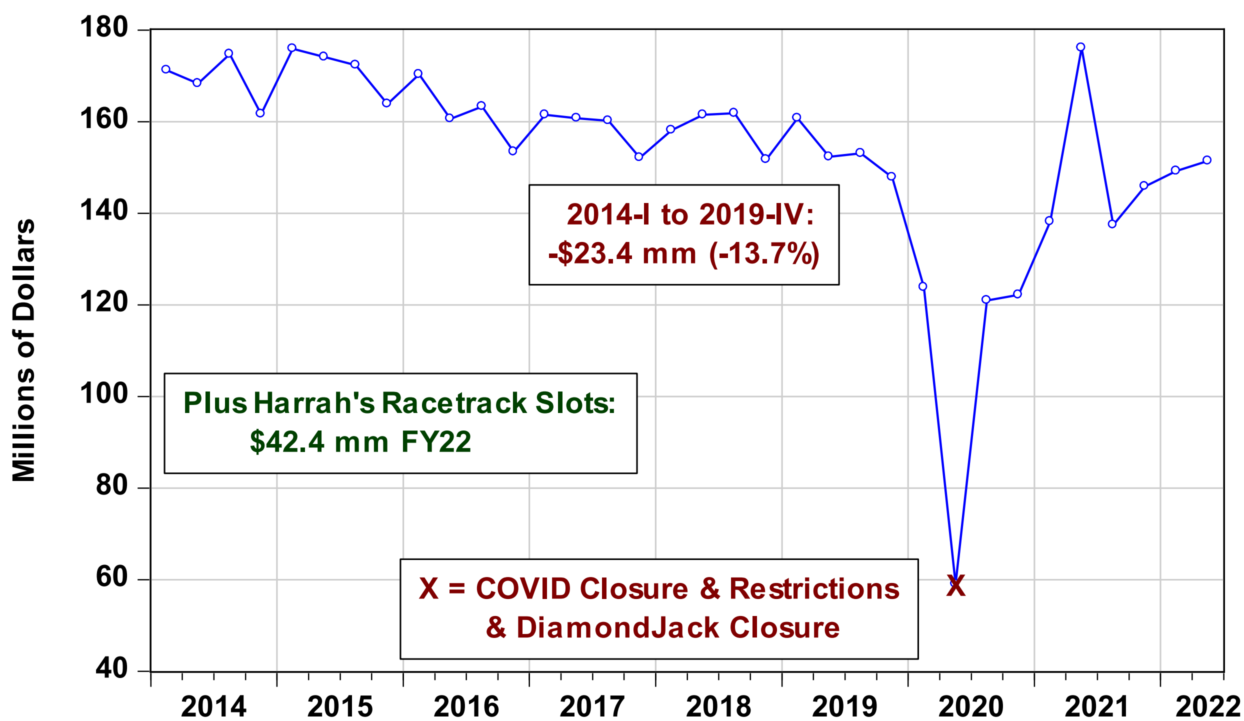
- $150 million to replace/rehab the Jimmie Davis Bridge;
- $55.2 million to rehab I20 from Pines Road to I220, and;
- $16.4 million to replace the US80 bridge near Minden

Shreveport-Bossier Gaming: DiamondJack License?

In Figure 32, quarterly gross revenues from this region's casinos are tracked from 2014Q1 through 2022Q2. Note that even before the COVID shutdown occurred, gross revenues had been declining, dropping nearly 14% between 2014Q1 and 2020Q1. Local casinos have been losing out to Indian Casinos in Oklahoma for the lucrative Dallas-Fort Worth gaming market.

Figure 32

Casino Gross Revenues: Shreveport-Bossier



Source: Louisiana Gaming Control Board & Loren C. Scott & Associates, Inc.

As was the case in all the gaming markets across the state, the COVID shutdown drove revenues down precipitously. The DiamondJack Casino actually closed its doors permanently during the shutdown.

The region's casinos enjoyed a big spike in play when the federal stimulus checks were distributed but have settled down at about their pre-COVID revenue levels.

The big question for this gaming market is what is going to happen to the DiamondJack license. Peninsula Gaming initially wanted to move the license to

St. Tammany parish, but voters there defeated that notion soundly. What happens next to this license?

A hopeful scenario is starting to evolve that might keep the casino in the region and significantly improve the site as well. **Foundations Gaming** has expressed an interest in buying the license and keeping the casino at its present location. At this writing the company has yet to bring a proposal before the Gaming Control Board. Not only would the 300-500 jobs return, but it is reasonable to hope that Foundations would invest the money ($50-$100 million?) to rebuild the badly deteriorated casino <u>on land</u>. We should have an answer before the end of the year.

THE LAKE CHARLES MSA

New LNG FIDs & New Casino?

Parlor question: What was the fastest growing MSA in Louisiana between 2012 and 2018? Related question #1: What was the fastest growing MSA in the country in 2018? Related question #2: What was the poorest growing MSA in the country over 2020-21? The answer to all three questions is…(drum roll here): Lake Charles. Oh my, how fortunes have turned. Lake Charles has gone from being one of the fastest growing MSAs in the country to probably the only MSA of its size in the nation whose employment was lower in June 2021 than it was in April 2020---the month of the COVID complete shutdown.

There are two parishes in this MSA that are very different from each other. Calcasieu Parish is a very industrialized and thriving parish with the fifth fastest growing population in the state between 2010 and 2020. Cameron Parish is the largest in geographic size in the state but the second least populated parish in the state. Of the 64 parishes in the state, Cameron's population change over 2010-2020 was the second worst in the state (-18.2%). A brief history of this MSA can be found in Appendix E.

Both parishes are located in the far southwestern corner of Louisiana (see Figure 10). The petrochemical industry is a dominating force in this MSA. Large firms in the region produce chemicals (including LNG) and refinery products. A huge employer, the petrochemical industry employs in excess of 7,500 direct employees and about 3,800 contractors at its 16 different chemical plants, two refineries, three LNG export facilities, and three industrial gas processing plants. Because these are very capital-intensive firms, there is an associated huge industrial construction sector for maintenance, repair, and construction work for these firms.

A second key industry is aircraft repair. A major source of jobs in the region is the tenants at Chennault International Airport. Among the larger employers there are Northrop Grumman, Landlock Aviation, and Citadel Completions. Historically, there have been some very significant changes at the Airport that caused meaningful swings in this MSA's employment.

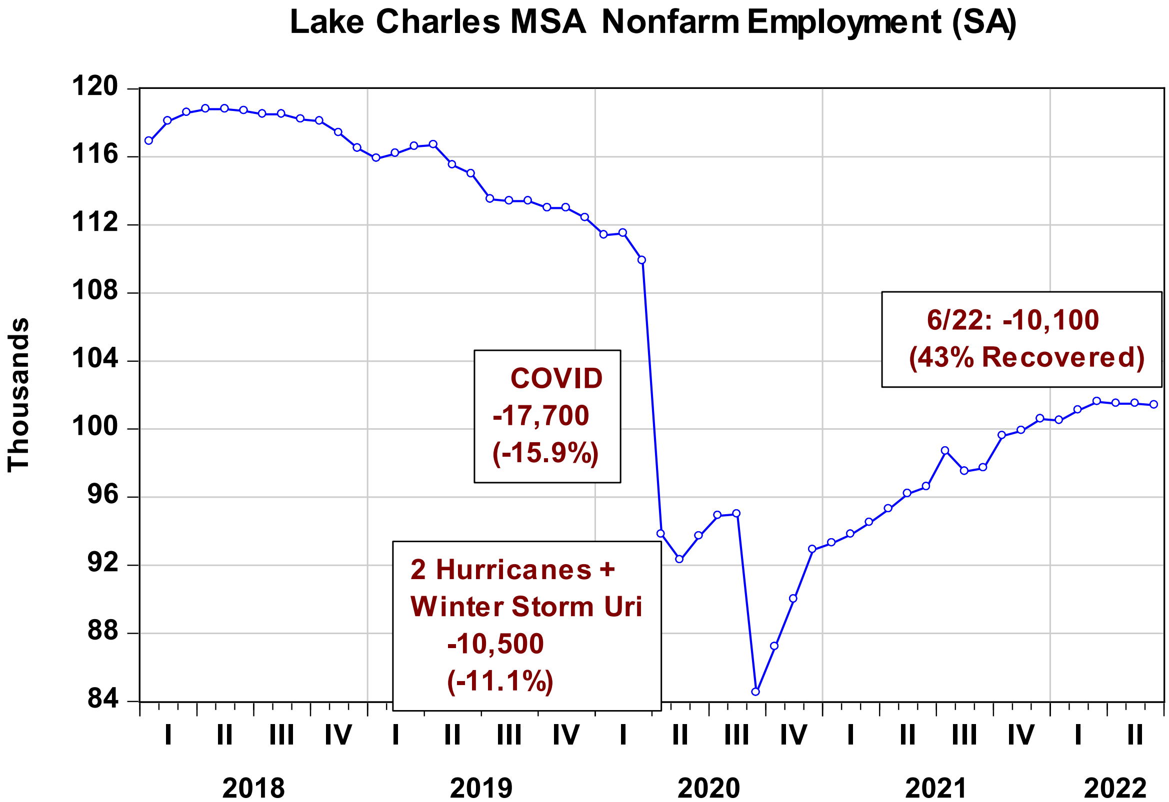
The gaming industry is particularly large in this MSA. In fact, Lake Charles has the largest casino market in the state, drawing as it does from the nearby Texas market. Three riverboats operate in the MSA, plus the Delta Downs Racetrack.

The two largest casinos are L'Auberge du Lac and the Golden Nugget. The Horseshoe Casino (formerly the Isle of Capri) is the smallest of the three casinos but is the only one moving its operations onshore. The three casinos employed 3,744 people in 2022Q1. When **Delta Downs** added slot machines it became a "racino," and presently employs 453 people.

2020-22: It Wasn't Just a COVID Setback

In boxing lingo there is something called the "one-two" punch, one hard blow followed by another. That pretty much describes what this region has been through for the past three years. The one-two punch to the Lake Charles gut is vividly illustrated in Figure 33 which plots monthly, seasonally adjusted nonfarm employment in the MSA from January 2018 through June 2022.

Figure 33



Source: Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

COVID dealt a harsh blow to this economy, resulting in the immediate loss of 17,900 jobs (-15.9%). On a percentage basis, only the New Orleans MSA suffered more from the shutdown. Two culprits were behind this larger than usual decline. First, this is Louisiana's largest **casino market**, with 4,611 employees at the time. These casinos were totally shut down from Mid-March through Mid-May and then were only allowed to open at 25% capacity until September when that was raised to 75%. Second, this MSAs **construction sector** was hammered by COVID as turnarounds were delayed, projects were slowed, and FIDs were pushed into 2021-22.

Just as Lake Charles was starting to show signs of COVID recovery, here came the second blow. The area was lashed by **Hurricane Laura**, a category 4 hurricane that tied for the worst to ever hit Louisiana. A ten- foot storm surge was recorded in Cameron Parish, and an estimated $19 billion in damages was recorded in Southwest Louisiana and Southeast Texas. Before the region could stick its head out from under Laura, category 2 **Hurricane Delta** hit in early October and added to the destruction.

Winter Storm Uri piled on four days of sub-freezing temperatures in February 2021 that created havoc among the area petrochemical plants. Then, in May 2021, a steady, heavy rainfall created serious **flooding** in Calcasieu, Cameron, Beauregard, Allen, and Jeff Davis Parishes. The Lake Charles MSA was the boxer clinging to the ropes.

Where was the referee? When a region is lashed by severe weather events, the federal government typically rushes in with disaster aid. Rushes means within six months. This region did not get that aid until about 18 months had passed and the aid is still far less than needed. The poor federal response to the Lake Charles disasters is inexcusable to say the least.

As seen in Figure 33, this MSA has been steadily getting back on its feet. However, by June 2022 it had only recovered about 43% of the jobs lost due to the one-two punches absorbed in 2020 and 2021. Only the Houma MSA (also suffering from a hurricane blow) has a poorer recovery record.

Housing remains a serious issue, with a surge of homeowners suing their homeowner's insurance companies for relief and multi-family units struggling to reopen. K-12 enrollments are still down, as is enrollment at McNeese State University.

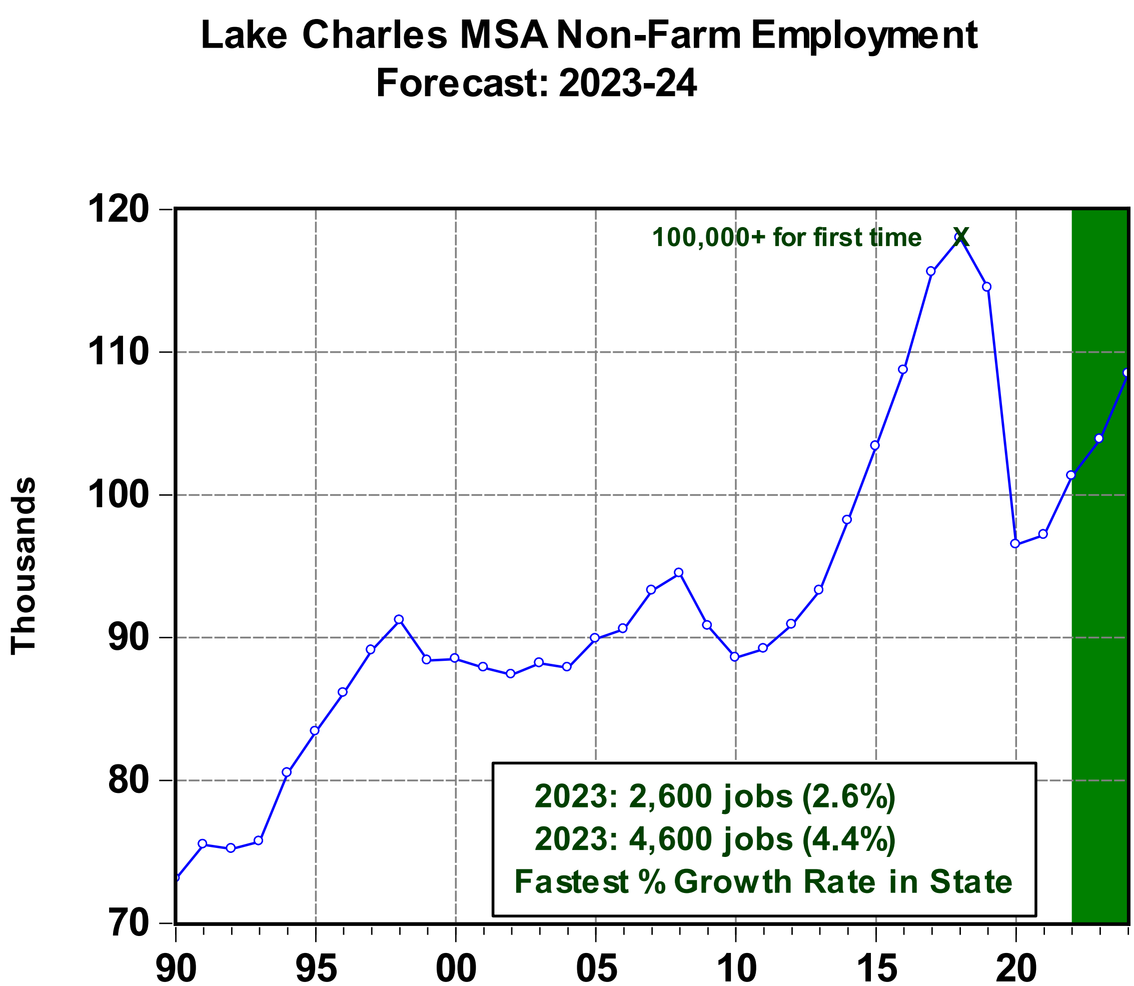
The good news is that the economic base of the region---its refineries, chemical plants, casinos and Chennault Airport---remains intact. Not only does it remain intact, it is poised for significant growth as will be described below**. That means the 57% COVID/storm employment deficit can disappear rather quickly as the**

housing issue gets resolved. This recovery factor plays an important role is our out-sized growth projection for this MSA over 2023-24.

Forecast for 2023-24: Fastest Growth in the State

Figure 34 tracks nonfarm employment in the Lake Charles MSA over 1990-2022 along with our forecast for 2023-24. **We are projecting that this MSA will be the fastest growing MSA in the state over the next two years**, with employment bumps of 2,600 jobs (+2.6%) in 2023 and 4,600 jobs in 2024 (+4.4%). This excellent recovery will come from four key sources: (1) basic COVID/disaster recovery, (2) new industrial construction, (3) a newly opened land-based casino, and (4) new activity at Chennault Airport.

Figure 34



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Basic COVID/Disaster Recovery

This MSA's employment will grow substantially over the next two years because that is what naturally occurs on the other side of a disaster. Lake Charles was knocked way down by COVID and natural disasters, and it is poised for a normal rebound once its housing issues are settled.

As pointed out back in Figure 33, the region remains 10,100 jobs below its previous pre-COVID peak. That deficiency is not due to underlying problems in its basic industries. The MSA's manufacturing employment is fully back to pre-COVID levels. If this sector was still in the doldrums there would be great cause for worry. It is not.

The problem is that the "feeder" sectors have not rebounded. Two-thirds of the 10,100-job COVID/disaster employment deficit is in four sectors: (1) construction (-2,200), (2) leisure/hospitality (-2,000), (3) government (-1,900---1,400 of which is local government), and (4) retail trade (-600). Numbers 1, 3, and 4 will come back quickly with the housing recovery. Number 2---leisure/hospitality---is dominated by the casinos which will be slower to recover due to the expected national recession. **The bottom line: expect significant job gains through just getting back to normal**.

Big Thrust from Industrial Construction?

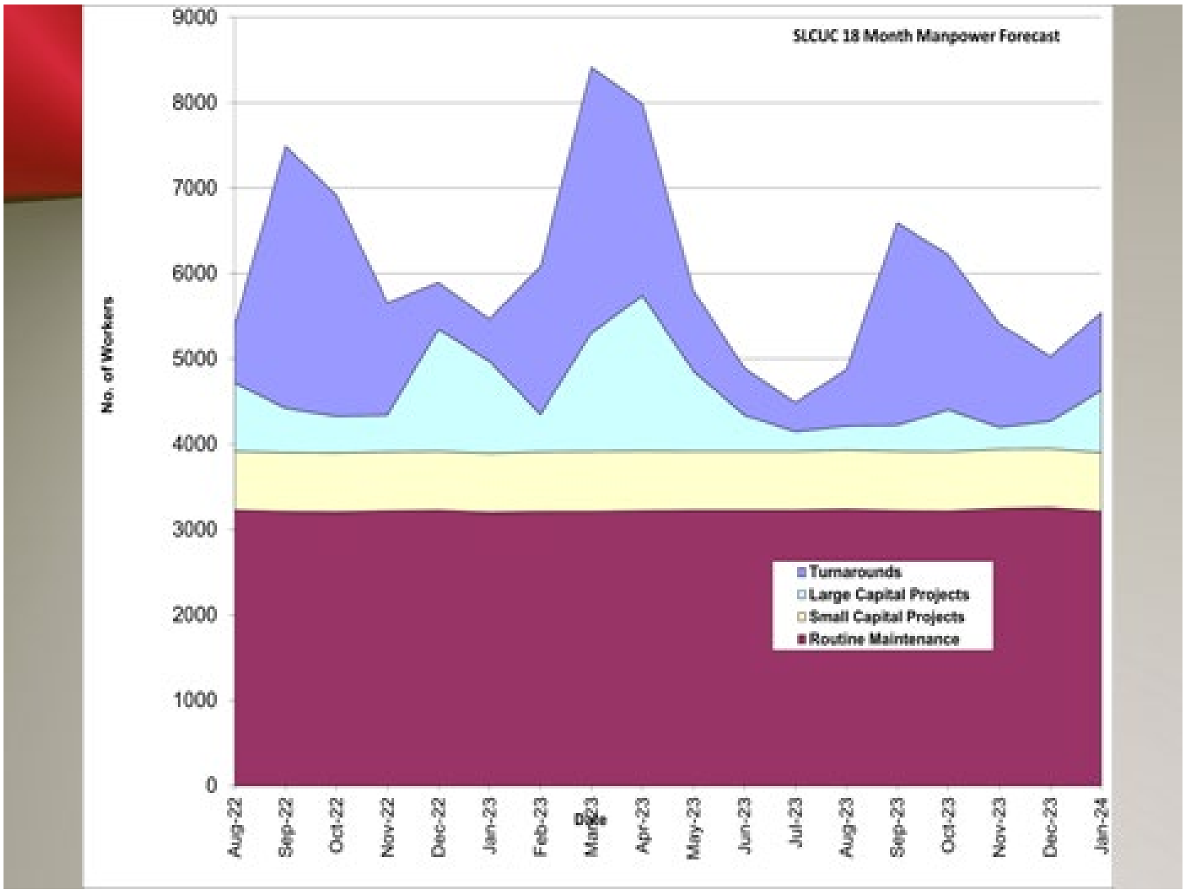
A major source of new jobs in the Lake Charles MSA should originate in the **industrial construction sector**. Two key sources will produce these new jobs. First, **firms that presently exist in the area are planning a significant number of both small and large capital expenditures**. The South Louisiana Construction Users Council (SLCUC) recently surveyed their members about future construction worker needs. The results are shown in Figure 35.

Note the teal and light blue areas of the figure that denote needs for workers for small and large capital projects. There are three major spikes ranging between 2,000-3,000 additional jobs compared to August 2022. While these expenditures are "lumpy," on average employment is well above August 2022.

While Figure 35 covers construction jobs, the Lake Area Industrial Alliance (LAIA) has tabulated new permanent jobs projected among its members. **These companies are expected to add 190 permanent jobs in 2023 and another 130 in 2024**.

Figure 35

South Louisiana Construction User's Council Survey of Construction Worker Needs: August 2022-January 2024



Used with permission

A second source of additional construction jobs will be execution of Final Investment Decisions (FIDs) on previously announced projects. Our discussions with major industrial construction companies are that they are absolutely slammed with bid requests and that engineering firms are slammed with front-end engineering and design work. The threat to natural gas molecules in Europe has those firms looking to the U.S., and specifically the Louisiana and Texas coasts, as locations for new and expanding firms.

The threat to natural gas availability in Europe also has that continent looking to the U.S. as a source for **LNG** (see in the "Assumptions" section above our discussion of natural gas prices in Europe versus the U.S.). We believe the scene is set for 1-3 previously announced LNG projects in this MSA to pull the FID trigger and start construction during 2023-24. Specifically:

- We expect Tellurian's **Driftwood LNG** project to issue an FID on its 2-plants, 8-train Phase 1 by early 2023. Tellurian gave Bechtel authorization to begin initial construction of Phase 1earlier this year, with demolition, pile driving, and foundation work in the scope. FERC recently issued its Draft Environmental Impact Statement on Lines 200 and 300 to bring natural gas to the facility, and the project continues to progress through the FERC permitting review process. We understand that offtakes or Special Purchase Agreements (SPAs) have been secured to take about 82% of Phase 1's production. The firm continues to buy property in the Haynesville Shale to secure its gas supply, including an August purchase of 5,000 acres from EnSight IV Energy. Figure 36 depicts Driftwood's entire $15 billion project.

Figure 36

Tellurian's Driftwood LNG Export Terminal

Used with permission

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- An FID is expected in 2023 on a very large 4th train at **Cameron LNG**. This train is expected to be larger than the 3 present trains at the site combined and will have a carbon capture/sequestration component. The exact capital expenditure for this train has not been announced, but we suspect it is in the $4 billion range. There is one final amendment pending before FERC that should get approval in January, with construction starting by around April 2023. Sixty-nine permanent jobs will be created on completion in 2027.

- In an earnings call this summer officials with **Energy Transfer Partners** (formerly Lake Charles LNG) indicated an FID should be expected by year-end 2022 on its $10 billion LNG export project. The company signed a 2-year extension on its lease at the Port. All regulatory approvals have been received, and SPAs on about 35% of production have been inked.

- Finally, it has been interesting to watch the vigorous march that **Venture Global LNG** has been on in the state. One facility is now in operation in this MSA and another is under construction in Plaquemines Parish. Plans are in motion for two more plants---one at each site. **VG's CP2 LNG**, to be built next to VG's Calcasieu Pass, is moving vigorously toward an FID in early 2023. FERC suspended CP2's environmental review due to some minor deficiencies, and now approval is expected in February 2023. This will be a $13.5 billion project.

These four projects sum to about **$36 billion in capital spending**, a remarkable number for an MSA of this size. In addition, there are three other LNG export projects announced for the region at various stages in the federal approval process, including:

- **Commonwealth LNG** has proposed a $4 billion project in Cameron Parish near the Venture Global site. FERC's draft Environmental Impact Study (EIS) of Commonwealth's project indicated issues with visual impacts and environmental justice issues. Farhad Ahrabi, former CEO of Cameron LNG, is the new CEO of Commonwealth, which is injecting new energy into the project. Final FERC approval is now expected in 2022Q4 and an FID issued in early 2023.

- **Magnolia LNG**---which proposed a smaller $4.6 billion facility at the Port of Lake Charles---was purchased by Glenfarne Group LLC in 2020. Glenfarne asked FERC for a 5-year extension on the project completion back in late 2020 which FERC granted. We are not aware of any movement on this project and suspect any FID is outside our forecast range.

- **G2 Net-Zero LNG** continues to make progress on the proposed $10 billion project in Cameron Parish. The investor group expects to start construction of a $1.2 billion power plant within 12 months of receiving funding. The plant will produce net-zero industrial gases and electricity to sell in the market-place in 2023 and net-zero LNG in 2027. Negotiations are underway with several co-developers for various phases of the project.

In addition to these LNG export facilities, there are three other projects proposed for the area that bear watching. Two of them are methanol projects that have been watched for several years now. Proman began construction on a $2.3 billion methanol plant called **Big Lake Fuels** at the Port in 2016, then suspended construction. Chatter suggests a restart of construction in 2023. The company is current on its rent and has done some land prep. **Lake Charles Methanol**, a proposed $4.6 billion facility, has been under discussion for about a decade. The company extended its lease option at the Port through 2023Q3 and is working on an epc (engineering, procurement, construction) with Technit at this writing.

In the new Inflation Reduction Act substantial tax benefits accrue to emitters that capture carbon at their site. Of course, carbon captured has to be put someplace. It has to be sequestered. **Gulf Coast Sequestration** is planning to spend $150-$200 million on four injection wells with interconnections to industrial emitters. The firm is working through what is an arduous permitting process with the EPA and is in negotiations with 12 emitters.

Chennault International Airport: New Hangar Soon?

Chennault International Airport is not your normal airport that is primarily used for passenger service. Instead, almost 1,000 people are employed at this site in Lake Charles East mainly conducting maintenance, repair, and overhaul (MRO) work on aircraft.

Chennault's largest tenant by far is **Northrop Grumman**. Chennault is designated as NG's Aircraft Maintenance and Fabrication Center. Figure 37 shows NG's extensive layout at the airport. With the exception of the smaller, lower center two buildings, and the upper left building (with plane tail sticking out), the remainder of the buildings are in the NG complex.

Figure 37

Northrop Grumman's Aircraft Maintenance and Fabrication Center

Picture used with permission

Until recently, NG had about 630 employees, but when the Air Force retired its JSTARS fleet, MRO work on that plane disappeared and 125 people were laid off in May. Happily, NG won a 5-year contract with the Navy to do MRO work on the E6. If this project goes as expected 75 people will be rehired. The company is also pursuing a contract to work on the C130 aircraft (there are 2,349 of these planes). If successful, another 100 job slots will be added.

A potentially rosy outlook exists for **LandLocked Aviation**, a company that paints aircraft for Delta, NG, and several others. Presently, LandLock has about 100 employees. Chennault officials are negotiating with Western LLC to lease acreage at the airport, build a new $30 million hangar, and lease the hangar

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back to LandLock. LandLock could then increase its employment up to the 300 range.

Another large employer at the airport is Citadel Completions, a company that provides VIP customized aircraft interior completions and refurbishments like that shown in Figure 38. Citadel occupies two hangars and an administration building at the airport and employs 171 people.

Figure 38

Interior of Citadel Refurbished Aircraft

Picture used with permission

Louisiana Millworks has a 75-person facility on the airport campus producing commercial/residential windows and doors. Chennault is also the home to a new **Louisiana Wildlife and Fisheries** facility, and a new **Louisiana National Guard** readiness center.

Gaming: New 800-Job Horseshoe Casino

Figure 39 shows the behavior of gross gaming revenues at the casinos in this MSA from 20214Q1 through 2022Q2. The insert box points out that in addition to the plotted numbers, over $167 million in gross revenues were collected in FY22 at

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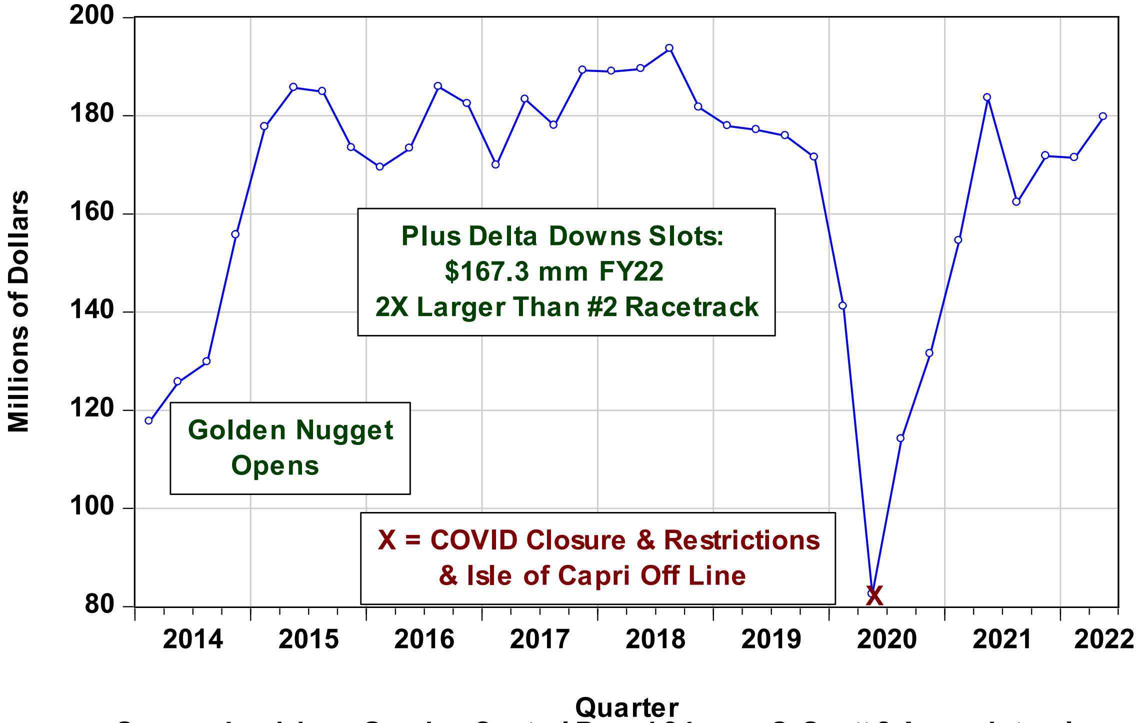
the Delta Downs Racetrack. Delta Downs is the most successful racetrack in the state with gross revenues twice that of the #2 racetrack (Evangeline Downs - $77.2 million).

Figure 39

Casino Gross Revenues: Lake Charles



Source: Louisiana Gaming Control Board & Loren C. Scott & Asssociates, Inc.

Whether measured by employment or gaming revenue, the Lake Charles MSA is the largest in the state due to its close proximity to the Houston megaplex. In June 2022, gross revenues at the huge **L'Auberge** and **Golden Nugget** Casinos were over $31 million apiece. The next closest casino was Margaritaville in the Shreveport-Bossier MSA with just under $18 million.

Note in Figure 39 that once the Golden Nugget came fully online, gross casino revenues per quarter ranged around $180 million. The COVID shutdown had two effects. First, it reduced gross revenues dramatically as it did in the other gaming markets in the state.

Second, the smallest of the three casinos—the Isle of Capri---totally closed until it could move on land at a cost of $112.7 million. The casino is set to reopen this

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fall with a new name---**Horseshoe Casino**---and add over 800 jobs to the casino workforce in Lake Charles. It is interesting that the federal stimulus checks enabled this region to recover to its pre-COVID gross revenue levels even with the third casino totally closed.

Major Increase in Public Construction

In addition to the very positive things happening in this MSA's private sector, it appears there is also a major bump in public construction ahead because of one huge project. **State road lettings are scheduled to increase from $113.2 million last year to over one half billion (specifically $1,537.8 million) in 2023-2024**.

The driver behind this startling increase is $1.4 billion set aside for work on the **Calcasieu River Bridge**. The second largest project is $66 million on the Nelson Road extension and bridge.

The **Port of Lake Charles** will be spending $79 million in 2023 and $57 million in 2024 on maintenance of the Calcasieu River Channel. The two parishes in this MSA will receive $38.4 million in 2023 and $24.6 million in 2024 for **coastal restoration**. Another $2.7 million will also arrive for that purpose from **GOMESA funds**.

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THE HOUMA MSA

Will the Gulf of Mexico Hold Up?

This very energy dependent MSA is located in Southcentral Louisiana on the coast (see Figure 10). A brief history of the MSA is in Appendix F. Comprised of two parishes---Lafourche and Terrebonne---Houma is more energy-dependent (6.5% of its employment versus 1.6% at the state level) than any other MSA in the state. Not only are there a large number of direct jobs in the exploration industry, but there are many other support companies---machinery, fabrication, shipbuilding, water-borne transportation---that feed off of extraction activities.

The fabrication industry is quite large in this region, largely founded on building components for offshore oil and gas exploration/production. Now many are busy trying to diversify into non-oil and gas related work. They also have shifted towards more maintenance and repair work on offshore facilities, led by companies such as **Grande Isle Shipyards**, **Danos**, **Gulf Island Fabricators** and **Chett Morrison**.

Shipbuilding is a major employer in the region---an industry that used to be totally focused on offshore energy work but has now diversified into other areas. Perhaps the largest of these support companies is **Edison Chouest** a firm that owns and operates some 300 supply boats servicing the offshore industry but is now also building boats to service the offshore wind industry. Many of these ships operate out of Port Fourchon, a small city on the Gulf, which services about 90 percent of the offshore platforms and drill ships in the Gulf of Mexico. The 650-workforce **Bollinger Shipyards** is another huge shipbuilding player in the region. Originally building ships for offshore work, this company now has a long-term contract with the Coast Guard to build several Fast Response Cutters. **Thomas-Sea** is a 400-person shipyard that has made the shift into non-oil and gas vessels such as research vessels and brown-water barges.

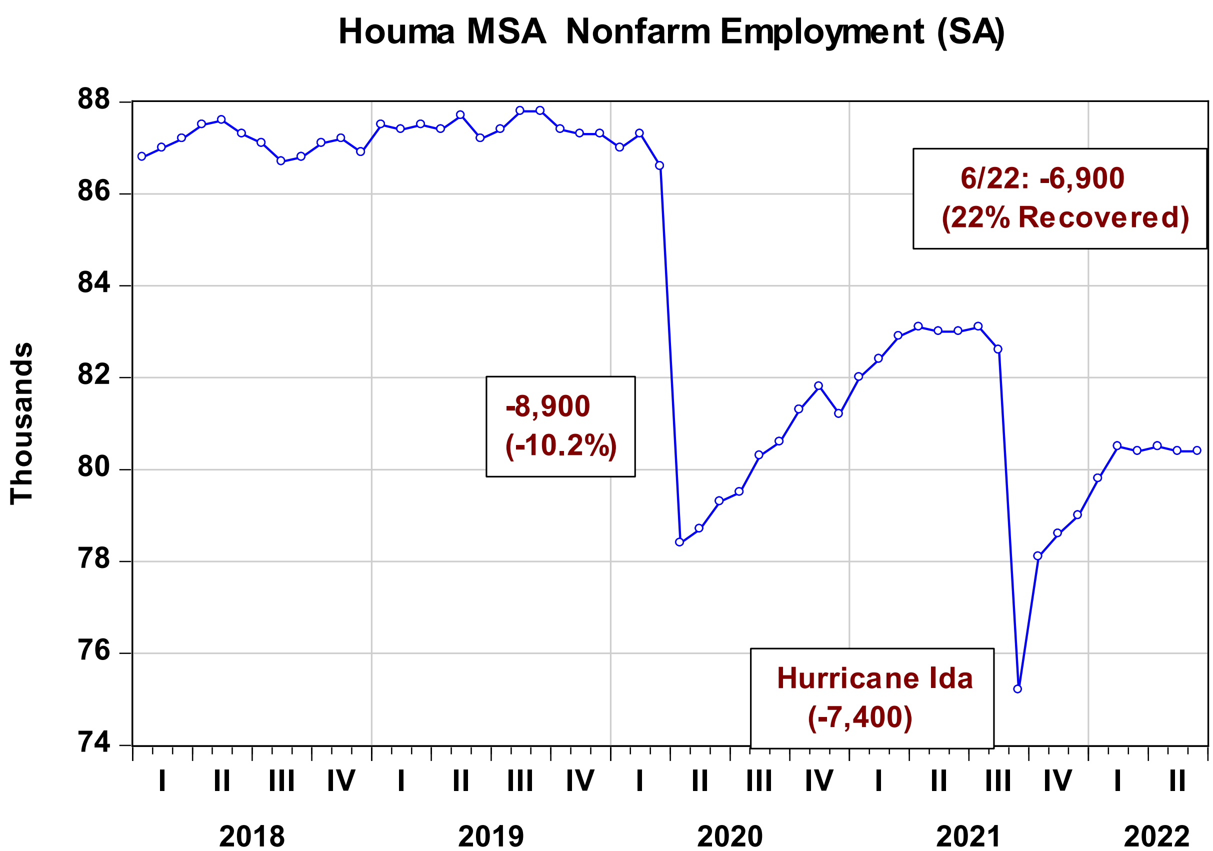
Hurricane IDA Doubles Down COVID Shutdown

Figure 40 shows the path of monthly nonfarm employment (seasonally adjusted) in this MSA from January 2018 through June 2022. The COVID shutdown laid an 8,900 job loss on the region. This 10.2% loss was one of the smallest hits among the state's nine MSAs.

Initially, the Houma region was recovering much like its sister MSAs. Then on August 21, 2021 a category 4 hurricane named IDA slammed right into this area.

It was the 4th costliest hurricane from the Atlantic on record. Note in Figure 40 that the employment blow to Houma was almost equal to that levied by the COVID shutdown. Hurricane Ida put this MSA in last place among the nine MSAs in terms of recovery back to pre-COVID employment levels. As of June 2022, the Houma MSA was only 22% of the way back to the pre-COVID peak.

Figure 40



Source: Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

Even though the last few months of data are not very encouraging about the recovery's progress, our conversations with business leaders in this region leave us more encouraged. Plus, just like the case with the Lake Charles MSA, the normal course of events is to expect a strong recovery from the effects of a hurricane-induced disaster.

In another similarity with Lake Charles, Houma's recovery will initially be slowed by the housing issue. On-going battles with insurance companies are slowing the rebuild of both single-family and multi-family units. We expect the disaster recovery efforts to pick up substantially in 2023, **which is one of the factors**

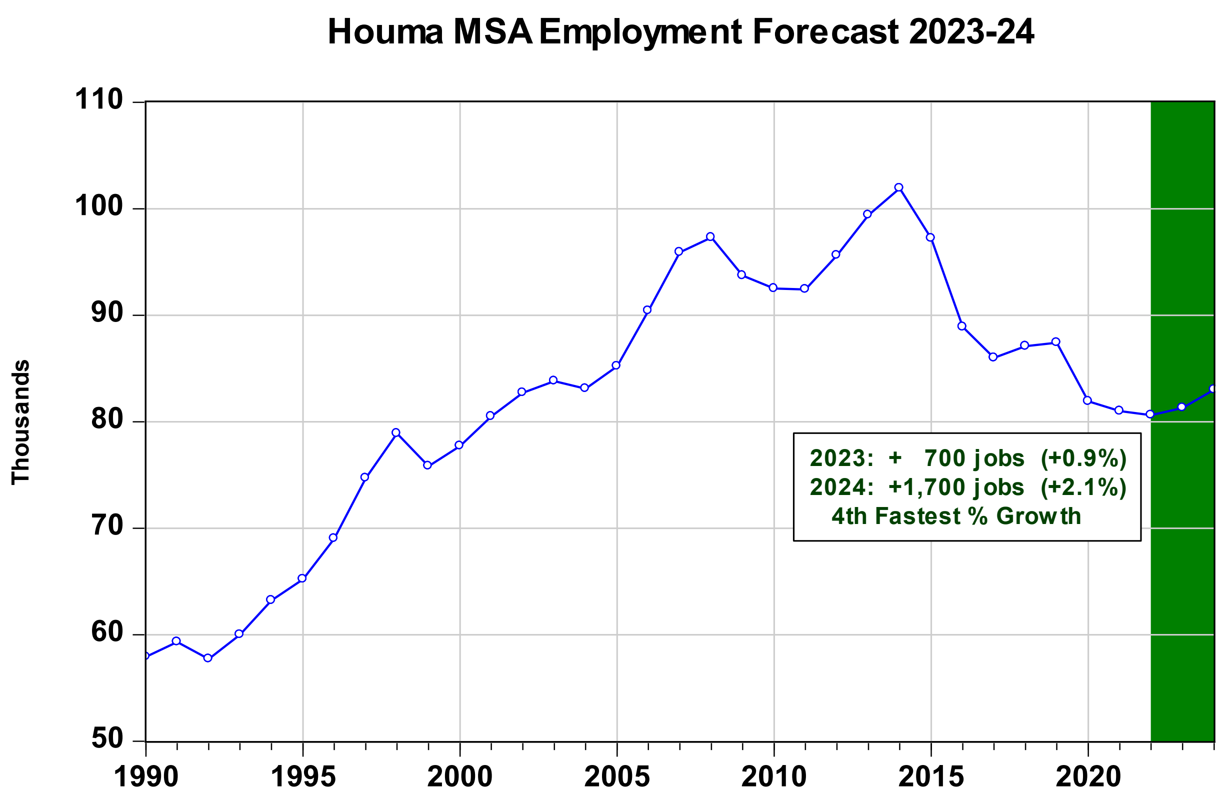
behind our belief the region's employment will grow through the expected national recession in 2023.

Forecast for 2023-24: Hurricane Recovery + Modest Return to GOM

Figure 41 illustrates the pattern of nonfarm employment in the Houma MSA from 1990 through 2022, along with our forecast for 2023-24. **We are projecting this MSA will add 700 jobs (+0.9%) in 2023 and a much better 1,700 jobs (+2.1%) in 2024**.

As was mentioned in the paragraphs just above, we expect this economy to expand right through the expected national recession in 2023. That growth will be largely led by the normal recovery from a disaster like Hurricane Ida.

Figure 41



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Modest Return in the GOM

The region's employment growth will also be spurred by more business in the Gulf of Mexico (GOM). We do <u>not</u> expect action in the GOM to play an out-sized role in Houma's recovery. Our expectation is that **the Biden Administration and Department of Interior Secretary Haaland to continue their efforts to obstruct offshore exploration**. As seen back in Figure 23, the rig count in the Gulf has been stuck below 20 rigs for seven years now. The President placed a moratorium on lease sales his first day in office, used his office to slow pipeline permits, and has jacked up royalty rates on fuels produced from public lands and waters.

Climate zealots are now using the <u>courts</u> to void or slow the one offshore lease sale that the Administration was forced to conduct last November. Even the modest incentives placed in the Inflation Reduction Act will still be stymied by the use of the courts by fossil fuel opponents.

Despite these barriers, discussions with major players in the Gulf suggest a modest improvement in employment options. For example:

- About 3,000 people are employed by **Gulf Isle Shipyards**, with about 700 of those in the Houma MSA. This company provides all kinds of services to operators in the Gulf, including civil construction, environmental cleaning, logistics centers, etc. GIS is also diversifying into solar, offshore wind farms, and others. GIS expects its employment to grow about 10% annually over 2023-24.

- **Danos** employs 150-200 at its headquarters in Houma and some 2,000-2,100 working offshore. Danos conducts maintenance work and logistics services for offshore platforms. The company anticipates bumping its workforce about 15% annually.

- Mainly into pipeline remediation, construction and demolition, the **Chett Morison Company** has grown its workforce to 500. The company plans to add 150 new jobs over 2023-24.

- **Chevron** has 500 employees (up markedly since last year) at its sites in Galliano, Gray and Golden Meadow. The company has a marine shore base at Port Fourchon, an airbase in Galliano, and a 150,000 square foot preservation and maintenance facility in Terrebonne Parish.

- Service company **Halliburton** has four sites in the region with 140 employees. The company is projecting a slight increase in hiring.

- **Gulf Island Fabricators** now has about 760 workers primarily conducting maintenance and upgrade work offshore. Another 140 employees operate out of the Broussard/New Iberia area. GIF wants to hire more employees but is struggling to find candidates.

New Jobs at Shipbuilders

Another source of new jobs for the regions will be the area's shipbuilders. The three main players in the area are all in the hiring mode, though finding qualified workers is a common lament.

- Building ships for offshore Ghana exploration support and the building of tugs to service the LNG export sector (see Figure 42) is driving new activity at **Edison Chouest**. EC is expecting orders for 6 more of the LNG tugs pictured below. Of its 300 service vessels about 75 are tied up, but the company is manufacturing larger vessels to replace the ones wearing out. EC's LaShip yard is at 600 employees and expects to add up to 200 more. The company's North American Shipyard is at 200 workers and is expected to grow as the company lands more LNG tugs and additional cruise ships.

- **Bollinger Shipyards** will keep at least 650 people busy into 2024 with its work on the Coast Guard's Fast Response Cutter. Last August Bollinger was awarded four more of these vessels, raising its total to 64. In April, the company submitted a final proposal to build Stage 2 of the Heritage-Class Offshore Patrol Cutter. If chosen the firm will deliver 11 vessels over the next 10 years. This August, Bollinger was awarded a $122.9 million contract to build three unmanned ships to hunt and destroy mines for the Navy. The contract involves options for 30 more of these vessels, which, if awarded would result in about 100 new jobs at Bollinger.

Figure 42

Edison Chouest LNG Tug

Photo used with permission

- The **Thoma-Sea Shipyard** joins the others in the hiring mode. Now at 400 employees the company is seeking another 150 employees. In 2021, the company was awarded a $178 million contract to build two new research vessels for NOAA---a project that will last through 2024. Thoma-Sea will also build a $15.8 million Army Corps Driftmaster, a refuse collection boat for New York Harbor. The company also does repair work on tugs and barges that work both blue and brown waters.

Significant CAPEX at the Ports

A significant amount of capital spending is scheduled at the two ports in this MSA----especially at **Port Fourchon**. Approximately $28 million will be spent in 2023 on further dredging and bulkhead work on Slip D, and about $40 million will be spent on dredging the port to 30-33 feet from the entrance into Slips A-D. Initiation of the latter work awaits a final Environmental Impact Statement from the Army Corps. Hopefully, permits will be received in early 2023 to begin work on the Fourchon Island development. This will include a $30 million access bridge and $20 million on dredging work over the next two years.

Also at Port Fourchon, **Stabilis Solutions** has secured a right of first refusal (RFR) on the 150-acre site on the west side of the entrance to the port---a site originally tagged for Energy World. Plan A is to turn this RFR into a lease by early 2023. Stabilis wants to turn the location into an LNG terminal for both export and bunkering.

At the **Port of Terrebonne**, $40 million will be spent over the next two years on removing and lowering pipeline in the Houma Navigation Canal. The new flood gate on the canal (described below) must be operational for the federal government to release another $260 million to deepen the canal from 15 to 20 feet.

Airport, Roads & Coastal Restoration

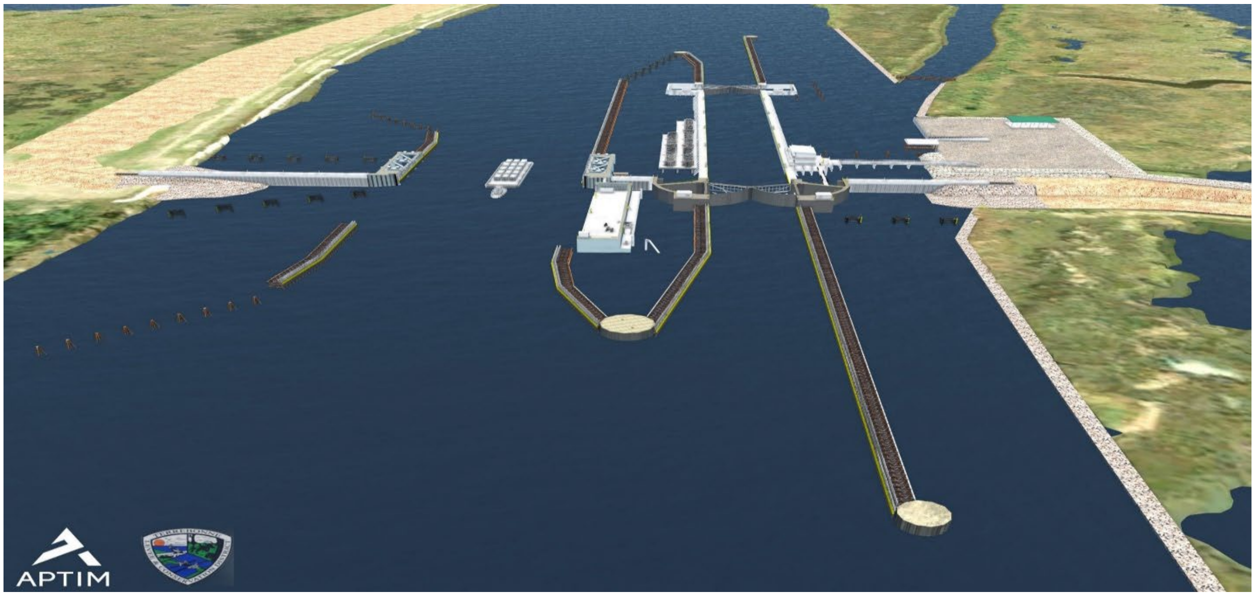
This region is receiving $552.9 million over the next two years on **state road lettings**. This is an unusually large number for an MSA of this size and is ballooned up by the $445 million set aside for work on elevating the LA1 from Leeville to Golden Meadow. Begun last year, this complex construction job will take another 5 years to complete. The second largest road lettings project is $23.7 million to replace the Boudreaux Canal Bridge at LA20.

Another year of work is ahead for the $35 million road project connecting LA3235 to the **South Lafourche Leonard Miller Junior Airport**. A $3 million new airport terminal project will get underway in 2023. **Rotorcraft Leasing Company** is in the middle of a $5 million improvement of the company's site at the airport.

Finally, the Houma MSA will be the beneficiary of new **coastal restoration monies** over the next two years: (1) $230.8 million in 2023 and (2) $251 million in 2024. Of these amounts, about $250 million will be devoted to completion of the Houma Navigation Canal Lock shown in Figure 43.

Figure 43

Houma Navigation Canal Lock



Picture used with permission

THE MONROE MSA

Entergy & Vantage Bring New Jobs

The third smallest MSA in Louisiana is the 2-parish (Ouachita and Union Parishes) Monroe MSA located in the Northeast corner of the state (see Figure 10). A brief history of the MSA is in Appendix G. The largest private employer in this MSA is **Graphic Packaging**---a paper/carton plant that employs about 1,100 people at its three sites. A relatively new and prospering company for the region is **Vantage Health Plan** which now employs 1,271 people. **Lumen Technologies** (the former CenturyLink) used to be a 2,300-person workforce but has now dropped to under 1,000 as many of its operations have been moved to Denver. **IBM** has a 100-person operation near Lumen that provides support to Lumen among others.

Monroe is also a university town, hosting the **University of Louisiana Monroe** with its 300 faculty members. A new medical school---**Edwards Via College of Osteopathic Medicine**---opened in fall 2020 with 150 freshmen and is admitting a third class this year.

JPMorgan Chase Mortgage operates a 975+ person center in Monroe. **Foster Farms** has a huge chicken processing facility in Union Parish with over 1,200 employees, not counting the growers and transporters. The **Ochsner/LSU Health Sciences Center Partnership** has renovated the old E.A. Conway Charity Hospital and added clinics, raising its employment to 840 in the region. **Gardner Denver** is a 250-person facility that manufactures pumps for medical equipment.

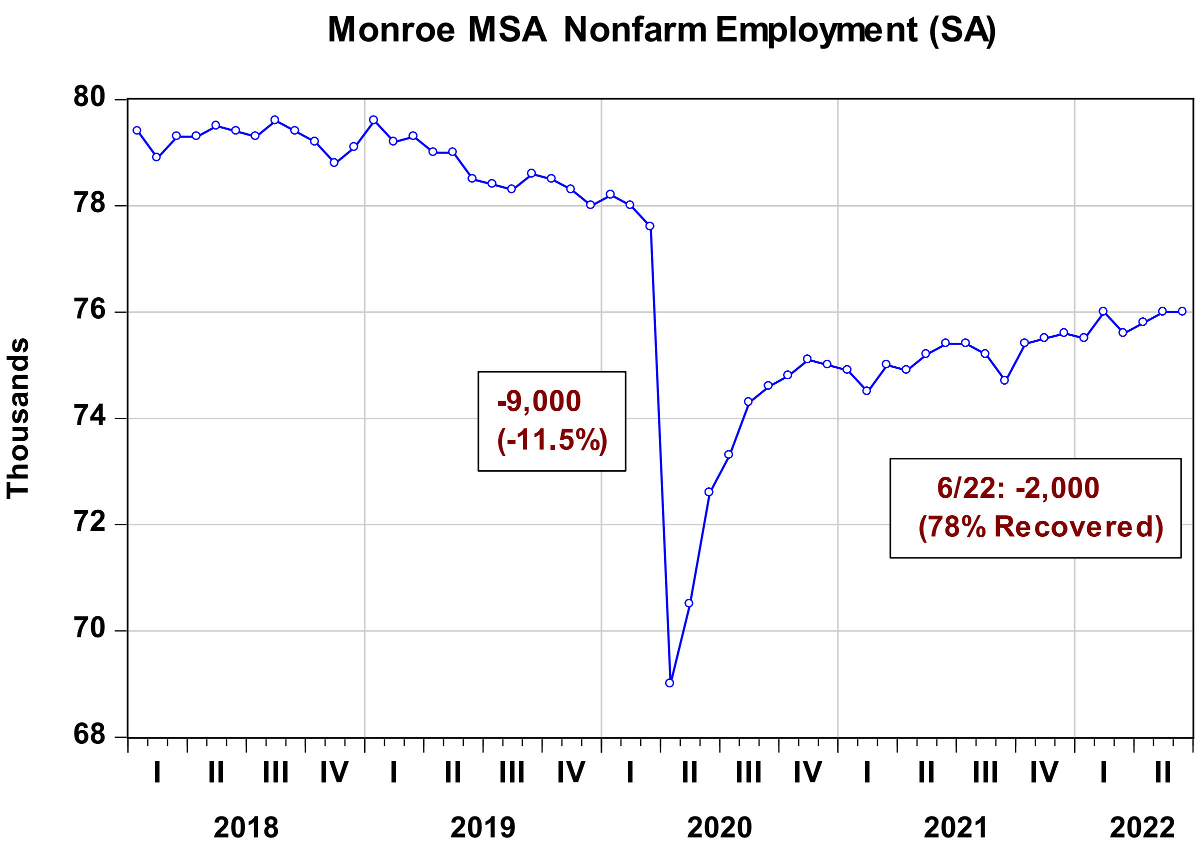
Plodding Recovery from COVID Shutdown

Figure 44 paints a vivid picture of the rather plodding recovery the Monroe MSA has experienced from the COVID shutdown. This figure tracks monthly nonfarm employment (seasonally adjusted) from January 2018 through June 2022. The Shutdown popped a 9,000 job loss (-11.5%) on this 2-parish region. Over the next four months employment returned vigorously, retrieving 4,100 or about 46% of the losses.

However, in the 23 months since the region has added only 2,900 of the lost jobs---about 25 jobs a month. By June 2022, region had recovered 78% of its losses and remained 2,000 jobs below its pre-COVID peak.

The 2,000-job shortfall falls heavily on two sectors: (1) manufacturing (-900 jobs below peak) and (2) government (-900 jobs below peak). Manufacturing can largely be traced back to Foster Farms which is probably 400 jobs below its pre-COVID peak, and Graphics Packaging which has been installing labor-saving technologies at its site. In the background has also been the steady seepage of jobs at Lumen to Colorado.

Figure 44



Source: Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

Forecast for 2023-24: Searching for Growth

Figure 45 tracks nonfarm employment in the Monroe MSA from 1990 through 2022, along with our forecasts for 2023-24. **A lack of serious growth prospects, combined with an expected national recession in 2023 should keep this MSA's employment nearly flat at +100 jobs (+0.1%). Continued bleeding of jobs at Lumen will arrest growth in 2024, with employment up +400 jobs (+0.5%).**

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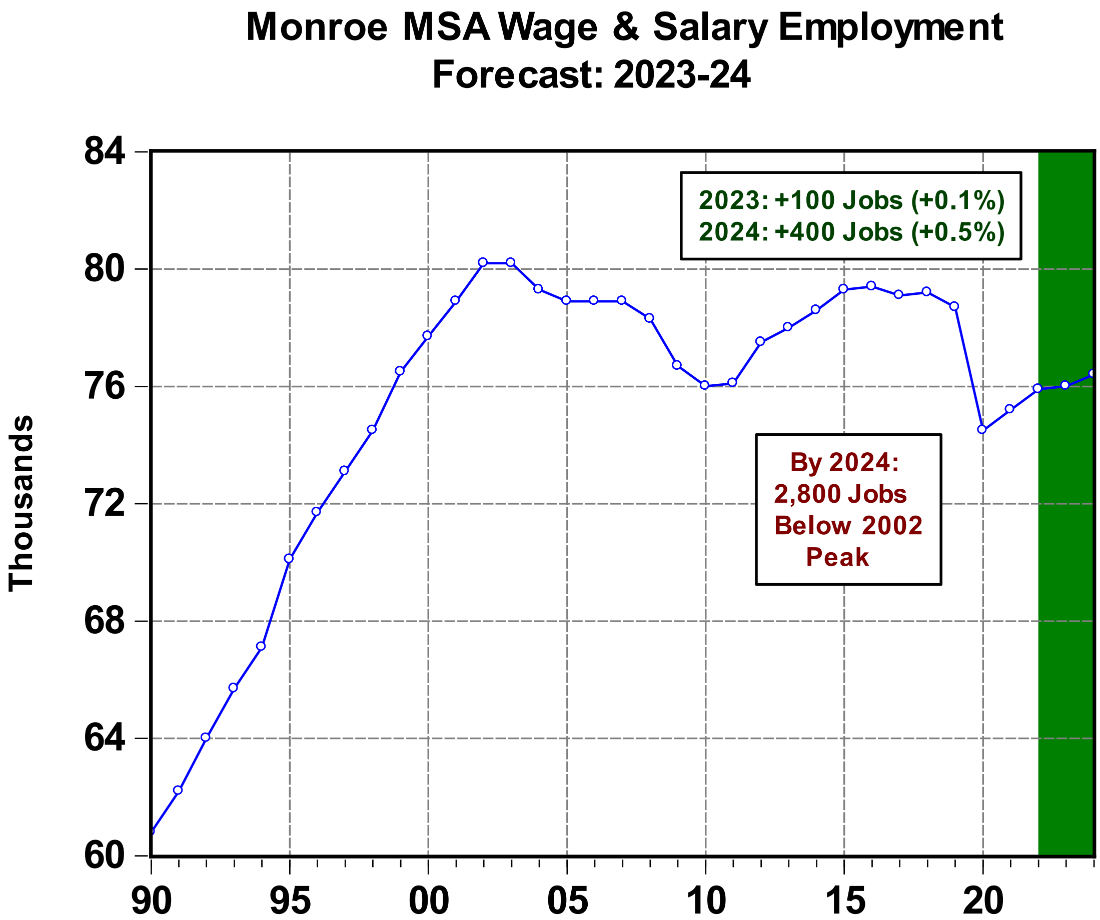
Figure 45



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

There are some positive signals in this northeast corner of the state. Specifically:

- **Vantage Health Plans**, which is now at 1,271 employees, has expanded into 60 of the 75 counties in Arkansas and 70 of the 82 Mississippi counties. Vantage administers the Medicare Advantage Plan for Blue Cross Blue Shield of Louisiana, and the company has its own medical group practice---Affinity Health Group. The company purchased an older, 3,500 square foot CenturyLink building and invested about $5 million in renovating the site. Vantage is looking for 70 new employees now and another 100 over 2023-24.

Figure 46

Vantage Health - Monroe

Picture used with permission

- **Entergy** is tripling the **size of its West Monroe call center and adding 171 jobs.**

- The junior class is being added this fall to the **Edwards Via College of Osteopathic Medicine**. This will bring 150 new students to the area and will result in additions to faculty and staff.

- We are expecting that employment at the **Foster Farms** chicken processing facility in Union Parish to begin moving back towards its pre-COVID level as fear of the virus starts to recede. That is about a 400-employee gap as we understand it. Attracting employees to the site has been so challenging that at one point the company employed work release inmates.

- **MidSouth Extrusions** is spending $4.9 million on a 12th production line to make plastic sheeting used in food packaging. The new line will add eight new jobs to the company's 170-person workforce.

Some constancy among some key players in this economy will add a measure of stability to this MSA over 2023-24.

- The large **Chase Mortgage Processing** facility has added 60 people this past year and is now at 975 employees. We suspect the national recession, combined with higher interest rates will set back home sales next year and flatten employment demand at this unit.

- The **Gardner Denver** plant in Monroe was recently sold to a venture capital firm. The company manufactures pumps that go into medical equipment like ventilators. Employment is at about 250 people with little change expected.

- **Coast Professional** in West Monroe was 96% focused on student loan payment recovery. With President Biden's new loan forgiveness program, Coastal has diversified into work for FEMA, General Dynamics IT, and others. Its 225-person workforce is expected to change little over 2023-24.

- A maker of hand sanitizers and test kits, **Angus Chemicals** did well during the COVID crisis. There are 120 Angus personnel and 50-75 contractors at the plant, a number that is not expected to change meaningfully.

- **IBM** has a unit in Monroe that employs about 100 people. Lumen is a significant---but not the only---part of this unit's business. IT firms like IBM have enthusiastically embraced the work-from-home phenomenon, so it is not really clear how many of the unit's employees are actually in the MSA.

- **Enviro Services & Rentals** is a heavy equipment rental company in Union Parish that has 40 people working on site year around. The firm owns

1,200 units that are used in all 48 contiguous states. The firm's employment should exceed 50 by the end of our forecast period.

Looming in the background of this economy's future are further reductions in employment at Lumen. Too, the labor-saving technologies adopted at **Graphics Packaging** may not have fully run their course. That said, this firm is a critical, high-employment (800-1,000 employees), high-wage company that typically spends $40 million a year on maintenance and upgrades in this area. It and the attached 100-person **Wagner Logistics** firm remain key stalwarts in this MSA's economy.

Road Lettings Down a Bit

Finally, this region is just holding its own in terms of its share of **state road lettings**. The amount scheduled for 2023-24 is $113 million, slightly down from $120.4 million last year. The two largest projects are (1) $48.7 million on the Kansas Lane/Garrett Road connector and (2) $18 million to widen I20 from US165 to Garrett Road.

THE ALEXANDRIA MSA

Fully Recovered; Diamond Vault on Horizon

Louisiana's second smallest MSA is located in the dead center of the state (see Figure 10) and is comprised of Rapides and Grant Parishes. A brief history of the MSA is in Appendix H. There were 62,400 non-farm employees in the MSA in 2022. While there are some notably large manufacturing firms in this MSA, the manufacturing and mining sectors are small compared to other MSAs in Louisiana.

Some large firms add an important private sector base to this MSA. The 1,200-person **Procter & Gamble** is the largest manufacturer in the region, and nearby **PlastiPak** (nearly 300 jobs) makes the containers to hold P&G's products. Equivalent in employment size to P&G, utility company **Cleco** is headquartered in Pineville and is an important economic driver for the community. **Crest Industries** is a 700-800-person conglomerate that is engineering focused but also has a major subsidiary manufacturing equipment for the utility industry. England Airpark is host to **Union Tank Car** (about 350 employees), which manufactures railroad tank cars to primarily transport chemical products.

Alexandria has a very significant government base (23% of its employment), second only to Hammond in its dependency on this sector. **Pinecrest Support and Services Center**, which provides care for the mentally disabled and **Central State Hospital---**a facility for the mentally ill---are both located in the MSA and between them employ about 1,800 people.

Just outside the borders of this MSA are very large employers with close economic ties to the MSA. **Fort Polk**, in Vernon Parish to the west, is the largest military installation in the state, with nearly 15,000 permanent troops/civilians on site and another 5,000+ troops rotating through nine months out of the year. This makes the base the largest single employer in Louisiana. **Roy O. Martin** employs just over 900 at two wood processing sites a couple of miles outside of Rapides Parish to the north and south.

Rarity in Louisiana: Fully Recovered from COVID Shutdown

Figure 47 tracks this MSA's seasonally adjusted monthly nonfarm earnings from January 2018 through June 2022. While the steep 9% drop in April 2020 associated with the COVID shutdown was certainly dramatic, Alexandria actually absorbed one of the lightest hits of any MSA in the state. In the six

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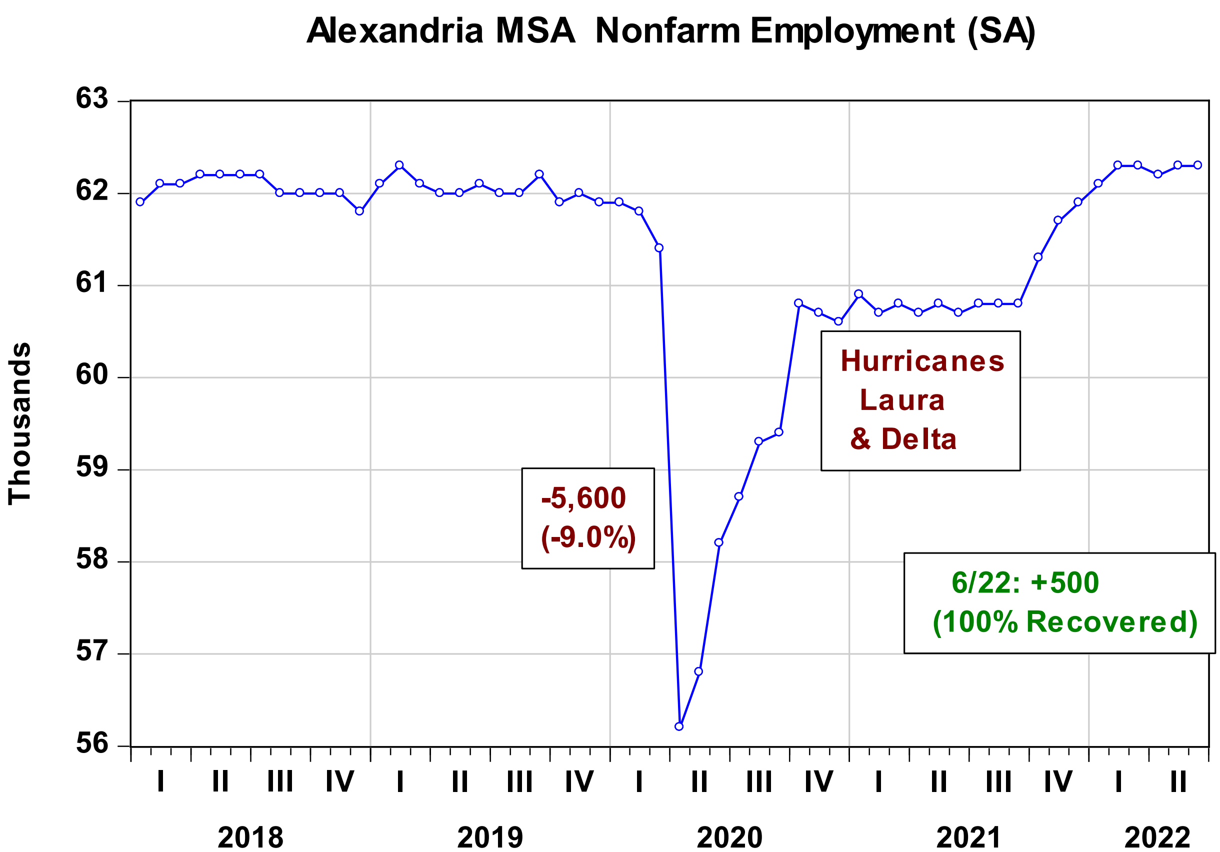
months immediately following, the region retrieved an impressive 82% of those losses---perhaps the quickest recovery in the state.

Figure 47



Source: Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

Note that employment then went sideways for 11 straight months. The devastating impacts of Hurricanes Laura and Delta were felt even this far north. It was not enough to create a significant "V" as was the case in Lake Charles, but it was enough to totally arrest any growth.

Beginning in late 2021the region began to fully get back to work. By December 2021, **the Alexandria MSA was one of only two MSAs in the state to have fully recovered all the jobs lost due to the COVID shutdown**.

Forecast 2023-24: Diamond Vault & Beaver Creek?

Nonfarm employment in the Alexandria MSA over 1990-2022 is illustrated in Figure 48, along with our forecasts for 2023 and 2024. **We are projecting 300 new jobs for the region in 2023 and 600 in 2024**. Thus, the region is forecast to

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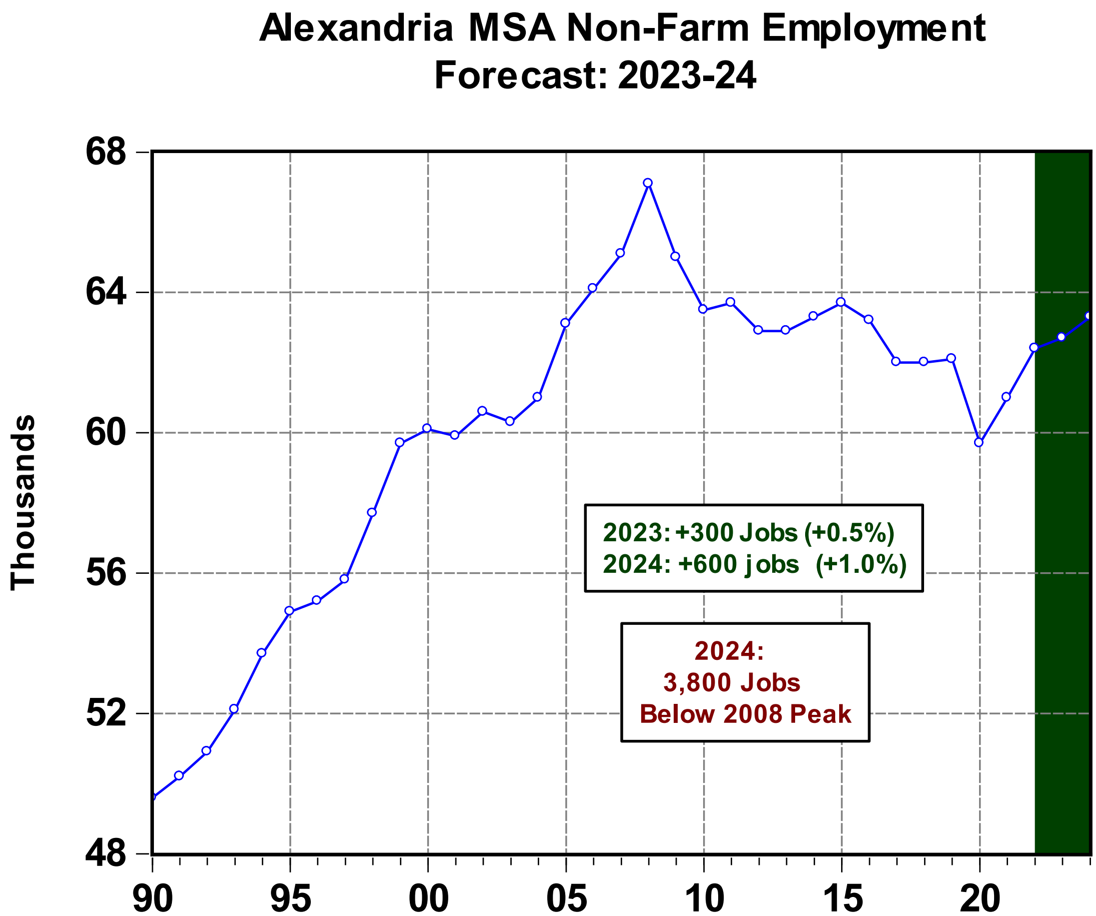
continue its upward track, but at the end of 2024 will still be 3,800 jobs below its peak reached back in 2008.

Figure 48



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

A boost to this modest growth rate could come from two sources: (1) Cleco's Diamond Vault Project and (2) the Beaver Creek Industrial Park. "**Diamond Vault**" refers to a $900 million carbon capture and sequestration project at Cleco's Madison 3 coal-fired power plants (see Figure 49).

Madison 3 is the largest single emitter in Cleco's fleet of power plants and the largest in Louisiana. Simply retiring the plant early is fraught with complications. Among them is leaving a significant stranded cost recovery for Cleco's customers and also a loss of 150 high-wage jobs in central Louisiana. $13 million has been secured from Congress for front end engineering and design work for the conversion process. FEED work might be completed in time for the $900 million construction project to start in late 2024, providing an extra bump to that year's forecast. Cleco plans to add about 70 people over the next two years to its 1,300-person workforce in the area.

Figure 49

Cleco's Madison 3 Power Plant

Photo used with permission

Hopes are rising among economic developers about the prospects for the **Beaver Creek Industrial Park**. The site now has excellent rail access (Top Rail stores railcars there) and it has good access to the Red River Waterway. A new marketing campaign for the Park is yielding a lot of interest from prospective tenants. A win at Beaver Creek could also significantly boost our 2024 projection.

Bigger Players Remain Stable

Stability is the watchword among the remaining key players in this economy. No change is expected in the 1,762-job workforce at the three state healthcare units in Pineville---**Pinecrest, Central State Hospital and Louisiana Supports and Services Center**. **Proctor and Gamble** maintains 540 P&G workers and another 700 contractors at its liquid and pods production plant. Nearby **PlastiPak** produces containers for P&G and others (such as Kraft). There are 297 people working at PlastiPak's site where a $14 million expansion will add 14 jobs.

The multi-faceted **Crest Industries** complex continues to maintain a 700-800 person workforce at its subsidiaries Dis-Tran, CNR, Beta Engineering and Mid State Services. Crest created a new company at the Central Louisiana Regional Port---**Avant Organics**. This company makes products that enhance the flavor and fragrances in food and beverage products, pharmaceuticals, and other products. Avant employs 14-16 people at the site.

Union Tank Car makes railcars for the chemical, food, and agricultural sectors. High steel prices make this market challenging, but employment at the Alexandria Airport site is staying solid at 325-400.

Public Spending: England & Roads

A sizeable $86.7 million in capital spending will take place at **England Airpark** over the next two years. Four of the larger projects are:

- $21.5 million to extend and improve runway 18/36;
- $10.4 million on runway rehabilitation and taxiway safety;
- $6 million on a required noise abatement project; and
- $4.6 million on airfield wildlife mitigation and fencing project.

Work is continuing on the **ACE initiative** at England that we mentioned in last year's forecast. A 4-year aviation management degree has been established at LSU-A, and engineering work began on a hangar conversion into an Aviation center for pilot training and flight simulations. $1.7 million in capital outlay monies were secured from the Legislature for engineering and design on a wide-bodies hangar for training and to attract MRO work.

Allocations from the Legislature for **state road lettings** in this MSA were up to $49.1 million from $36.9 million last year. The two top projects were:

- $15.4 million for Calcasieu River bridge replacement; and
- $6 million for a major rehab of US167 from Donahue Ferry Road to US165.

THE HAMMOND MSA

Quick Recoveries + Intralox

About 40 miles due east of Baton Rouge is Tangipahoa Parish (see Figure 10) which is the newest and smallest MSA in the state with 46,200 nonfarm employees in 2021. A brief history of the MSA is in Appendix I. MSA data on this MSA only start in 1990, so our review of its employment history is more limited than for the other eight.

Some 22% of this parish's residents earn their income outside of the parish. Downtown New Orleans is a short commute away as are the plants along the Mississippi River, the State Capitol in Baton Rouge, and Slidell to the west. This, plus the lack of underlying basic industries, has turned Tangipahoa Parish into a commuter parish.

Because it is smaller, its economy is in most ways simpler. Its largest city is Hammond, which is a college town, home of **Southeastern Louisiana University** (1,500 employees). In most cities the hospital is the largest employer because the facility employs people 24/7, 365 days a year. This MSA is no different. Its largest employer (aside from the School Board) is **North Oaks Medical Center** (2,544 employees). Combined with SLU, these two players and associated clinics represent almost a fifth of employment in this MSA. **Government employment** (24.1%) is tied with Alexandria in terms of its dominance in the economy. **North Lake Division Evergreen Life Services** (300 employees) provides services to over 200 residents with intellectual and developmental disabilities.

Distribution centers have also found a good home here, as Hammond abuts both north-south and east-west interstate highways. A 970-person **Walmart Distribution Center** is located in Tangipahoa Parish, as is the 375-person **C&S Wholesale Grocers**. A new $45 million **Medline** distribution center is being built near Hammond that will ultimately bring 450 new jobs. **Scarinao Wholesale Foods** is another distributor located in Baptist.

Manufacturing is not as large an element in this MSA (5.3% of employment) as is the case at the state level (7.0%). Manufacturing is dominated by food processing such as the 550-person **Sanderson Farms** poultry processing plant and the 164-person (and growing) **Elmer's Candy** plant. **Intralox** has a 600-person facility manufacturing modular plastic conveyer belts, and **Smitty Supply**

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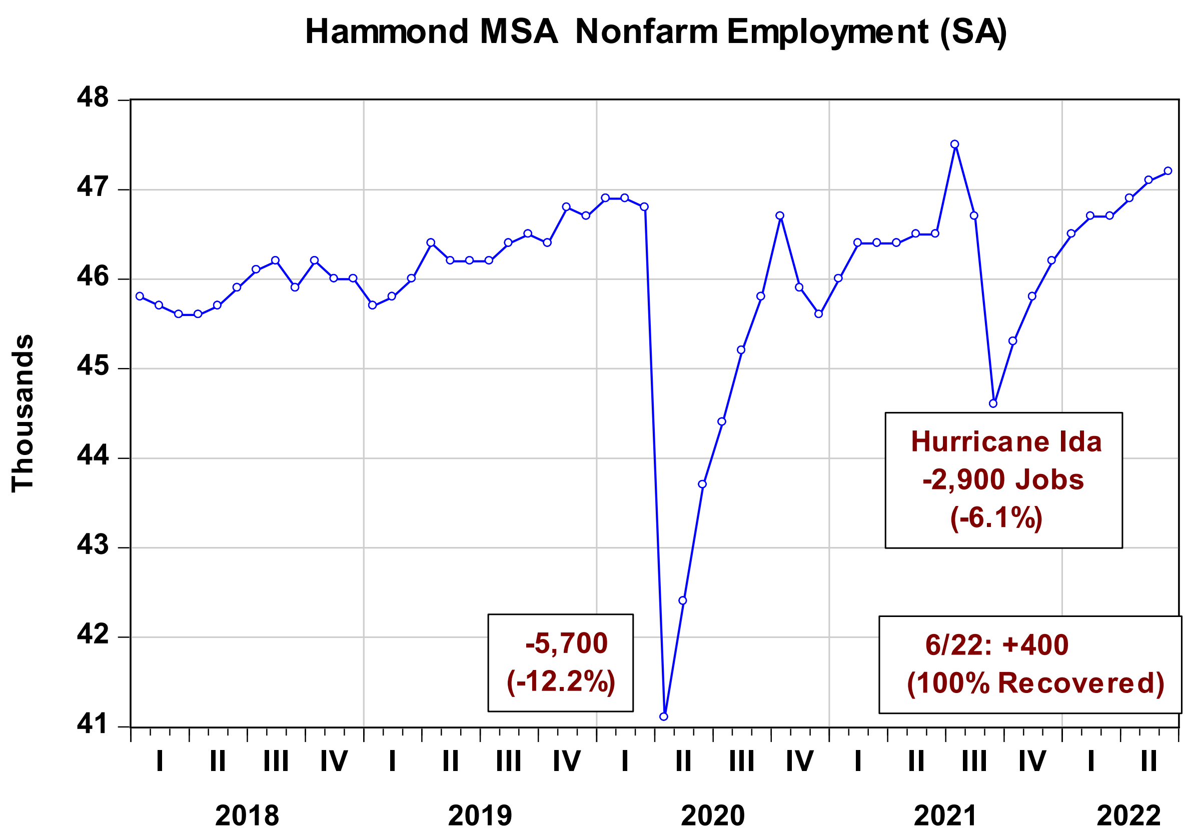
of Roseland is a motor oil blending, packaging and distribution firm that employs 400.

Two Impressive Recoveries

Figure 50 plots the Hammond MSA seasonally adjusted monthly nonfarm employment from January 2018 through June 2022. One has to be impressed with the way this MSA has responded to two serious hits to its economy. In March 2020 the region suffered a loss of 5,700 jobs (-12.2%) due to the COVID shutdown.

From a percentage standpoint it was one of the milder taps felt in the state. Hammond has very little of either the leisure/hospitality business or the industrial construction activities that were so hammered across the state. **What is remarkable is that within six months the MSA had recovered all those job losses**. It was the best recovery performance in the state by far.

Figure 50



Source: Louisiana Workforce Commission & Loren C. Scott & Associates, Inc.

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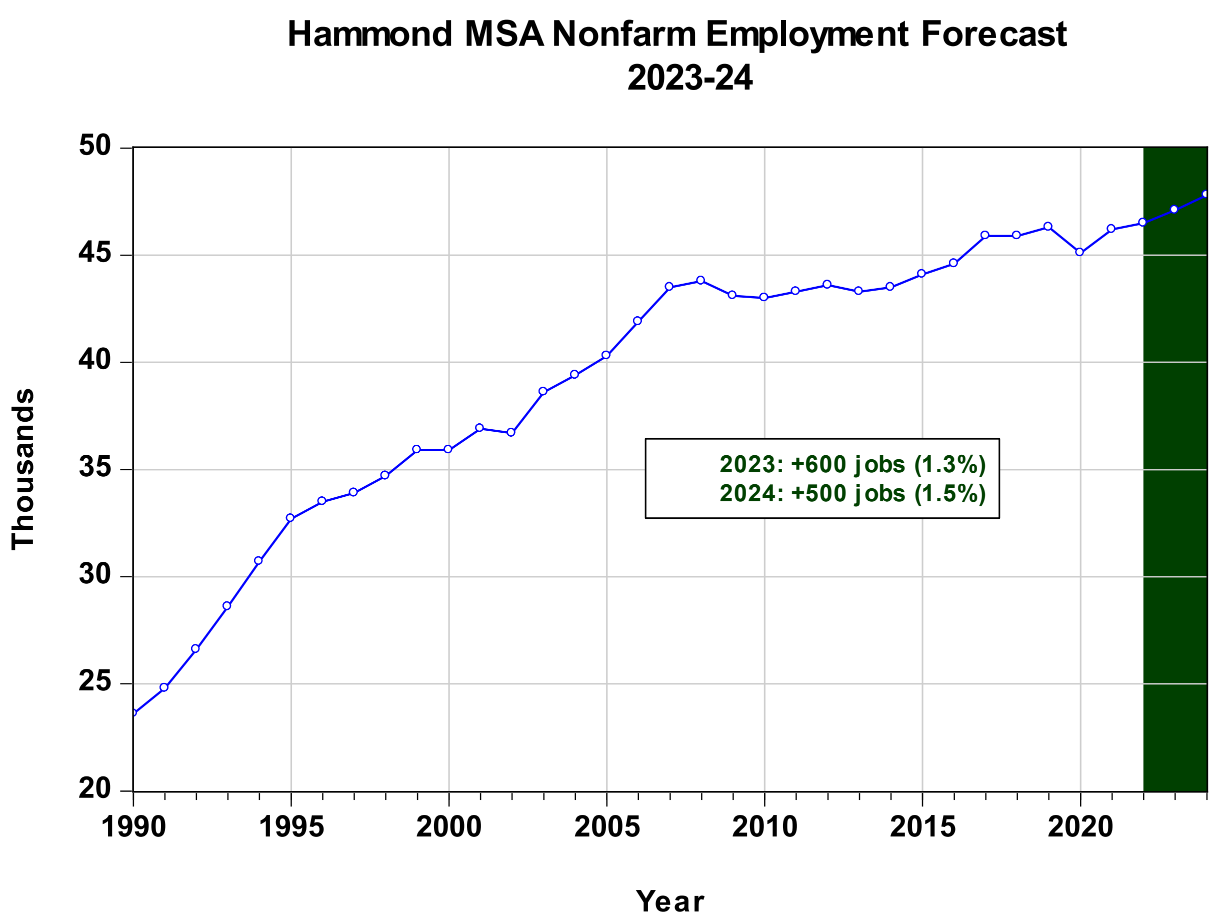
A second blow occurred when the area was battered by **Hurricane Ida** in late August 2021. The region dropped 2,900 jobs (-6.1%). However, the response was another quick trip up the other side of the "V." Within six months the hurricane losses had been recovered. Both recoveries were quite impressive.

The prompt recovery from the hurricane was certainly aided by the construction of **Medline's** new $45 million distribution facility which was begun in March 2021. This new center was opened in early 2022 and is projected to ultimately employ 450 workers.

Forecast 2023-24: An Injection from Intralox

Figure 51 illustrates the pattern of nonfarm employment in the Hammond MSA from 1990 through 2022, plus our forecast for 2023-24.

Figure 51



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

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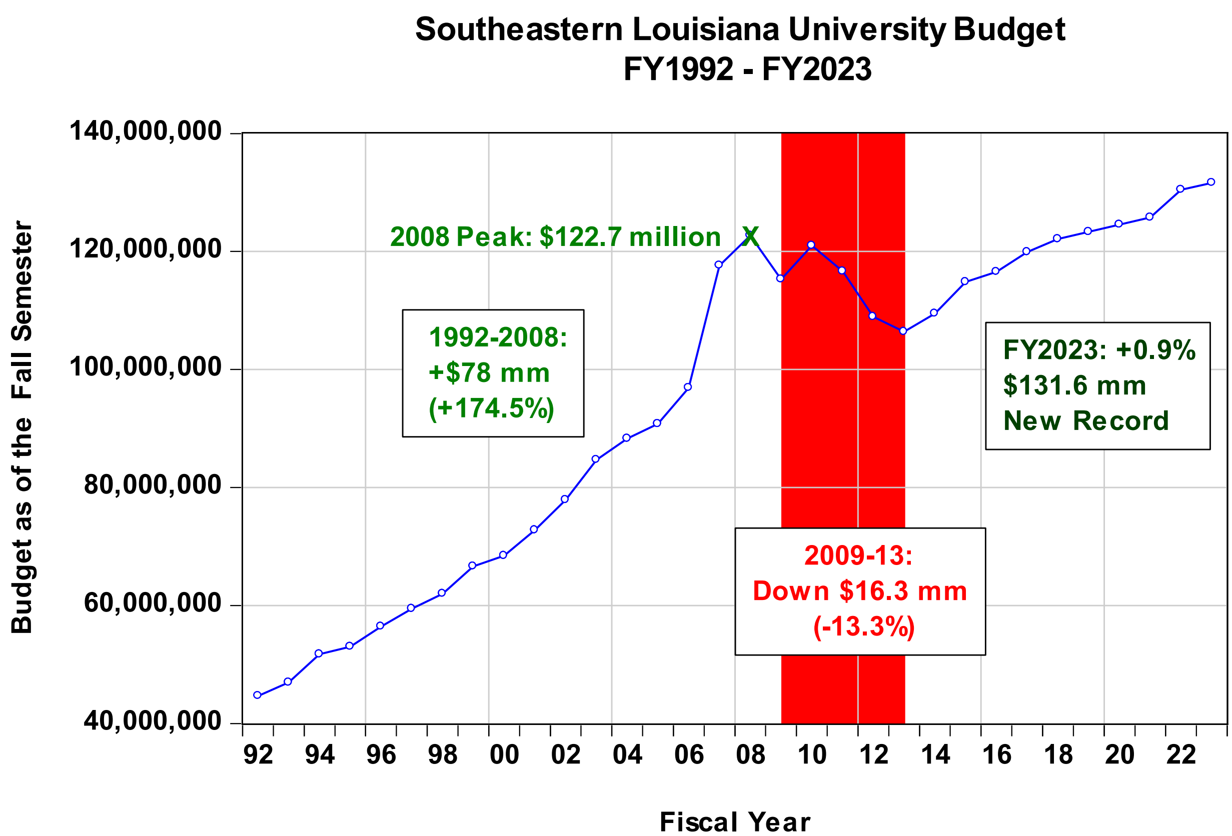
Of all the MSAs reviewed to this point, Hammond has the most stable pattern of them all. As detailed in Appendix I, the strong growth from 1990 through 2007 and then the leveling off since then, largely mimics the employment pattern of the two largest employers in the region---**SLU** and **North Oaks Hospital**.

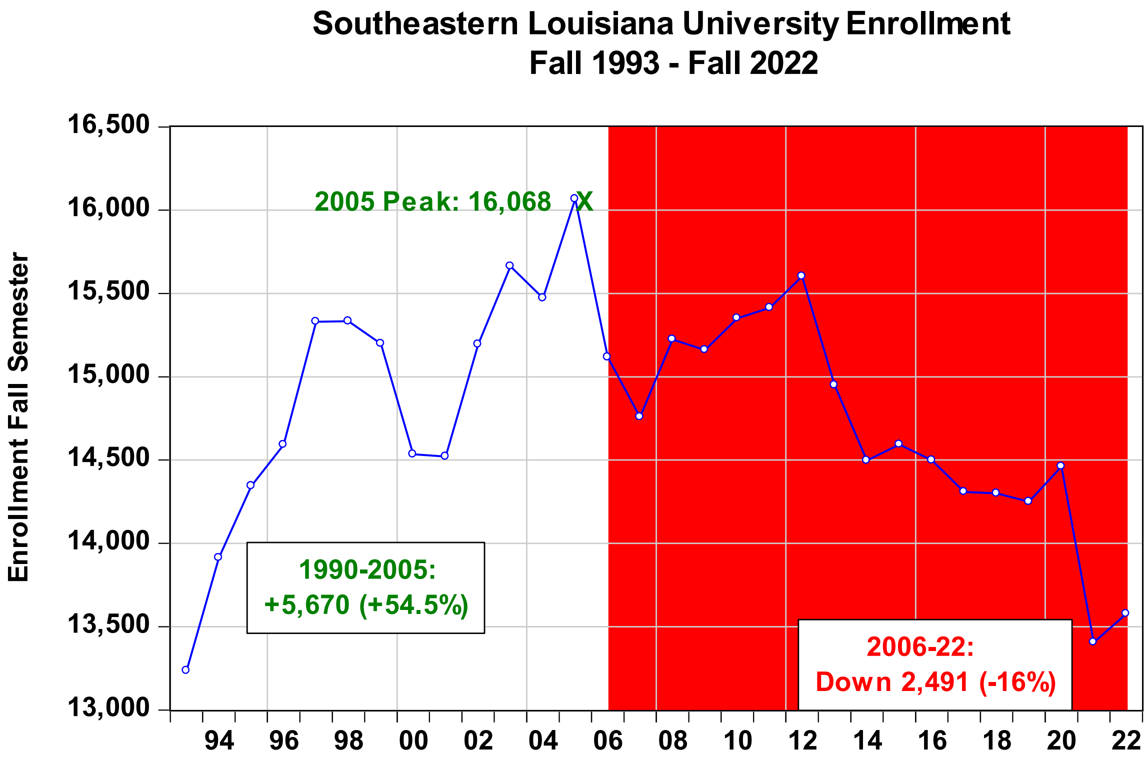
A university town's economy is often heavily driven by the economic trends at the university and Hammond is no exception. Note the pattern in SLU's budget from FY1992 through FY2023 in Figure 52. These budget numbers mimic closely the employment numbers in Figure 51.

Figure 52



Part of the budget decline---especially the period from 2009-13---was due to budgetary problems at the state level. Part of the post-2008 flatness in Figure 52 is due to **declining enrollments** as seen in Figure 53. After spectacular growth from 1993 through 2005 (+54.5%), enrollments have declined by 16% on net. Fewer students also led to fewer faculty and staff (down 19.2% since 2009).

Figure 53



Source: SLU Office of Institutional Research & Loren C. Scott & Associates, Inc.

Not surprisingly, employment at the region's other large employers---**North Oaks Hospital System**---also tracks total employment in the MSA to a "T." Note in Figure 54 that employment at the North Oaks System grew strongly over 1995-2009 (+63%). Since the employment has moved pretty much sideways, hovering in the 2,600 range.

North Oaks presently has about 300 vacancies and is facing substantial workforce challenges in the tight healthcare labor market. This applies to both attracting and retaining employees. The hospital is in the design stage for a new $220 million, multi-story medical office building.

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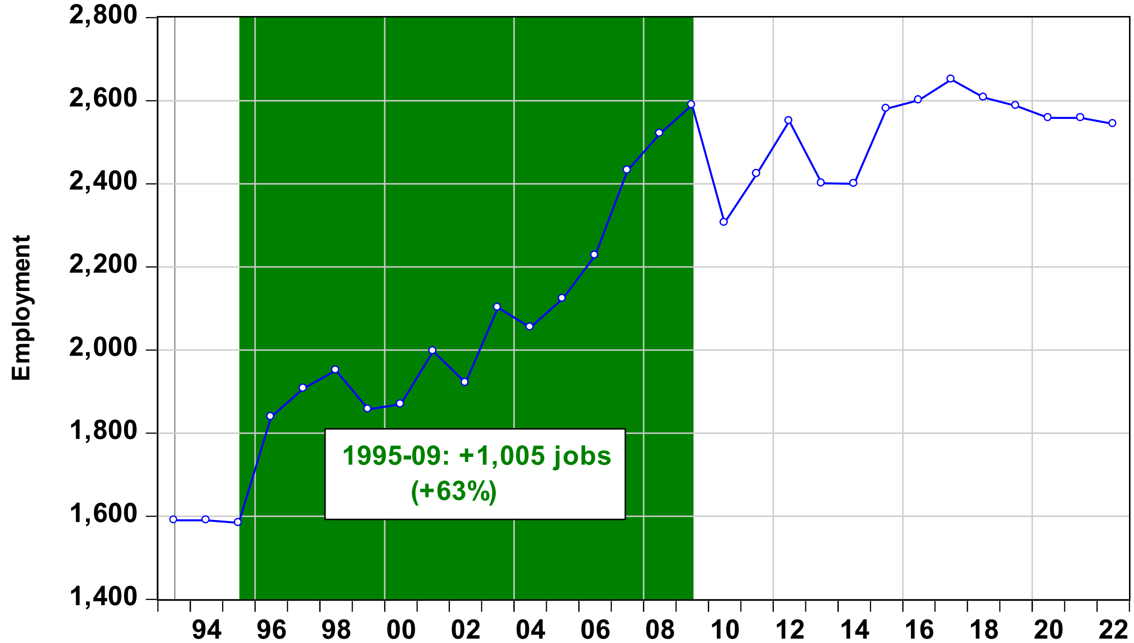
Figure 54

North Oaks Medical System Employment



Source: North Oaks Finance Department & Loren C. Scott & Associates, Inc.

More Jobs from Intralox, Walmart & S&W

This MSA will receive a nice jolt over the next two years from activities at **Intralox**. This manufacturer of modular plastic conveyor belts is spending $60 million to more than double the size of its present plant. The facility will go from 130,000 square feet to 430,000 square feet, and more importantly, the firm plans to add 425 employees at the site.

Two distribution centers in the MSA are also in an expansion mode. The huge **Walmart Distribution Center** would like to expand its present 970-person workforce by 100. **S&W Wholesale Foods** is spending $12 million to expand its operations by 100,000 square feet and add 30 people to its 76-person workforce.

Roads & Coastal Restoration

State road lettings for this MSA are up slightly from last year----$30.5 million versus $27.5 million last year). The two biggest projects are $4.5 million to replace the Yellow Water River Bridge at US51, and $2.8 million to overlay LA443 from US190 to LA1064.

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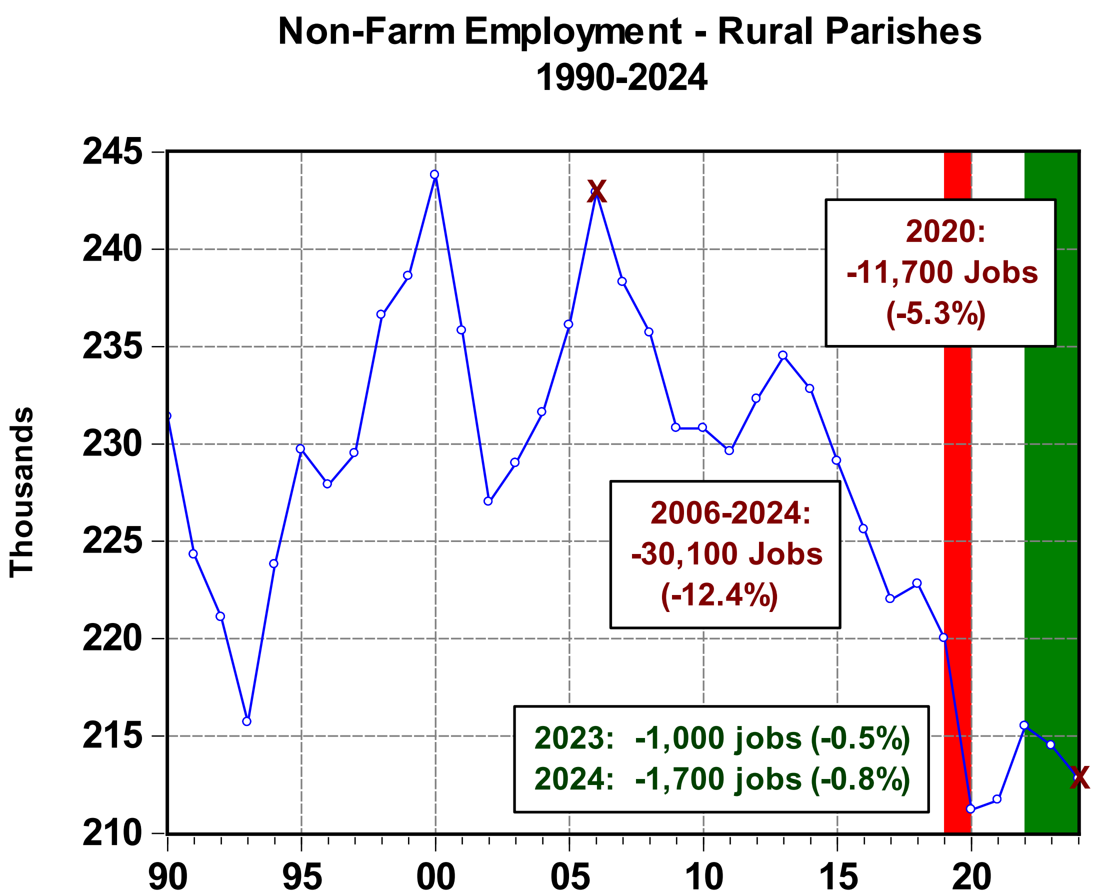
Coastal restoration monies have also been allocated to Tangipahoa Parish to the tune of $5.6 million in 2023 and $1.1 million in 2024. The majority of these monies are for Manchac Landbridge Shoreline protection. The Parish will also receive $908,000 in **GOMESA** monies for flood control projects.

The Three S's: Syrah, Strategic & Sawmills

There are 35 of the state's 64 parishes located in the nine MSAs that have been covered to this point. The remaining 29 parishes are designated as "**rural**." About 11.3% of the state's employment (215,500 jobs) exists in these 29 parishes. Figure 55 shows nonfarm employment in these rural parishes from 1990-2022, along with our forecast to 2023-24. A history of this region can be found in Appendix J.

Figure 55



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

This area of the state was not immune from the effects of the COVID shutdown. The region lost 11,700 jobs in 2020, a 5.3% drop. Note that nonfarm employment in rural Louisiana has been in a decline since 2006. Population has been moving from the rural areas to the MSAs for some time (all across the U.S.), and we do

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not expect this trend to let up over our forecast period. For example, of Louisiana's 29 rural parishes only three experienced population gains between 2010 and 2020---Lincoln, Beauregard, and Jeff Davis---while ten rural parishes found their populations fell by 10% or more.[3] The small bump upwards in 2021 and 2022 were basically COVID recovery numbers.

It is important to note that Figure 55 covers nonfarm employment in these rural parishes. In 2020 (latest data available) there were 30,725 farm workers in Louisiana, and just under $1.9 billion was earned by farm owners and workers in that year.[4] While $1.9 billion is obviously no small number, total personal income in Louisiana was $236.3 billion.[5] Farm income was 0.8% of that figure. Farming is still a major part of the rural parish economy.

Not All Ag

There are some outliers, however. As mentioned in the Alexandria write up, the largest single employer in the state is **Fort Polk** in Vernon Parish next to the Texas border.

Natchitoches Parish contains a university town, Natchitoches, which is the home of Northwest Louisiana University, but also is the headquarters of the Red River Waterway Commission and enjoys a tip of the Haynesville Shale within its borders. Lincoln Parish also has a large university base with Louisiana Tech located in Ruston. There are few rural parishes along the Louisiana coast (see Figure 10). One is St. Mary Parish which is dominated by industries serving the offshore exploration/production industry.

Forecasts for 2023-24: The Three S's

As seen in Figure 55, **we are projecting rural Louisiana will lose 1,000 jobs in 2023 and another 1,700 jobs in 2024**. This downward projection reflects the dominating negative trend in populations in these parishes.

This does not mean rural parishes are without significant economic activity. Growth in these parishes will come from the "Three S's"---Syrah, Strategic Fuels and sawmills.

[3] www.bea.gov
[4] www.bea.gov.
[5] Ibid.

Non-Ag Manufacturing Stars

There are two significant bright spots in rural Louisiana's immediate future. **Syrah Resources** has its $176 million Phase II of its graphite facility underway in Concordia Parish. A manufacturer of natural graphite used in batteries, Syrah should complete Phase II in late 2023 and increase its employment from 25 to 102. The firm already has a definitive feasibility study underway for a Phase III that would jump its output from 11,400 tons to 45,000 tons and increase employment to 221. A final investment decision (FID) is expected in 2023.

Strategic Biofuels (also Louisiana Green Fuels) has 85% of its financing in place to construct a $2.7 billion renewable diesel biofuels plant at the Port of Columbia in Caldwell Parish. The plant's input would be forest waste. Carbon produced would be captured and stored in salt caverns. An FID is expected by November 2023. The plant would take 37 months to build and employ 151 people at $68,000 annually. The Port has received a $15 million grant for roads, rail, and traffic flow improvements for the project.

Several other smaller investments are planned within these rural parishes. **Greenberry International** is spending $500,000 to retrofit the old Gulf Island Shipyard in Jennings into a site to produce industrial modules. Upgrades should be complete by early 2023 and result in 100+ new jobs. **Alliance Compressors** is making a large $45 million investment to add a third assembly line to its facility in Natchitoches. About 78 jobs will be added to the company's 520-person workforce.

Agreeta is developing a $23 million 15,000 square foot rice mill in Jeff Davis Parish. To open in late 2022, the mill will result in 20 new jobs. Also in Jeff Davis parish, **Bayou Rum** is spending $2.8 million to increase its bottling line from 156,000 cases to 3 million cases. Fifty more people will be hired. In Lake Providence, the **Superior Group** is spending $800,000 to modernize its warehouse and add 50 jobs.

The Third "S": Sawmills

Issues with Canadian lumber have spurred an impressive expansion of the lumber and wood products industry in Louisiana. One of the larger beneficiaries is the **Roy O. Martin Company** which operates two large sites just outside of the Alexandria MSA. The company's oriented strand board facility in Oakdale employs 208, a number expected to remain stable. Some $45-$50 million in investments is planned for the Chopin site where just under 700 people work.

About 60 more people are needed at this plant, but finding qualified workers is challenging.

In Bienville Parish **Hunt Forest Products** has a $240 million sawmill under construction that will open in early 2023. Hunt will hire 130 people for the site paying each an average of $57,400. This winter is the scheduled start date for the new $160 million **Canfor** lumber mill at the Beauregard Regional Airport. This mill will also employ 130 people at $59,921 annually.

YellaWood is spending $22.5 million to expand its Avoyelles Parish plant and add 58 jobs to its 75-person workforce. This plant should be completed toward the end of 2023. The **Weyerhaeuser** plant in Natchitoches Is investing $16.1 million over 2021-24 on major equipment upgrades. Already at 200 people, these upgrades will add another 20 jobs.

To the east in Bogalusa, **International Paper** is spending $52.2 million on projects that will increase efficiency at the plant and add 5 jobs to its large 492-person workforce. Finally, in Dequincy, **Interfor Corporation** purchased the old Georgia Pacific sawmill and reopened it with about 180 new jobs.

More in 2024 at Fort Polk

Louisiana's largest single employer is actually in a rural parish. **Fort Polk** in Vernon Parish now houses 8,166 permanent military personnel, 6,617 civilians and 5.091 rotating troops coming through over a 9-month period. Because of access to the PX at the base and other amenities, there are an estimated 59,623 retirees/vets within a 5-parish region around the base.

The number of military and civilian personnel is not expected to change much in 2023. However, in late 2024 the **Multi-Role Bridge Company** will be coming to the base, brining 183 new military personnel. Area contractors have benefitted from almost $600 million being spent at the base since 2020 on quality-of-life projects, such as swimming pools, bowling alleys, better housing, etc.

Bump from Road and Coastal Restoration

An extra charge to Louisiana's rural areas will come in the form of an 18% increase in **state road lettings** to a total of $606.8 million. The three largest projects are:

- $40 million to replace the Sabine River Bridge at Burr Ferry;
- $31.8 million to rehab the Berwick Bay Bridge, and;

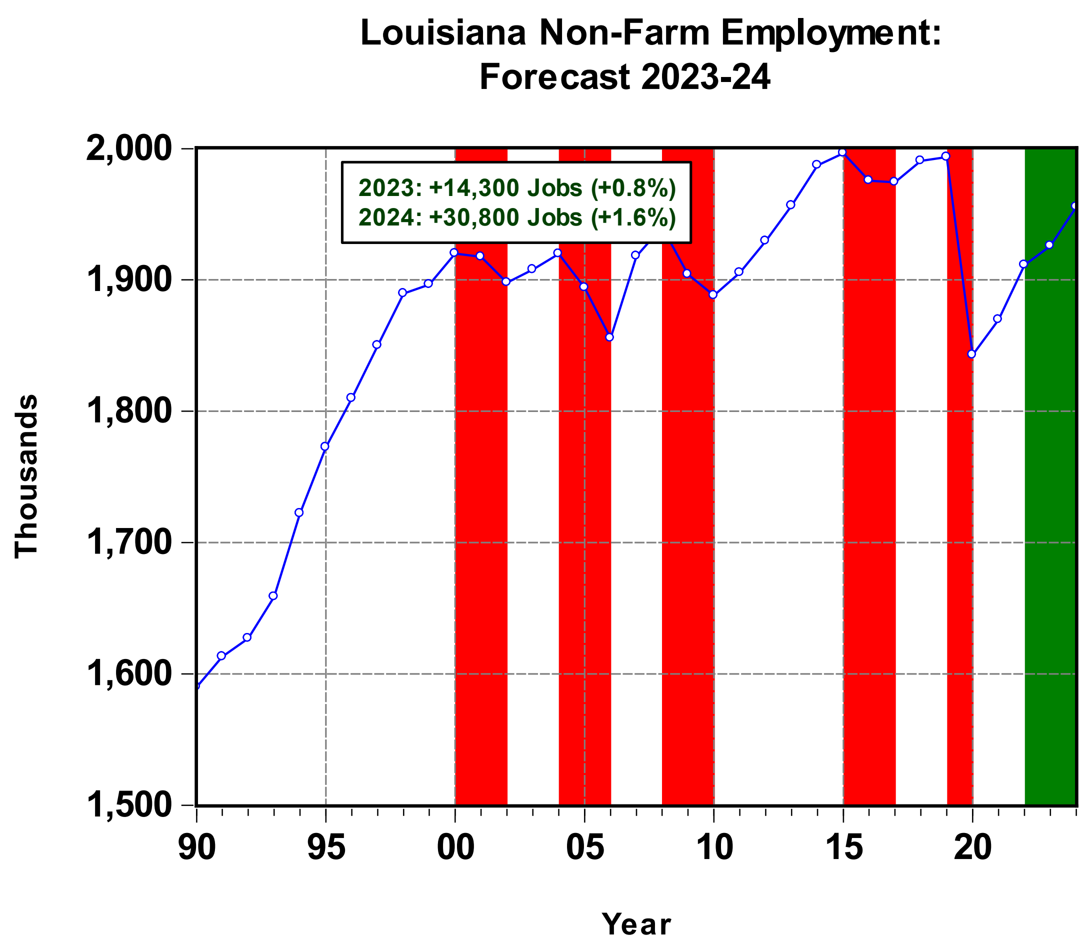
- $17.4 million to replace the overpass on I20 at LA544.

Two southern rural parishes---St. Mary and Assumption---will be recipients of monies for **coastal restoration**. St. Mary Parish will receive $14.4 million in 2023 and $8.7 million in 2024. Assumption Parish will receive $250,000 in 2023 and $250,000 in 2024. Each will also receive a stipend from the **GOMESA** pool of monies: (1) St. Mary Parish - $961,000 and (2) assumption Parish - $734,000.

In the sections above we described the forecast for the state's nine MSAs and its rural region. Figure 56 adds these forecasts together to get the state total. We are projecting that **restrained by a national recession, the state will add only 14,300 jobs in 2023 (+0.8%) and a more standard 30,800 jobs in 2024 (+1.6%)**. Stymied by three devastating hurricanes and still weak tourism industry, employment in 2024 will remain 38,000 jobs below the old 2019 record reached pre-COVID.

Readers are asked to look carefully at the employment data in Figure 56 from 2015 forward. Notice how close the state has come to that magical 2,000,000 mark before some untoward event pulled it up short. Hopefully such nemeses are in our rearview mirror and that ceiling will be broken through soon.

Figure 56



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

APPENDIX

Economic History of Louisiana MSAs

APPENDIX A: *History of the New Orleans MSA*

1980-2004: Lead Up to the Hurricanes

The non-farm employment history in the New Orleans MSA from 1980 through 2021 is shown in Figure A-1. Louisiana experienced its longest and deepest recessions over 1981-87 during which the New Orleans MSA lost a stunning 40,400 jobs. This recession was driven by a plummeting oil and gas extraction sector. This MSA's heavy reliance on this industry (20,600 jobs in 1981) led to the heavy direct job losses accompanied by the further multiplier effect of those losses. Newspapers headlined many oil companies and service firms moving operations to Houston. By 1987, New Orleans had only 14,600 people employed in this industry.

The "multiplier effect" was mentioned in that last paragraph. For example, shipbuilding in the region was very energy-focused, so as oil and gas plummeted, this sector took a beating. Many fabricators were also in the same predicament. The result is manufacturing employment dropped from 61,300 workers in 1981 to 41,700 by 1987. Similarly, the MSA's real estate, retail, services, and financial markets endured layoffs through 1987.

Once the dust had cleared from this recession, New Orleans began to grow again until a combination of unusual events sent the region into a short recession (-3,500 jobs) in 1990. First, a period of weak natural gas prices slowed the energy sector even more. Then, the Challenger spacecraft disaster led to fewer flights and fewer external fuel tanks to be built at Martin Marietta in New Orleans East. Then another round of layoffs at Avondale Shipyards initiated another significant reduction in force.

This MSA entered an envious growth period of 2.6% annually from 1994-97. A big driver was the introduction of the gaming industry to the economy. About 3,300 jobs were created at the four new riverboat casinos and the state's only land-based casino opened at a temporary site while construction began on a permanent location on Canal Street.

Growth tapered off over the next three years, before the region experienced the impact of the 2001 national recession (-10,100 jobs). Growth was lackluster over the next two years because high natural gas prices caused shuttering of some ammonia fertilizer plants in the area and led to serious cost issues in the

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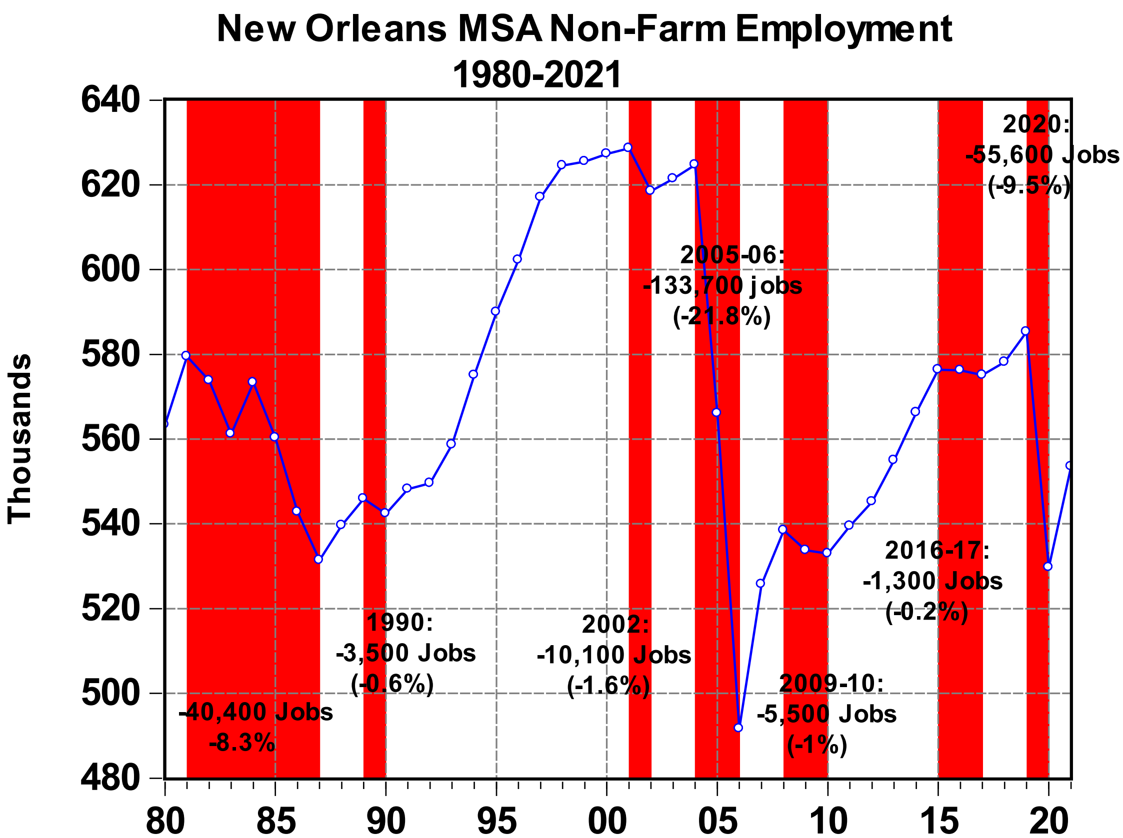
region's large chemical industry. Readers should note that in the six years preceding Hurricanes Katrina and Rita this MSA's economy was moribund.

Katrina & Rita: The Most Profound Events

There is a sense in which this MSA's modern economy can be divided into two distinct parts: pre-Katrina and post-Katrina. It is hard to overstate the magnitude of this calamity on the MSA. Over 2005-06, the effect of Hurricanes Katrina and Rita was to drive employment down by an almost unimaginable 133,700 jobs or 21.8%. As seen in Figure A-1, on an average annual basis these two storms removed three decades of economic growth, plunging the economy back to where it was in 1977.

Figure A-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Looking at the data on a monthly basis reveals a much uglier picture. The region had lost 177,900 jobs, an astounding 29.5 percent decline, after Rita had hit.

Often times when storms hit, the recovery is rather swift. The economy falls drastically at first, and then rebounds just as quickly as massive federal recovery

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and private insurance monies flow into the area for the re-build effort. Indeed, this is the pattern seen in Lake Charles and Pascagoula, Mississippi after the hurricanes.

Not so in New Orleans. As can be observed in Figure A-1, the picture is akin to a "kindergarten L." Housing issues prevented the V-shaped recovery. Partly this can be traced to the incredible magnitude of the destruction. By one estimate, there were seven times more homes destroyed than in any other natural disaster in our country's history. Almost 182,000 homes in the New Orleans MSA incurred either severe or major damage, i.e. damage bad enough to render the home uninhabitable.

A real key to the slow recovery was that the homes were rendered uninhabitable due to flood waters. Damage from flood waters is typically not covered unless the owner purchased national flood insurance. Unfortunately, only 26% of these homeowners had flood insurance. Even so, national flood insurance only covered 80 percent of the pre-flood value of the home up to a maximum of $250,000. Consequently, most homeowners in the area were staring at a major gap in their coverage.

Happily, U.S. taxpayers came to the rescue to cover this gap in coverage in the form of "Road Home" monies to rebuild their homes. Unfortunately, the financial barriers to rebuilding were so severe for some that there are large swaths of New Orleans to the East where people have simply chosen not to return.

Other serious issues prevented a full and fast recovery in the region. Readers were asked earlier to remember the weak economy in the six years preceding these storms. These displaced people had endured public schools in the New Orleans area that were among the worst in the state (if not the nation). Their new location has much better schools for their children. Prior to the storms the economy in New Orleans was stuck in the doldrums. Families transported out of New Orleans to Texas or even other parts of Louisiana, typically found themselves in much more vibrant economies. That meant more, and higher-paying, jobs---a serious deterrent to returning. Finally, the crime rate escalated in New Orleans after the storm, further impeding the desire of dispersed families to return.

Great Recession Precedes Remarkable Growth

Note back in Figure A-1 that the combination of massive amounts of construction spending to rebuild houses, levees, etc., and the Go Zone funding, spurred some growth in the region's economy in 2007-08. Then the Great Recession caused the national economy to plunge by 6.1%. This MSA lost 5,500 jobs---a 1.0% decline which was a much more favorable result for New Orleans. In fact, this MSA had the best performance among the state's nine MSA during this national downturn.

In the aftermath of the national recession, the New Orleans MSA rallied with five straight years of solid growth from 2011 to 2015, and by 2011 had recovered all the jobs lost during the recession. What makes this performance especially remarkable is that the growth occurred despite three significant blows to the economy. One was a marked reduction in the Army Corps spending to reinforce the levee system. The real stunner was the 4,500 layoffs at Huntington Avondale Shipyards. Equally bad, the Michoud Assembly Facility reduced its workforce by about 3,000.

Oil & Gas Problems Reappear

In our write up of key drivers in the body of this report readers were shown a picture of oil prices movements since 1980 (Figure 5). In late 2014, the Saudis decided to try to destroy the fracking business in the U.S. by driving oil prices down to under $30 a barrel at one point. The New Orleans MSA still had a substantial energy base that was harmed by Saudi Arabia's actions. Hornbeck stacked 45 of its 62 boats and terminated 1,000 mariners and 150 onshore workers due to a reduced demand for supply boat services in the Gulf of Mexico. Chevron initiated a temporary reduction in force at its Covington office. Layoffs reverberated across the region as Hexion closed a facility at Norco (-97 jobs), Shell moved 95 people to Houston, and Freeport McMoran dropped 32 jobs.

The Army Corps reduced even further its spending on the levee system (-$311 million). Adding to woes on the Northshore, Trinity Yachts shut down its site in Madisonville (-60 jobs). Further upriver, Louis Dreyfus shuttered its packaging facility in Gramercy (-49 jobs). Chiquita moved from the Port of New Orleans to Gulfport (-100 longshoremen), and Macy's closed its store in Esplanade Mall (-116 jobs).

There were more positive moves in the MSA to help offset the energy-related losses somewhat so that the MSA suffered a net loss of only 1,300 jobs over 2016-17. For example:

- Construction started on the huge $11 billion new University Medical Center Hospital to replace the Charity Hospital.
- The new VA Hospital was in final construction.
- Zen-Noh Grain finished its $150 million dock extension and continuous barge unloading system (+15 jobs).
- In St. John the Baptist Parish, work was completed on the $66 million Pin Oaks Terminal (+70 jobs).
- TCI Plastics completed its $36 million logistics facility at the Port of New Orleans (+160 jobs).
- Millennium Galvanizing (a Crest company) opened its new facility in Convent (+65 jobs).
- The A.B. Freeman School of Business at Tulane completed construction of its $35 million addition.

Back to Growth in 2018-19

Despite the drag from an oil and gas industry that was still in the doldrums, the region began to modestly expand again, adding 8,300 jobs (+1.4%) over 2018-19. The now much lower natural gas prices in the U.S. compared to those in Europe and Asia spurred a strong surge in investments in the petrochemical industry in the region, including:

- Yuhang Chemical started construction of its $1.9 billion chemical plant.
- Monsanto launched construction on a $975 million addition to its plant.
- Cornerstone Chemicals continued its $120 million expansion.
- W.R. Grace completed its $41 million capital expansion.
- **Noranda Bauxite** finished its $35 million expansion in 2020.

Major additions at area refineries provided another much-needed boost, such as:

- **Valero** began about $1.8 billion in construction, including its Diamond Green project.
- **PBF Refinery** in Chalmette began work on $600 million in enhancements.
- **Shell** refinery began about $360 million in expansions.
- **Ergon** completed a $200 million project to add 20 new tanks to its storage farm.
- **Fuji Oil** began construction of its new $77 million facility.

The region also got a huge new addition to its burgeoning tech sector. **DXC Technology** opened in downtown New Orleans with plans to grow to 2,000 workers.

Influence of COVID

The years 2020-21 are covered in the body of the report.

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APPENDIX B: History of the Baton Rouge MSA

Figure B-1 illustrates employment trends in the Baton Rouge MSA over 1980-21. The Department of Labor added 5 parishes to this MSA in 1990 resulting in a notable jump in the employment trend line in Figure B-1. Fortunately, the Baton Rouge MSA was barely touched by the 6-year statewide downturn in the early 80s. That recession was driven heavily by an oil and gas extraction industry being pummeled by a major price drop. This MSA was protected somewhat from these maladies because few extraction firms are located within its boundaries.

The MSA then entered a spectacular period of growth---averaging 7,700 jobs a year--- which lasted for 13 full years. It was primarily a burgeoning chemical industry that fed this fire of growth. In this MSA if the chemical industry expands, so does the industrial contraction side.

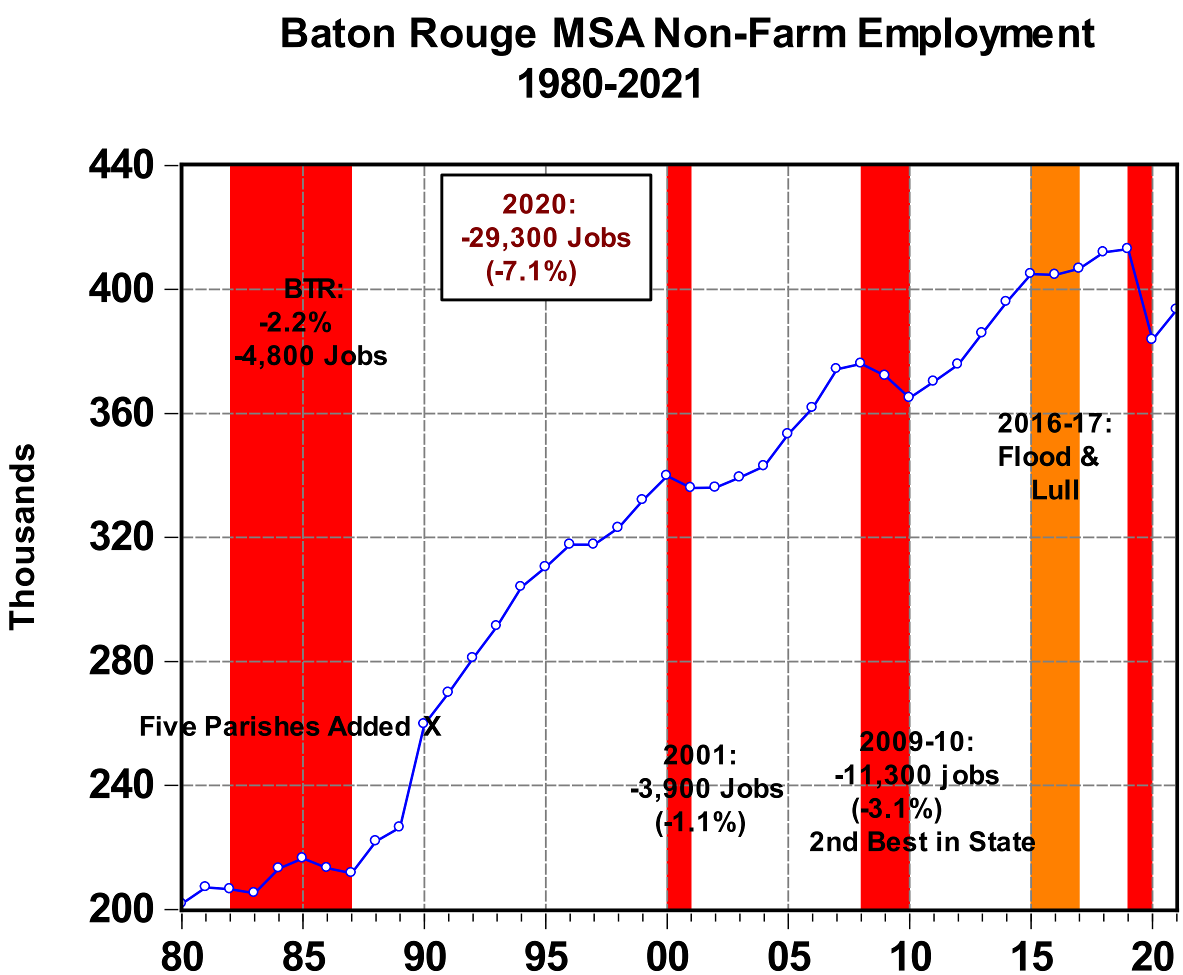
A short national recession tapped this region with a 1.1% job loss in 2001. Then the chemical industry---the source of the huge growth in the previous 13 years---ran into headwinds. An increase in the value of the dollar in international trade dinged the industry's foreign sales. Then its major input, natural gas, experienced a serious upward crawl that lasted through 2008. The industry had to respond by looking for ways to cut costs. That meant labor-saving technology, which meant fewer jobs

Hurricane Katrina's Impact

When Hurricane Katrina broke the levees and flooded New Orleans, its residents fled mainly to the largest place available that had potential housing. That turned out to be Baton Rouge and nearby parishes. FEMA estimated that 248,386 evacuees came to these communities in just a few hours. Every rental unit in the area was quickly occupied and the demand for housing pushed home prices up 27% overnight. Traffic came to a standstill, and store shelves and gasoline stations were depleted.

Of course, most evacuees eventually left, because it was impossible for the MSA to permanently absorb a quarter of a million people, particularly without enough available jobs. The U.S. Bureau of the Census estimated the area's population had grown by a remarkable 39,921 in one year. As seen in Table B-1, the bulk of that population increase occurred in East Baton Rouge (18,121), Ascension (10,000) and Livingston (9,100) Parishes. As impressive as that growth record was, it was much less than the number of evacuees that had initially come to the region. Communities all around New Orleans saw this same pattern, whether in Louisiana, Mississippi, or Arkansas. Buttressed by the influx of business associated with the new Katrina evacuees, employment in the MSA spiked upward in 2005 and 2006 (see Figure B-1).

Figure B-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Table B-1
Population Change by Parish
July 2005 – July 2007

Parish	Absolute Change	Percent Change
East Baton Rouge	18,121	**4.4%**
Ascension	10,000	**11.2%**
Livingston	9,100	**8.5%**
West Baton Rouge	1,091	**5.1%**
Pointe Coupee	564	**2.6%**
St. Helena	437	**4.3%**
East Feliciana	276	**1.3%**
Iberville	272	**0.8%**
West Feliciana	**60**	**0.4%**

Source: U.S. Census Bureau & Loren C. Scott & Associates, Inc.

2007-10: Go Zone Incentivizes, Construction and Strong Growth & Then Recession

Note in Figure B-1 that this economy was whipsawed over the next four years. One method the federal government used to help rebuild from the impacts of Katrina was the so-called Go Zone legislation. This immense injection of construction dollars continued this MSA's rapid growth post-Katrina. Go Zone monies were a primary reason the Baton Rouge MSA held up much better than the rest of the country during the Great Recession, when this MSA shed 3.1% of its jobs versus 6.1% at the national level. Among the more serious job losses in the area were:

- **Chase Bank** closed its operations center – terminated 247 people
- **Dow Chemical** closed a facility - terminated 160 people, plus 400 contract workers
- **Excide Batteries** temporarily closed - terminated 132 people
- **Trinity Marine** closed its barge manufacturing facility – terminated 190 people
- **Capital One Bank** closed its call center – terminated 180 people
- **Wells Fargo** closed a call center – terminated 70 people
- **IEM** relocated its headquarters – terminated locally 50 very high-paying jobs

Solid Recovery Restrained by State Government

Note in Figure B-1 that beginning in 2011 the Baton Rouge MSA entered another period of solid growth of about 2% per year. By late 2012 it had begun setting new employment records after the Great Recession impacts. Beginning in 2012 a series of events led to an industrial construction boom that is still impacting the region in the early 2020s. Two things happened simultaneously. First, the fracking revolution resulted in an abundance of natural gas in the U.S. driving this country's natural gas prices below $3 per MMBtu. Secondly, a dearth of natural gas in Europe and Asia caused their natural gas prices to rise substantially. This created a very wide competitive advantage for U.S. Chemical firms over their competitors in Europe and Asia. Because this price gap was not thought to be temporary, chemical firms began building new operations in the U.S. to take advantage of the lower price of their key input. Suddenly there was $11.5 billion in new industrial projects in the region, and industrial construction employment began a meteoric climb. So great was this boom that the region's employment grew strongly despite the following:

- Kellogg Distributors terminated 208 people.
- Trinity Marine closed it 288-person facility.
- Albermarle announced it was moving 200 jobs to Kings Mountain, NC.
- 925 call center and distribution center jobs were eliminated, including the Home Depot call center (-400 jobs).

The power of the industrial boom is also illustrated by its ability to overcome a drastic drop in state government as shown in Figure B-2. What caused this drop? State government faced some challenging financial issues during this period as a result of some cuts in the personal income tax rates. Then Governor Jindal chose to solve these deficits by cutting costs instead of raising tax rates. About the only way to cut costs in state government is by reducing the workforce.

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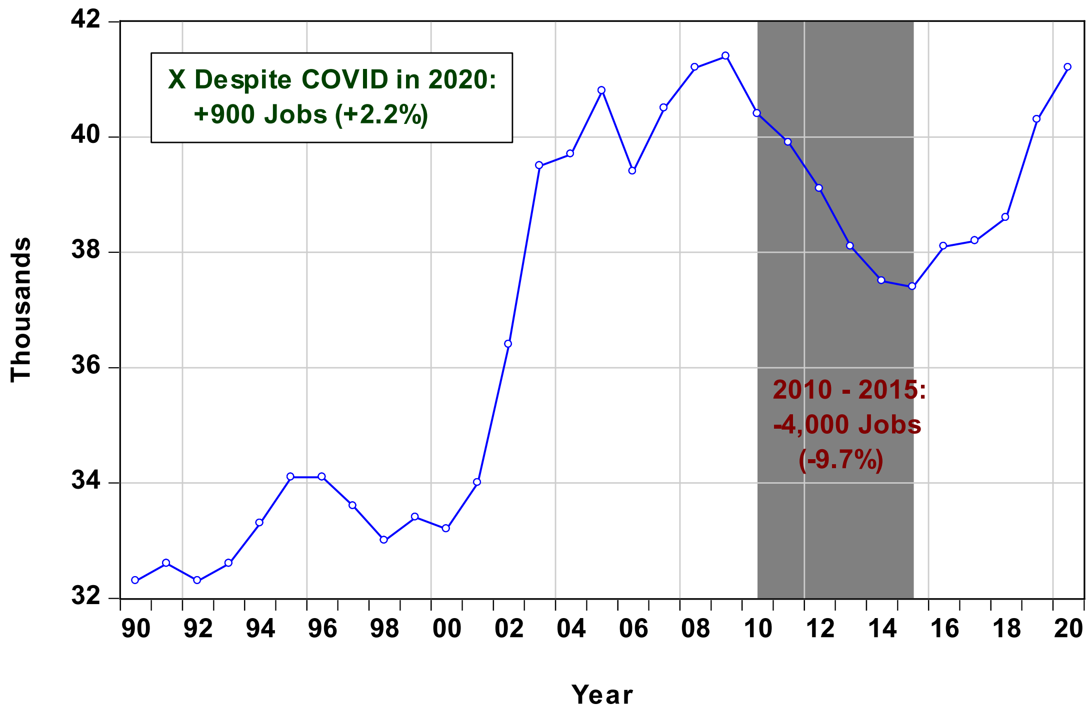
Figure B-2
Baton Rouge MSA State Government Employment



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Interestingly, state government employment has increased steadily under Governor John Bel Edwards and is now only 200 jobs below the previous peak in 2009 as shown in Figure B-2. It is also instructive to note that state government employment in the Baton Rouge MSA increased by 900 jobs during the 2020 COVID shutdown year, and state government workers got a raise.

The Big "Lull" of 2016-17

Over 2016-17, this MSA entered a 2-year "lull." Note the orange bar back in in Figure B-1. Baton Rouge was hit with a rainstorm that stalled over the area for two days. The resulting flooding left the MSA's employment flat for two straight years, even with its strong industrial construction base. To put this in perspective consider the data in Table B-2. The first two rows show the rainfall expectations for a 100-year event (14.2 inches) and for a 1,000-year event (21.3 inches) over two days. All four Baton Rouge area communities shown in the next four rows significantly exceeded the 1,000-year event. Even nearby Lafayette nearly matched the 1,000-year event.

Overall, the damaged home count was staggering. FEMA reported an alarming 65,829 homes in just three parishes that were damaged by flood waters. To add to the disaster, many workers were focused on repairing their homes and did not return to work right away. As a result, many businesses closed---both temporarily and permanently---due to flooding. Job losses were recorded in every month from August through December in 2017.

Table B-2

2-Day Rainfall Totals: August 2016

Area	2-Day Rainfall Inches
1,000 Year Event	**21.3**
100-Year Event	**14.2**
Watson	**31.4**
Brownfields	**26.8**
Denham Springs	**26.5**
Monticello	**24.0**
New Iberia	**21.5**
Lafayette	**20.8**

Source: Advocate Newspaper, August 6, 2017 p. 1

2018-19: Significant Closures & Disappearing Pickups

This MSA's rather anemic growth continued into 2018-19 as well. Two broad factors contributed to this weak employment trend. First, there were some significant closures in the area, including the following:

- Georgia Pacific closed its paper division (-700 jobs).
- Thompson Pipe Group in Zachary closed its facility and moved operations to Texas (-120 jobs).
- BASF shuttered a north Baton Rouge plant (-54 jobs).
- Direct Auto & Life closed its call center (-127 jobs).
- State Farm reduced employment at its operations center (-47 jobs).

Secondly, during this period construction of at least seven major industrial projects that were started earlier in the decade, were completed. On a positive note, each of these projects led to new high-paying, permanent jobs that the MSA did not have before. However, truckloads of construction workers left these construction sites for the last time. These factors are the primary reasons the MSA's employment continued in a lull mode through 2019.

2020-21: The COVID Impact & Recovery

This period is covered in the body of the report

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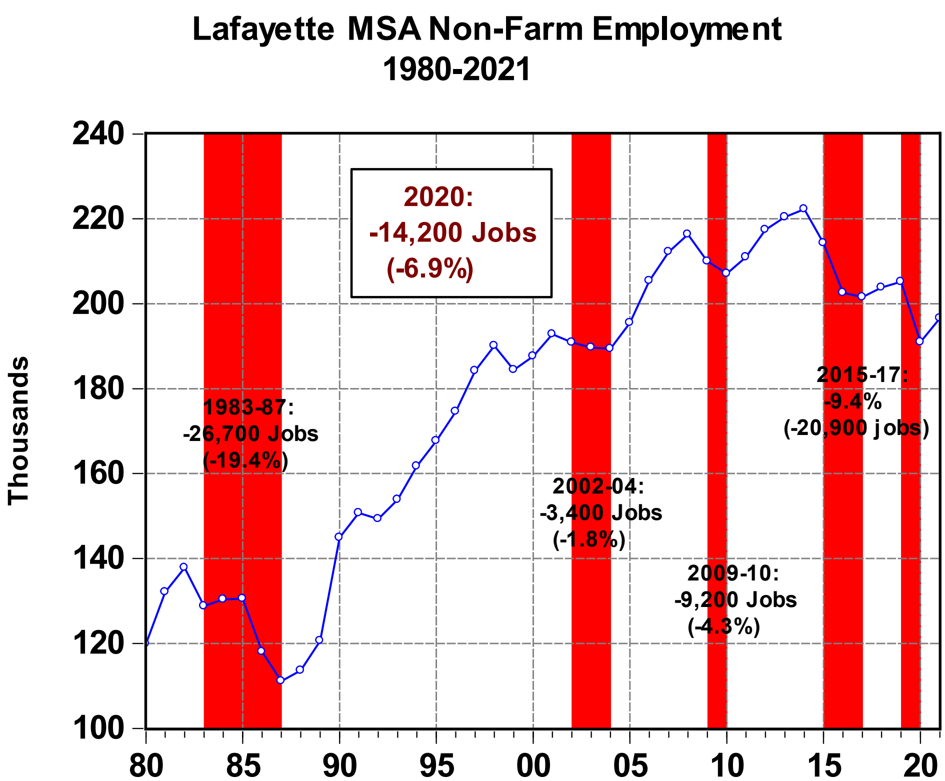
APPENDIX C: History of the Lafayette MSA

Figure C-1 displays the recent employment history in Lafayette. Readers can see immediately how this area's strong connection to the oil and gas industry has affected its employment. The big oil price decline in the early 80s absolutely creamed this MSA. An almost incomprehensible one fifth of the MSA's jobs vanished, a downturn that not even COVID could match.

Surprisingly, the MSA recovered those losses in only three years. It began with the MSA's first major venture into attracting non-energy related sectors. In the late 1980s, **Fruit-of-the-Loom** constructed very large facilities in the area and became the state's largest manufacturing employer. Fruit-of-the-Loom's impact was so large that by 1994, Lafayette had recovered all its jobs lost in the early 80s.

The energy sector began a series of blows starting with soft gas prices in 1992 that led to a minor employment drop. This blow to the energy sector was somewhat muted by surging employment at Fruit-of-the-Loom.

Figure C-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

However, the Fruit-of-the-Loom boom did not last. When the North American Free Trade Agreement passed, Fruit-of-the-Loom began a round of massive layoffs that ultimately led to full closure of the firm. Remarkably, Lafayette grew right through those layoffs. First, a nice rise in oil and gas prices sent the exploration industry on a hiring spree. Even more importantly in terms of growth and diversification, the MSA gained a new entrant---**Stuller Inc**. Stuller expanded so much that it became the largest jewelry settings manufacturer in the U.S.

The year 1999 was yet another poor energy year for Lafayette. When oil prices fell to under $10 a barrel, the extraction industry began its usual pattern of layoffs. As seen in Figure C-1, the region lost about 4,300 jobs. This downturn was followed by two pretty good growth years, which is unusual because the rest of the MSAs in the state were being influenced by the national recession. This growth spurt came from three sources:

- **Wal-Mart** opened a large distribution center near Opelousas.
- **Magnolia Distribution Center** opened in Lafayette,.
- **Cingular Wireless** call center was attracted to Lafayette, hiring 1,200 employees.

Fruit-of-the-Loom's Martin Mills plant was shuttered in November 2001 (-1,300 jobs), and the national recession was dealing Stuller, Inc. a lick, leading to a loss of 175 employees. In 2003, **Devon Energy** transferred 60 employees out of Lafayette, and **Fleming Company**---a wholesaler supplying the troubled K-Mart---closed its distribution center there as well. All of these factors sent Lafayette into a 3-year decline over 2002-04.

The Hurricane Effects

Those three funk years were followed by four very good years. Non-farm employment rose by an admirable 10,800 jobs or 8.2% in the first two of those years alone. The energy sector took off during this period, with the rig count rising from about 165 to over 201, which meant (1) new exploration jobs, (2) new exploration servicing jobs, and (3) new oilfield-fabrication-associated jobs for the Lafayette area.

However, the impacts of Hurricanes Katrina and Rita were the primary drivers behind this excellent job performance, creating jobs via two different vehicles.

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First, there was all the work required to repair damage to the **offshore energy infrastructure.** Both on-water and under-water assets were pummeled. On the surface, a total of 115 offshore platforms were destroyed and another 52 were seriously impaired. Down underwater, pipeline systems were strewn about and damaged. Repairing those damages is the bread and butter of the firms in this region. Fabricators and oilfield service firms salivated over all the repair work on these facilities.

The hurricanes had a second impact on the MSA---the attraction of evacuees---about 34,336 by one estimate. Between July 2005 and July 2007, the **Lafayette MSA population increased by 9,033**---a startling 3.7% increase in only two years.

2007 to 2010: A Roller Coaster Ride

Note in Figure C-1 that this MSA experienced a nice growth bump in the next two years. Lafayette's growth rate began to slow a bit in 2008 as the rebuild in the Gulf wound down, but a spike in oil prices re-energized the offshore exploration industry. A combination of a $15 million capital expansion that led to 300 more jobs at Acadian Ambulance and Nucomm opened a 500-person call center which helped offset the Gulf repair slowdown.

It seems there is always a downside of the roller coaster hill when it comes to this economy, and the years 2009-10 proved that to be the case. Really high oil prices, like the $132.61 a barrel in late 2008 rarely last and this time was no exception. In just six months oil prices fell by $94 a barrel. The statewide rig count fell by 20 rigs and the Lafayette region headed into a 2-year recession that resulted in 9,200 jobs vanishing.

In the middle of this downturn something very odd occurred. In early 2009 oil prices began to rise again and hit a very profitable $70+ by August 2009. Typically, prices at that level would send the Lafayette roller coaster heading back up the hill, but not this time. The rig count in south Louisiana actually fell even more, and Lafayette continued to go downhill. Certainly, the BP oil spill figured into this peculiar behavior, but so did the attack on the industry by the Obama Administration. While it never came to fruition, the President was constantly pushing for a $36 billion tax on the oil sector, sending a chill through the industry.

2011-17: Up One Hill, Then Down Again

The roller coaster ride for this MSA continued over 2011-17 with the up again, down again fluctuations in employment. The nice upside occurred in the first four years, as high oil prices did their usual work of sparking this region's employment. The MSA added almost 3,600 jobs a year over 2011-14, which in percentage terms was one of the best performances in Louisiana.

At the risk of being repetitious, oil prices in excess of $100 a barrel seem not destined to last. This time the Saudis brought these unusually high prices to an end. The country had been losing worldwide market share to the booming U.S. shale industry, so the country decided to try to drive that industry out of business by pumping large amounts of oil into the market. Oil prices quickly dropped to just under $28 a barrel, and Lafayette started down the hill again into a 3-year recession that would cost it 20,900 jobs. Among the key losses were:

- **Dynamic Industries** reduced its workforce from 500 to 350.
- **Baker Hughes** closed a division that employed 200 people.
- **Chevron's Shelf Office** was shuttered.
- **Blue Sky Innovations**---a firm providing support to helicopters servicing offshore work shed 58 jobs.
- **Stone Energy** was acquired by Talos Energy (a private equity firm) and the firm was moved to Houston.

2018-19: A Recovery at Last

While growth returned to Lafayette over 2018-19 it could best be described as modest (see Figure C-1). The diversification efforts in the region were paying off as LHC, Waitr and CGI went on hiring binges. However, despite the fact that oil prices had returned to the $60s lease sales in the Gulf barely moved and the rig count barely nudged upward. The region expanded but at a rather slow pace.

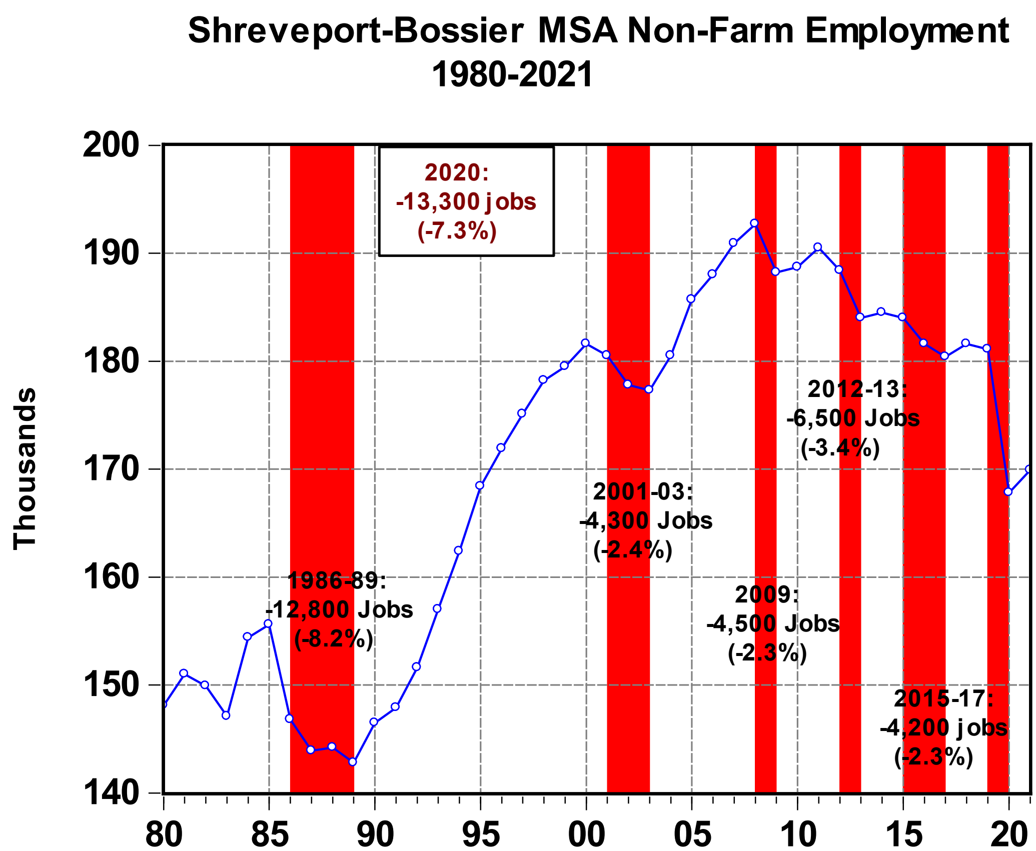
2020-21: COVID Impact & Recovery

These two years are discussed in the body of the report.

APPENDIX D: History of the Shreveport-Bossier MSA

The employment history of this the Shreveport-Bossier MSA over 1980-2021 is shown in Figure D-1. Like most of its sister MSAs, the Shreveport-Bossier region experienced a rather unhappy 1980s. A long and deep recession was laid on the MSA from 1985-89. Some of this decline can be traced to the battered energy sector, but there was a far larger factor involved. The depth and length (this MSA was the last in the state to begin the recovery process) of the recession can be laid in the lap of **AT&T**. The company had a large 7,450-person phone equipment manufacturing facility in Shreveport in 1984. By 1989 that employee count was down to only 1,100, which adding in the negative multiplier effect, delivered a monstrous blow to this region.

Figure D-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Rebound: Casinos Starting 1994

As seen in Figure D-1, that awful period was followed by a prolonged, healthy decade of recovery. Between 1988 and 2000, the MSA added 38,800 jobs (+27%). In 1994, its employment began to rise especially rapidly---by an average of 4,600 jobs a year---fueled by the introduction of **riverboat casinos**. This MSA remains the second most successful casino market in the state, because the casinos draw a huge clientele from the Dallas-Ft. Worth metroplex.

Casinos also came with large **hotels**. Hotels are very labor-intensive operations, so the MSA picked up a significant employment boost here as well. For example:

- Horseshoe Casino built a 25-story, 606-suite hotel.
- Casino Magic operated a 94-room, 94-suite hotel.
- Isle of Capri constructed a 300-suite hotel.

Recession #2: 2002-03

Recessionary pressures fell on this region, causing its second recession over 2001-03. About 3,900 jobs were lost over this three-year period---a non-trivial decline of 2.3%. Given the regions' heavy dependency on durable goods manufacturing, it was no surprise that it had the worst performance in the state. Consider these hits to the region:

- **Avaya Communications** (formerly, Lucent Technologies) closed its Shreveport plant, (-900 jobs).
- **Boeing** closed its facility at the airport (-162).
- **Pennzoil Refinery** cut back from 230 workers to only 85 when it was sold.
- **Precision Response** closed its call center (-250 jobs).
- **General Electric** began transferring 400 positions from its industrial systems plant to Monterrey.
- **Hollywood Casino** reduced its workforce from 2,200 to 1,800.
- **Beaird** went from a 700-employee to a 30-person workforce.

Finally, a mixture of other firms, including **Frymasters**, **Beaird**, and **Exide Technologies** imposed significant layoffs in 2002. That is an imposing list for an MSA of this size. Note that this list shows only the direct job losses, not those of the multiplier effect.

2004-2008: Breaking New Records

Once past that recession, the MSA entered a new period of recording breaking employment years. Over 2004-09, the MSA added an impressive 3,200 jobs a year. At the outset, it was the durable goods sector that led the charge back. Note the following:

- **General Motors** was a key company in this recovery. GM opened its new facility, adding 600 workers (total of 3,600). In 2007, employee retirement buyouts lowered employment back down to 2,153.
- **Eakin Company** acquired Beaird and bumped employment from 30 to about 570.
- **Frymaster** roared back at an all-time high employment level of 600+ employees.
- **Steelscape** (now **Ternium**) opened at the Port of Caddo-Bossier,with 240 new jobs.

The Haynesville Rush

Note in Figure D-1 that this MSA---this durable goods dependent MSA---grew right through the first year of the Great Recession (2008). The U.S. economy lost 6.1 % of its jobs over 2008-09. The Shreveport-Bossier MSA lost only 2.3 % and it only lost jobs in one year---the only MSA in Louisiana to pull that off. How was this possible?

The most important recession-offsetting factor during 2008-09 was the massive amount of money from the **Haynesville Shale** exploration over 2008-09. There was an enormous injection of $3.5 billion in 2008 and $7 billion in 2009 into this economy.

A nice reference point as to the importance of this monetary injection is shown in local government sales tax collections, which are illustrated for four northwest Haynesville parishes in Table D-1. To put these numbers in perspective data are provided on the rate of sales tax collections during the previous short recession in 2001. All of these parishes experienced an expected decline in collections (we were unable to get the earlier data for Bossier Parish) as in any recessionary environment. Even in the face of a much longer, and much deeper Great

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Recession over 2008-09 (it was called the Great Recession for a reason), sales tax collection in these parishes note only rose, but they rose spectacularly. For example:

- Red River Parish: +205.1%
- DeSoto Parish + 82.2%

Table D-1
Sales Tax Collections in Selected North Louisiana Parishes

Parish	Percent Change In Sales Taxes
Red River	
2001	**-3.1%**
2008	**71.1%**
2009	**205.1%**
DeSoto	
2001	**-0.8%**
2008	**3.6%**
2009	**82.2%**
Caddo	
2001	**-0.8%**
2008	**7.0%**
2009	**1.4%**
Bossier	
2002	**NA**
2008	**4.1%**
2009	**5.5%**

Source: Loren C. Scott & Associates, Inc. survey of Parish Finance Offices

Property taxes reflected the same pattern as seen in Table D-2. Property taxes increased at historically high rates in all five parishes despite the intensity of the Great Depression. Further, the data in the last two columns confirms that almost all of that growth was energy related. Note especially the huge increase in Desoto and Red River Parishes.

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Table D-2
Property Tax Collections in 5 Haynesville Shale-Impacted Parishes:
2005 Versus 2013

Parish	Property Taxes 2005	Property Taxes 2013	% Energy-Related 2005	% Energy-Related 2013
Desoto	$22,395,351	$78,432,531	**18.9%**	**62.4%**
Red River	$3,549,617	$21,927,425	**3.6%**	**47.8%**
Webster	$15,728,690	$25,342,948	**17.1%**	**26.0%**
Bossier	$52,449,881	$97,054,727	**8.5%**	**16.1%**
Caddo	**$158,347,601**	**$230,350,740**	**2.8%**	**10.5%**

Source: Louisiana Tax Commission & Loren C. Scott & Associates, Inc.

While the Haynesville Play development was an overwhelming factor in this MSA's 2008 performance, it would be a gross error to omit the influence of the awarding of the **Global Strike Command** to Barksdale Air Force Base. The GSF brought 900 new jobs to Barksdale. Barksdale gained another 700 positions for flight training and the reopening of a weapons storage area. Barksdale was an important factor in the unexpected 2008-09 performance of this MSA.

The large gains from the Haynesville Shale activity and the additions at Barksdale were especially important given the recession-related hits the rest of the MSA's economy was taking. Five firms--- **General Motors, Capital One Bank, Verizon, Beaird Industries, and Georgia Pacific**---combined together to terminate 2,730 people from their facilities. That is quite a blow for the Haynesville and Barksdale to overcome.

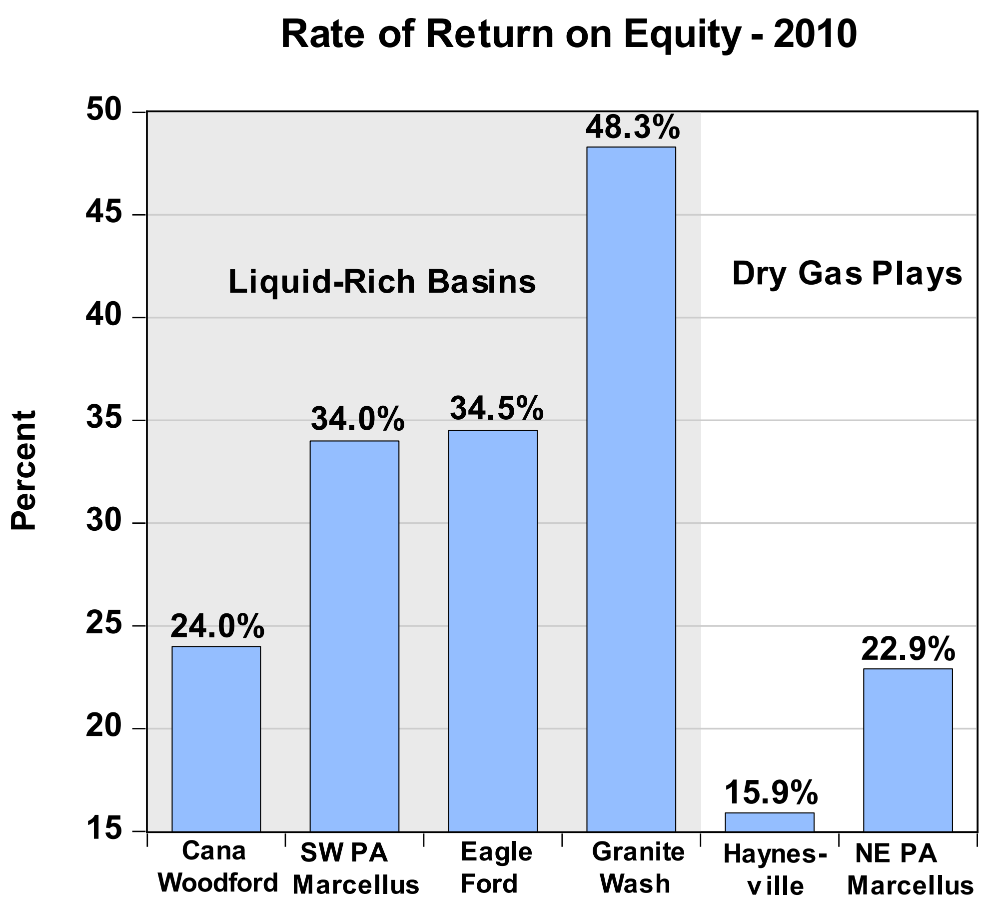
2009-Present: Not the Picture You Want

Basically, since 2008, the good news has stopped for this region of the state. As seen in Figure D-1, this region has been in a downward slide that began in 2009. There have been one or two years of growth since 2009, but by 2019---11 years later---the MSA was 11,600 jobs below its 2008 peak, a decline of 6%.

The slide can be traced to several factors. First, the **GM plant** closed in August 2012, costing the region 800 high-paying jobs. This is a great site to offer a potential new entrant to the area, but only one rather small player has been found for the site to date.

A much bigger factor in the slide was the radical reduction in activity in the **Haynesville Shale.** The rig count in the Play tells the story, going from a peak of 142 rigs in April 2010, to only 23 in July 2013, a striking 84% decline. Rig activity continued to fall into the high teens until about 2020.

Figure D-2



Data Source: Credit Suisse

What caused the Haynesville to fall from grace? Basically, the answer is it could not compete with the "wetter," cheaper plays in the U.S. This is vividly shown in Figure D-2 which shows the rate of return on equity (ROE) on the various plays in the country. The ROE in the Haynesville is far lower than in the other plays.

There are two reasons for this poor competitive position. First, the wells in the Haynesville Play are very deep, so it costs more to drill a typical well ($9.5 million per well) versus in the Eagle Ford or Marcellus Plays ($6 million). Even more importantly, the Haynesville Shale is a "dry" play, meaning drillers only harvest natural gas from the well. The Eagle Ford, Marcellus, Bakken, and Permian are "wet." Exploration companies hit both natural gas and the more favorably priced oil. Those are competitive disadvantages the Haynesville could simply not overcome.

A significant reduction in forces at **Barksdale AFB** also contributed to the negative employment trend in the MSA. The troop count at the base declined from 8,655 in 2012 to 6,609, driven by the loss of 24-plane A-10C Wing in 2013.

Associated with all these reductions was obviously a reduction in spending in the MSA that contributed to the region's poor job performance over 2012-17.

Two other important closures added to the problem:

- **Libbey Glass** reduced its workforce by 200 in early 2013.
- **Express Jet** closed its 250-person maintenance facility at the Shreveport Airport.

Finally, it was during this period that Native American-run casinos began to open in Oklahoma near the Dallas-Ft. Worth metroplex. That bled off a goodly number of clients from the casinos in Shreveport and Bossier City. Note in Table D-3 that this competition reduced employment at MSA casinos by **1,468 jobs** between 2014-I and 2019-IV. The trends in Table D-3 leave little reason for hope that this situation might improve.

Table D-3
Shreveport-Bossier Gaming Employment: 2014-I to 2019-4

	14QI	19Q4	Change: 14Q1 to 19Q4
DiamondJack	653	396	(257)
Sam's	1,086	702	(384)
Horseshoe	1,212	1,052	(160)
Margaritaville	1,070	1,051	(19)
Boomtown	626	453	(173)
El Dorado	1,187	888	(299)
TOTAL CASINO	**5,834**	**4,542**	**(1,292)**
Harrah's	**364**	**188**	**(176)**

Source: Louisiana Gaming Control Board & Loren C. Scott & Associates, Inc.

2018-19: The Slide Stops

Fortunately, this MSA's employment slide halted in 2018-19, as seen back in Figure D-1. The MSA picked up only 700 jobs over those two years, but at least the bloodletting had stopped. A loss of 245 jobs in the MSA's gaming sector and a drop of 263 military/civilian slots at Barksdale somewhat stymied growth.

Three key factors helped mitigate the decline. **Ochsner Healthcare** formed a partnership with the **LSU Health Sciences Center** in 2019 that almost immediately created 1,000 new jobs in Caddo Parish alone. The **Cyber Research Center** is a new, exciting, growing component of this region's economy, with 1,400 people employed at its three centers. At last, at least one new tenant was found for the old GM site. **Glovis America** is a subsidiary of Hyundai and brought 156 jobs to the community.

2020-21: The COVID Impact & Recovery

This period is covered in the body of the report

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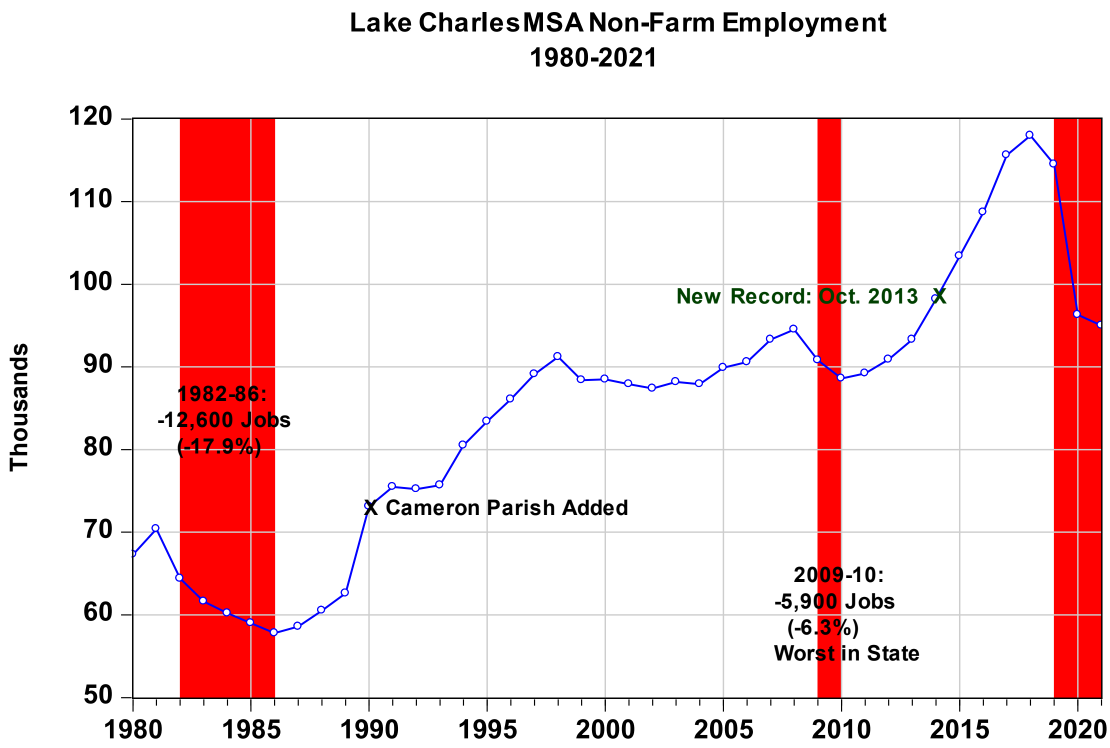
APPENDIX E: History of the Lake Charles MSA

Figure E-1 depicts the employment history in this MSA over 1980-21. Like the rest of the state, Lake Charles was hammered by the recession of the early 80s. An unfortunate swing in the value of the dollar cost this region's chemical industry dearly in sales. The loss of 12,600 jobs (-17.9%) over 1982-86 was actually worse in percentage terms than the hit the region took from the COVID shutdown. As always happens, when the chemical industry suffers, it takes the industrial construction sector down with it.

At the same time, the Reagan administration fully deregulated the price of crude oil in the early 1980s. The practical effect of this move was that several marginal refineries found it impossible to remain competitive and shut down. Plummeting two of the largest, highest-wage industries in the region sent the area into a deep and prolonged recession.

Figure E-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Fortunately, in 1987, Lake Charles landed a huge new player at Chennault Airpark--- **Boeing Aircraft**. Boeing's 2,000 new jobs enabled this MSA to be the first in the state to start to recover from the early 80s recession. Boeing refurbished K-135 transport airplanes for the Air Force. Further help came from a sudden drop in the exchange value of the dollar. This made U.S. chemicals more competitive in foreign markets and revived the local chemical industry

Note in Figure E-1 that this economy's employment went sideways over 1991-93. This weak performance was due primarily to the closure of Boeings facility at Chennault in 1992. Those three poor years were followed by five excellent ones, fueled by the following:

- Major new capital projects were initiated in the area, especially combined expansions by Citgo and Conoco/Pennzoil that totaled $1.6 billion.
- Boeing was replaced at Chennault Airpark by Northrop Grumman--- a 1,900-job facility that took 707s, stripped them down, and installed the Joint System Target Attack Radar System (JSTARS) in them.
- Starting in 1994 riverboat casinos came to Lake Charles with their very labor-intensive operations.

A Decade of Stagnation

From 1999-2009 this MSA essentially entered a decade of stagnation (see Figure E-1). A number of important events led to this stagnation. By far the most important contributor to the downturn was, once again, deterioration in the chemical industry market. This time the culprit was unusually high natural gas prices (see Figure 7 in the main text). Faced with a huge jump in the price of its major input, the industry entered a serious cost-cutting mode. Capital expansion projects were put on hold and maintenance/repair work was delayed as much as was safely feasible. This meant fewer industrial construction jobs as well.

At Chennault Airpark, Northrop Grumman was finishing its JSTARS contract. The firm began handling fewer aircraft and consequently began terminating workers. NG changed to doing maintenance, repair, and overhaul (MRO) work on the JSTARS aircraft, and its workforce plummeted to 350. NG's losses were partially offset by the attraction of EADS, but EADS ultimately sold to Aeroframe Services reducing that workforce to only 160.

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A combination of 9/11 and the national recession hammered the tourism industry and led to significant layoffs at area casinos. Xspedius moved its headquarters office in Lake Charles to St. Louis.

Hurricane Rita Effect

In 2005, the Lake Charles area was hit by a monstrous hurricane named Rita. Despite projections (including ours) that the damage inflicted would lead to serious job losses, employment in this MSA actually rose slightly over 2005-06 (+2,700 jobs) with the larger growth in the year of the hurricane---2005.

An estimated 47,384 homes were damaged by the hurricane, but, unlike when Katrina hit New Orleans, of this total only 2,284 incurred severe damage and another 6,673 incurred major damage. This was good news because residents could return to the Lake Charles area fairly quickly. Luckily, there was virtually no flood water damage in Lake Charles proper, though there was in Cameron Parish. Regular homeowner's insurance was available to repair the damage, which tremendously aided in the recovery speed. Importantly, most housing remained intact in Lake Charles so staffing was not as difficult a problem as in New Orleans.

The large and very exposed hangars at Chennault Airpark had about $40 million in damages but survived the storm. Both firms continued operations. The Port of Lake Charles experience about $40 million in wind damage and initially had no power but there was no flooding at the Port. In short order shallow water vessels were able to access the port.

Of course, most of the petrochemical industry is outside and exposed to the weather. Three refineries in the area were damaged and shut down temporarily: (1) Citgo (324,000 b/d); (2) ConocoPhillips (239,400 b/d), and (3) Calcasieu (30,000 b/d). To the surprise of some---given the intensity of the storm---all three were up and operational within three months.

The two Harrah's riverboat casinos were badly damaged by the hurricane. The owner of L'Auberge du Lac---Pinnacle Entertainment---purchased the licenses of both of the badly damaged Harrah's riverboat casinos and returned one license to the Gaming Control Commission and moved the other license to Baton Rouge. Rita laid only minor damage on the two Isle of Capri-owned casinos and the L'Auberge du Lac, so by November 2005, they were reopened.

Generally speaking, the other sectors of the Lake Charles economy recovered fairly quickly from the storm. Within just one month, all of the **public schools** in the MSA had reopened, and virtually all hotel room space was back to normal by the end of 2006. Within four months, all hospitals in the MSA except one in Cameron Parish were fully operational, and the Lake Charles Regional Airport began operating at an even higher level than pre-Rita.

Construction associated with the storm recovery continued well into 2007, lifting this MSA to a new employment record (see Figure E-1). That storm-related construction boost eventually came to an end, putting a bit of a damper on 2008 employment growth.

Hammered by the Great Recession

Lake Charles was the hardest hit by the Great Recession among the nine MSAs in the state. Employment did not begin to decline until February 2009, but when it started down it did so with a vengeance. Lake Charles lost 6,100 jobs (-6.5%) over 2009-10, a worse performance than the national economy.

Several events ushered in this decline, including:

- Pinnacle announced that it was stopping construction on the Sugarcane Bay Casino and was turning in that license to the Gaming Control Board.
- Petrochemical firms in the area seriously cut back on capital projects. There was an almost 3,000-job decline in contractor jobs at area plants over 2007-10.
- FedEx and US Airways idled many of their jets due to the poor global economy, so Aeroframe, which maintained those aircraft, had to reduce its workforce from 475 to 250.
- **Citgo** closed its 192-person lube plant.

2012: The Beginning of the Industrial Boom

A quick look back at Figure E-1 will reveal why the Lake Charles MSA was labeled one of the fastest growing MSAs in the nation. Starting with mild growth in 2011, the region entered an almost decade long boom of outstanding growth. The MSA even grew in 2013, despite the fact that a major employer---Dynamic Industries---effectively shut down its 500-person operation.

In these initial years of the boom, several pieces of good news were at work:

- A whopping $5.6 billion worth of work began on the first two "trains" at Cheniere's new LNG export terminal.
- Turnover work at petrochemical firms rose from $350 million in 2010 to over $800 million in 2012.
- Lake Area Industrial Alliance (LAIA) surveys indicated direct (non-contract) employment in petrochemical firms jumped by 793 employees over 2010-12 and contract employment rose a whopping 1,817 jobs over that same time period.
- Work began on a $176 million expansion at Sasol.
- Ground-breaking took place on the $500 million Golden Nugget Casino.
- Shaw Modular Solutions opened its new 300-worker facility.
- IFG started construction on phase I of a new $59.5 million grain elevator.
- Aeroframe added employees as one of its key customers---FedEx---began to fly more planes.

2014-18: The Real Boom Begins

In 2014, evidence began to show a massive employment boom in this MSA. Employment in Figure E-1 really spiked over the next five years. In 2014, employment in the Lake Charles MSA set a record for the first time since 2008, and in 2015 the MSA's employment passed the magical 100,000 mark for the first time. The MSA moved past Houma to fourth place among the largest MSAs in the state. For five straight years, Lake Charles was the fastest growing (in percentage terms) MSA in the state, adding 26,800 jobs and expanding by a stunning 5.4% a year. It was a record unmatched by any we have seen in four decades of watching the Louisiana economy.

This growth spike was spurred by a phenomenal increase in capital spending in the petrochemical sector of the Lake Charles MSA economy. The overall story is detailed in Table E-1. An unprecedented $109.9 billion in industrial announcements occurred between 2012 and 2019, and $48.1 billion were already underway or completed.

Table E-1
Lake Charles MSA Industrial Announcements: 2012 – 2019
(Billions of Dollars)

Total Announcements:	**$109.9**
Completed or Underway:	$48.1
Potential:	$61.8

Source: GBRIA & Loren C. Scott & Associates, Inc.

By 2019, the project list was as follows:

- Cheniere Energy began construction on the largest single capital investment project in Louisiana's history---a $20 billion, 6-train LNG export plant called Sabine Pass LNG. Once complete, 431 people will be employed at this facility earning an average of $100,000 a year.
- Sasol began work on a $12.9 billion ethane cracker and derivatives complex. Sasol added 700 Sasol jobs (at $88,000 yearly) and 358 contractor jobs with this new complex, and its headquarters and R&D facilities are now in Lake Charles.
- Construction was started in August 2014 on **S**empra's $10 billion Cameron LNG project---a 3-train facility. Expected employment is 190 jobs at $80,000 a year.
- Axiall and Lotte Chemical began construction of a $3 billion suite of facilities that will be a world-scale ethane cracker and ethylene derivatives plant. The plant housed 215 permanent employees once completed in 2019.
- Lotte moved its headquarters to Lake Charles (+50 jobs).
- Entergy built two large electric power projects for this area---(1) a $187 million transmission project, and (2) a new $872 million power plant with transmission interconnections in Westlake.
- Westlake Chemicals built a $350 million ethylene expansion at its Petro 1 plant.
- Matheson Tri-Gas constructed a $130 million state-of-the-art air separation unit to supply gas to Sasol.
- Indorama Ventures finished a $175 million renovation of a dormant ethane cracker at the old OxyChem site.
- Advanced Refining Technologies---a joint venture between WR Grace and Chevron---built a $135 million residue hydro-processing catalyst production plant and additional aluminum capacity at the Grace plant.
- Dongsung Finetee spent $5 million on a new cryogenic insulation manufacturing plant.

From this impressive list, one can see why the employment line back in Figure E-1 shot straight up over 2013-18. In fact, a USA Today piece indicated that over 2013-18 Lake Charles was the fastest growing MSA in the nation.

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The 2019 Slowdown

The news did not continue in a real rosy fashion as the MSA entered 2019, as seen back in Figure E-1. In 2019, employment declined in this MSA by about 3% or 3,500 jobs. This reversal in fortunes was actually expected by the region. In the voluminous aforementioned list of projects, many were completed by 2018. That means thousands of pickups left the construction site, not to return the next day. Fortunately, the completed plants came with a large number of permanent new, high-wage employees. Thus, the MSA entered a construction lull, waiting for the "potential" projects in Table E-1 to trigger an FID and bring those pickups back.

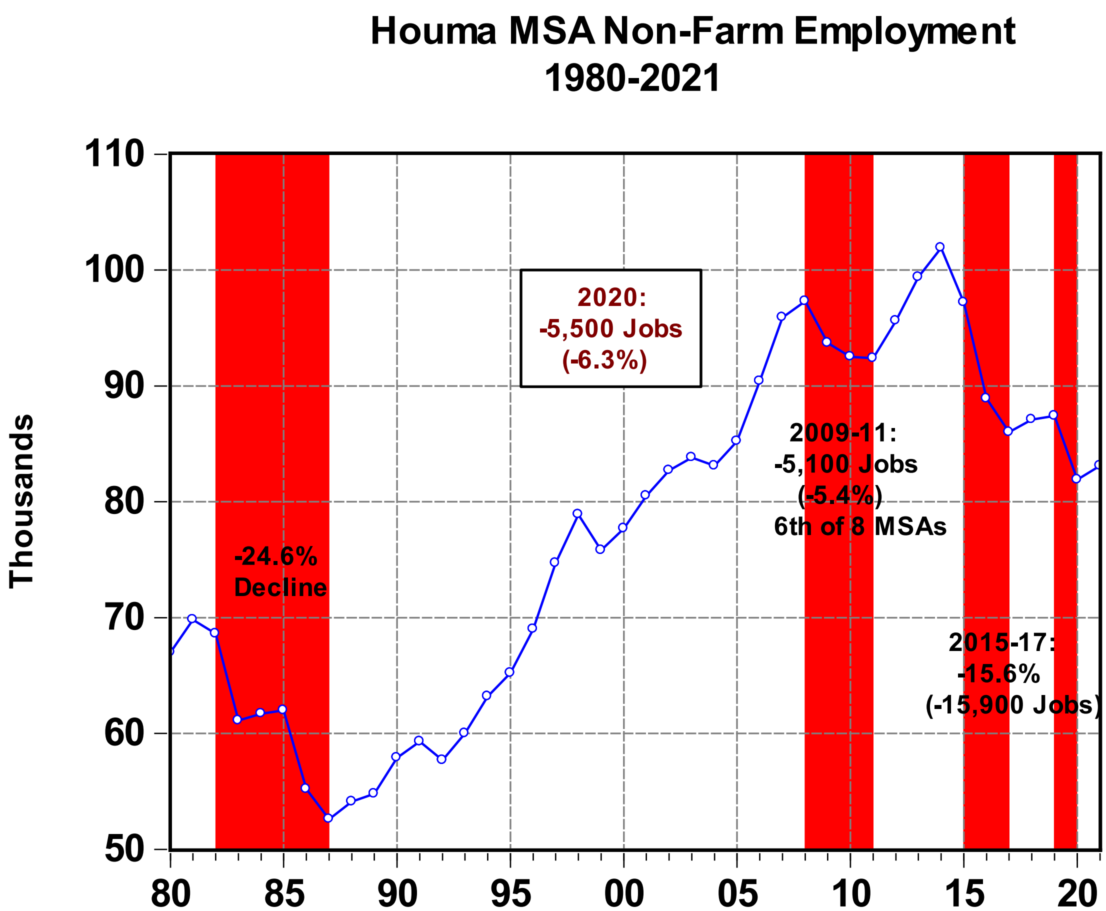
2020-21: Impacts of COVID & Recovery

These years are covered in the body of the report.

APPENDIX F: History of the Houma MSA Economy

In Figure F-1 we show the non-farm employment history of this MSA over 1980-2021. There is a lot of movement in this chart, some of it pretty extreme. Recall that this is the most energy dependent MSA in the state. That means when oil and/or natural gas prices change, this economy gets whipsawed. It only takes a glance at Figure F-1 to see this.

Figure F-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

The first huge red bar in Figure F-1 occurred after one of the greatest bull runs for any MSA in Louisiana history. While not shown in its entirety in the graph, from 1975-81, the Houma MSA enjoyed an envious period of rapid growth in response to oil prices that peaked at $37.50 a barrel for Louisiana crude in 1981 ($113.86 a barrel in today's prices). That ride to the top of the roller coaster led almost inevitably to a long and deep slide starting in 1982. By the time the MSA reached bottom in 1987, it had lost a stunning <u>24.6%</u> of its jobs. An estimated 17,200 jobs vanished over six years. Every business imaginable in the MSA suffered major losses. It would be 1997---- a full decade---before those jobs were recovered.

As happens when you get to the bottom of a roller coaster hill, there is another one to climb. Note in Figure F-1 that in 1988 employment in the Houma MSA began to rise again. A modest recovery in oil and natural gas prices (see Figures 5 and 7 in the body of the text) spurred the beginnings of the run up the next hill. Exploration activity in Louisiana had been moving southward across the state since the 1950s, indeed, heading further and further offshore in the Gulf. Houma's geographic location on the coast made it the perfect locale for servicing that offshore industry.

Unlike a typical roller coaster, the recovery did not occur in a straight line, however, because those energy price changes---however small, still delivered a blow to the region. Note in Figure F-1 that in 1992 the MSA lost 1,500 jobs when natural gas prices declined due to low demand in unusually warm winters. Also, in 1999 when oil prices fell, the MSA lost 3,100 jobs. Interestingly, Houma was untouched by the 9/11 U.S. recession, adding 5,000 new jobs while others were losing them.

Just as on a roller coaster, the drops in Figure F-1 have been getting smaller. That is because the energy companies began running much tighter financial ships than in the late 70s, a discipline that was strongly imposed on the industry by the financial markets. Historically, the extraction industry reenters the oil patch once energy prices reach sustained highs. That changed in 2004, when the oil patch did not respond to higher oil prices. Sadly, there was little change in the rig count, resulting in Houma being the worst performing MSA in the state in 2004.

We believe this poor response resulted from industry fears generated by "legacy" lawsuits, in this case the Corbello lawsuit. The Corbello case alleged that drilling impaired ground water supplies, but the case did not require the plaintiff to spend the award to repair any damages. After a successful lobbying campaign, Act 1166 corrected this problem and now requires these repairs to be made with monies awarded to the plaintiff. Since the monies awarded could no longer be "pocketed" by the plaintiff, the number of similar lawsuits against extraction companies significantly declined.

However, these legacy lawsuit fears continued with the Terrebonne Parish School Board v Castex case. Here, the School Board sued to require the oil company to backfill canals that were dredged years ago. This caused a panic given the thousands of miles of these Louisiana canals. Fortunately, the Louisiana Supreme Court over-ruled this judgment and said the firms cannot be required to backfill a canal unless it was specified in the original drilling contract. In addition, a designated "reasonable footprint" will be initially established and the landowner may sue only if it is excessive and not reasonable to the drilling activity. Despite the 2006 reforms several legacy lawsuits are still active and the rig count on land in south Louisiana is moribund.

2005-07: Hurricanes Generate Positive Effects

Hurricanes Katrina and Rita actually sparked the Houma MSA. Note the spike in the employment line in Figure F-1 over 2005-07. Houma picked up 12,400 jobs over these three years, an impressive 5% per year, making it by far the fastest growing area of the state. This injection of activity was so large that Houma moved past Lake Charles to become the fifth largest MSA in the state. Unfortunately, recent events have caused that ranking improvement to be reversed.

Three key factors drove this performance. First, Houma experienced a large influx of evacuees from hurricane-ravaged New Orleans. Houma, at 58 miles, is the closest MSA to New Orleans. As such, in the first two weeks after Katrina, this MSA's population exploded with an additional 62,810 people. Only the Baton Rouge MSA drew more. These gains of necessity were short-lived, because there were not enough jobs or living accommodations for the evacuees. As a result, the Houma MSA population increased by 3,449 people or about 1.7% between July 2005 and July 2007, which is about equal to its historical growth rate. Some evacuees did stay, benefitting local retailers, real estate firms, and service providers in the area.

Secondly, this MSA includes many fabricating and repair/maintenance firms that benefitted from the Katrina and Rita related storms by rebuilding the offshore energy infrastructure. Finally, as seen in Figures 5 and 7 in the main text, both oil and natural gas prices started to climb markedly over these three years. The oil patch entered a boom period and pulled this energy dependent MSA with it.

2008-09: Obama Energy Policies versus High Oil Prices

A review of Figures F-1 shows that 2008 started out well for Houma as oil prices climbed to a high of $132.61 a barrel in September 2008. Then the price of oil began a rapid decline, falling about $94 in the next six months. Beginning in April 2009, oil prices began to rise again and were at a very profitable $46.72 by May 2009. Throughout all of 2013 and the first half of 2014, oil prices continued to rise.

The response in the Houma MSA over these two years pretty much mimics that of the Lafayette MSA. Despite these very profitable energy prices, the Houma MSA was the first MSA in the state to begin losing jobs during the Great Recession, dropping 4,800 jobs (-4.9%). Like Lafayette, this MSA had never lost jobs during a period of relatively high energy prices. We believe the reason for this poor performance mirrors a similar weak performance in nearby Lafayette: the chilling effect of President Obama's proposed new taxes on the extraction industry. In addition to the extraction firms cutting back, fabricators were shedding workers as well because of their close ties to the exploration sector.

2011: Mistaken Expectations about BP Spill Effects

The performance of the Houma economy in 2011 was a huge surprise to those of us who watch this economy carefully. We were expecting major job losses for the area. And for good reason: the press reported that 11 deep-water drill ships left the Gulf, and activity at Port Fourchon dropped 35-40% below pre-spill levels. How could that not translate into a major decline in employment in the MSA?

What was not anticipated was the massive amount of money that BP spent for the cleanup effort and to pay out on claims for losses due to the spill. In short order, BP shelled out $132.1 million in claims in Terrebonne Parish (about 3.1% of Parish personal income) and $81 million in claims in Lafourche Parish (about 2.1% of Parish personal income)---a huge influx of money into the economy. All of BP's huge expenditures and its payouts were enough to overcome the exploration industry's slowdown and cause a modest 100-job loss in 2011 instead of the much bigger job loss expected.

2012-14: Return to Record-Setting Employment

The next three years were very good years for the Houma MSA with the addition of 8,700 jobs or an enviable growth rate of 3.1% a year---exceeded only by the booming Lake Charles and Baton Rouge MSAs. In 2013, the Houma MSA began to set new employment records, and crossed that magical 100,000 employment mark for the very first time. High oil prices were spurring a surge in activity in the Gulf, which meant Port Fourchon was flush with activity. Edison Chouest opened a huge new (LaShip) shipyard with 1,200 employees, and Gulf Island Fabricators added several hundred workers.

2015-17: Another Oil Price Bust

A scan of the oil price trends in Figure 5 in the main text will convince a reader that high oil prices never seem to stick around. At the end of 2014, the Saudis felt it was time to try to squash the shale industry in the U.S. That country pumped a large amount of oil into the market, driving the price to under $30 a barrel in one month. The impact on the Houma MSA was predictable. Over 2015-17, Houma lost 15,800 jobs, a staggering 16.1% decline.

The bloodbath was not confined solely to those directly involved in drilling and production. Several companies in the region felt that blow, including:

- Chett Morrison's employment dropped from 515 to 320.
- Edison Chouest's employment at LaShip declined from over 1,000 down to 500. One hundred of the company's 250 ships were stacked and its mariners were working about half the time as before the collapse.
- Offshore Specialty Fabricators had layoffs (-67 jobs).
- Baker Hughes closed its wireline facility (-50 jobs).
- Hercules Offshore shed 50 workers.
- National Oilwell Varco closed its facility in Houma (- 80 jobs).
- CCHI Aviation in Galliano closed its facility shedding 74 pilots, mechanics, and support staff.

2018-19: A Few Baby Steps Forward

For the next two years, the Houma MSA began to take baby steps towards recovery. Oil prices crept up into the $60 range---plenty high for profitable drilling in the Gulf. The MSA added 700 jobs a year over 2018-19, which is not great, but at least the bloodbath seemed to be over.

It was not.

2020-21: COVID Effects & Recovery

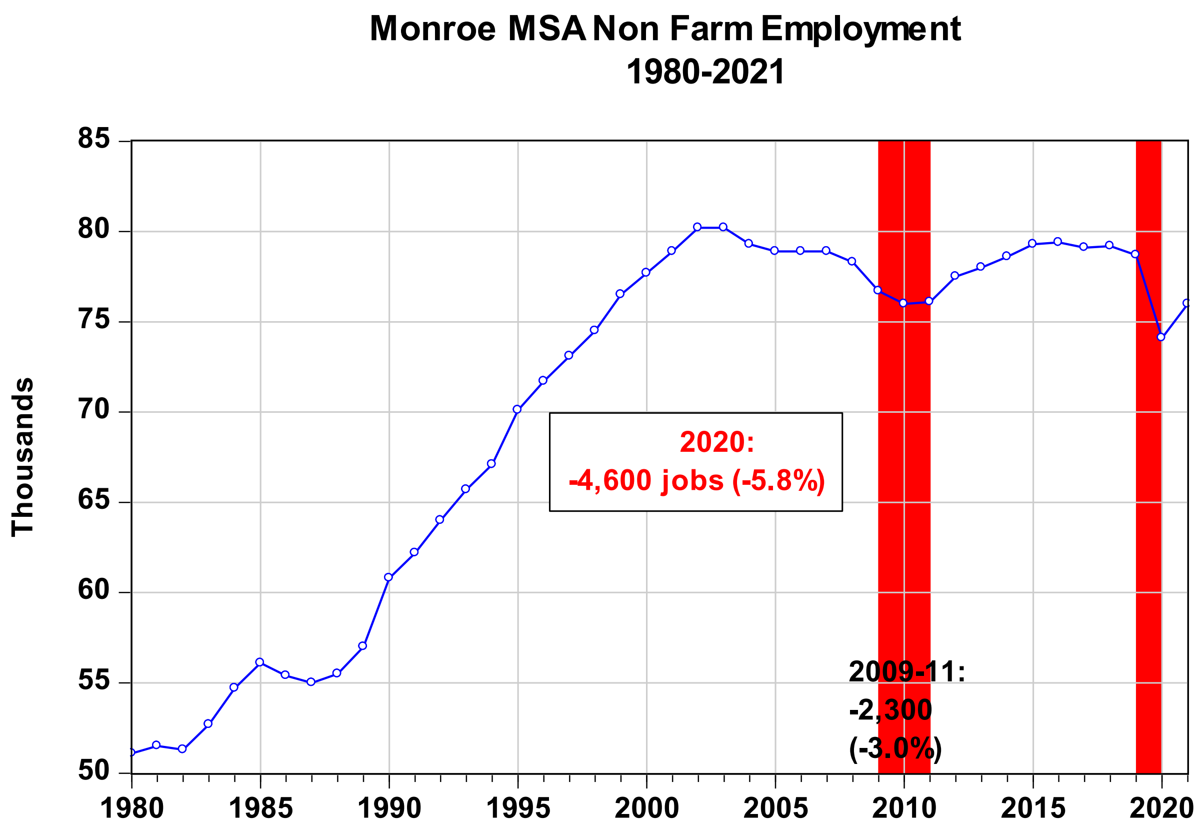
These two years are covered in the main body of the text.

APPENDIX G: History of the Monroe MSA

A history of the Monroe MSA economy is depicted in Figure G-1 for the period from 1980 through 2021. Unlike most of the larger MSAs in the state Monroe went through the terrible statewide recession in the early 80s relatively unscathed. Only in 1986 and 1987 did the MSA post job losses. But in view of the 9% statewide job loss, this MSA's 2% decline was quite modest. That recession was caused by very big hits to the extraction industry and the chemical industry, two sectors that are largely absent in the Northeast corner of the state.

It took only two years for Monroe to recover the 80's recession job losses. The region began to grow again in 1988 and a year later was setting new employment records. The MSA entered an impressive 14-year stretch of growth. It was impressive growth indeed, with over a third of the years showing 2.5% job increases or more.

Figure G-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Monroe MSA residents now look back on that 14-year period wistfully. Nothing comparable has been seen since. After peaking in 2002-03, the region began a slide that lasted all the way through 2011---basically a decade of decline. It should be noted that the decline was mild in terms of total job losses---4,200 jobs or a total 5.2 % decline. During the "Great Recession" the MSA lost 2,300 jobs, a decline of 3.0% ---less than half that of the U.S. decline.

What caused this unfortunate recessionary period? The economy experienced an extraordinary number of major firm closures without any new firms to take their place. Among the closures were:

- Pilgrim's Pride closed a chicken processing plant in Union Parish (-1,500 jobs).
- State Farm Insurance closed its claim office (-1,100+ jobs).
- Guide Corporation shuttered its facility (-650 jobs).
- International Paper closed its paper mill (-550 jobs).
- Accent Marketing lost a major client and reduced workers at its call center (-340 jobs).
- Holsum Bakery closed its facility (-50 jobs).
- Shaw closed a pipe fabrication plant (-202 jobs).
- Coca Cola closed its bottling plant (-85 Jobs).
- Graphic Packaging engaged in workforce reductions.

It was the equivalent of one major closure a year for nine years. In one sense it is amazing that the region was only down 4,200 jobs over this period.

2012-15: Modest Growth Returns

When Monroe finally returned to a job-growth mode it did so with a sparkling 1,000 job jump in 2012. Growth continued through 2016, but at a much more modest rate. Indeed, employment did not expand enough to return Monroe to its previous 2002 peak. Good news came from a number of different sources including:

- CenturyLink (now Lumen) was ravenous in its acquisition efforts and steadily added jobs.
- Foster Farms reopened the Pilgrim's Pride plant and now employs about 1,200.
- Gardner Denver Thomas relocated operations in Wisconsin to the Monroe area, and now employs about 250.

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- Graphic Packaging committed heavily to the area when it brought in new equipment to increase productivity of its workforce.
- Angus Chemical invested about $100 million in its plant, improving productivity and retaining 174 jobs.

2016-19: A Flat Period

As seen back in Figure G-1, this MSA's record was flat to falling for the next four years from 2016 through 2019. Wingspan Portfolio Advisors closed at the cost of 400 jobs, and then CenturyLink began slowly lowering its job count. With the exception of the strongly emerging Vantage Health Plan and the revitalizations associated with the Ochsner/LSU health Science Center Partnership, there were virtually no new entrants to this economy.

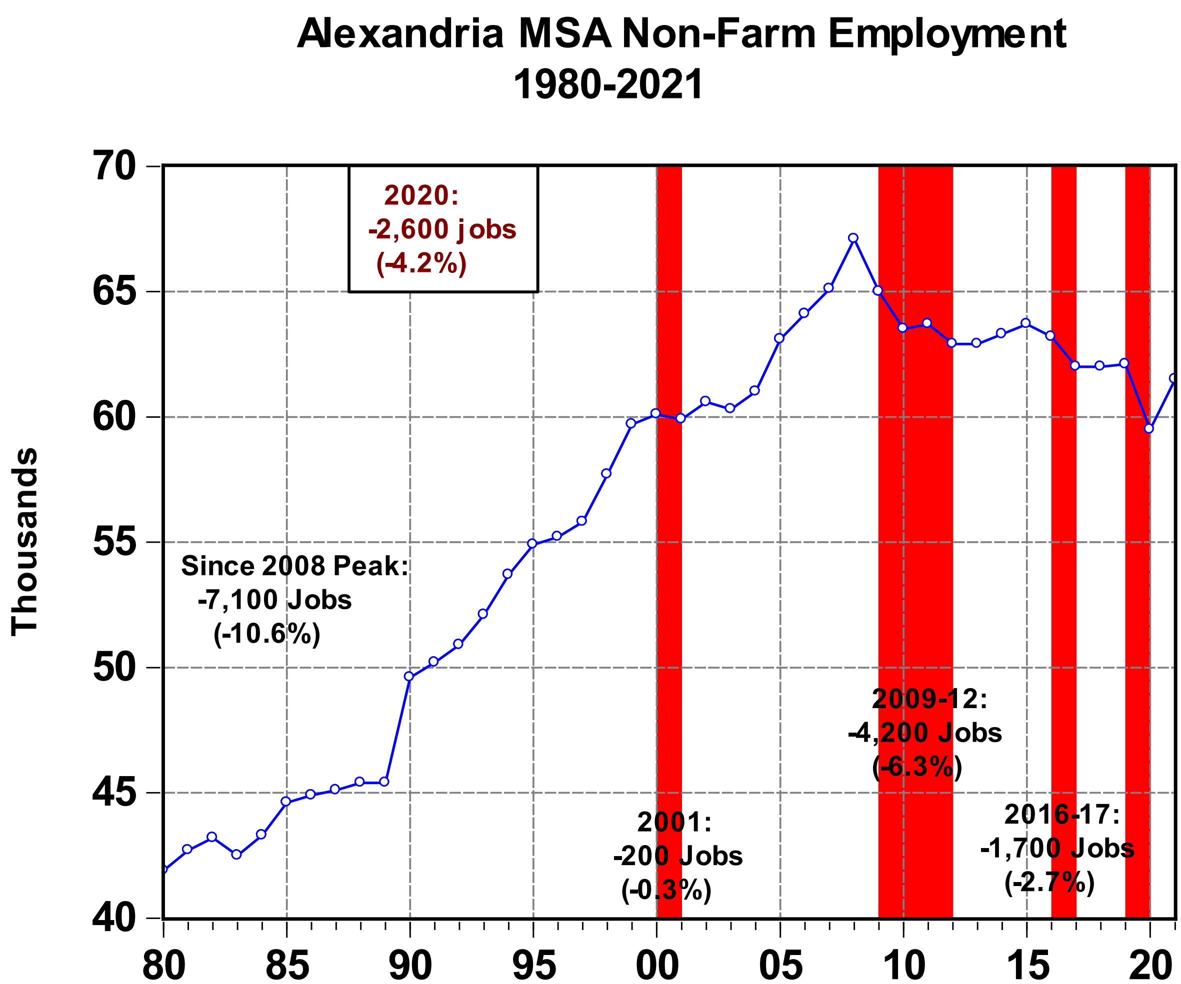
2020-21: Effects of COVID & Recovery

These two years are covered in the body of the text.

APPENDIX H: A History of the Alexandria MSA

Figure H-1 tracks the employment history of the Alexandria economy from 1980 through 2021. Note that there was a slight bump upwards in 1990 when the U.S. Bureau of Economic Analysis revised the employment statistics only back to that year to take into account the addition of Grant Parish to this MSA.

Figure H-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Perhaps the most impressive thing about this graph is that Alexandria enjoyed almost 30 years without a meaningful recession from 1980 through 2008. While the state was enduring a horrific recession in the early 80s, Alexandria lost jobs in only one year and that loss was only 700 jobs. The post-9/11 national recession in 2001 barely tapped Alexandria, causing a loss of only 200 jobs, hardly a significant decline. The Alexandria MSA was the second-least impacted among the state's nine MSAs. The MSA has a relatively high government-base and low manufacturing base, a combination that tends to isolate an area from the most harmful effects of national downturns.

Better Growth Post 1990

Alexandria's growth rate actually picked up starting in 1990. Two very significant events were behind this improving rate. Huge construction monies were pumped into the local economy when **I-49 was being constructed** through the heart of the city. It would be hard to underestimate the impact of this spending on an MSA of this size.

The second event was initially a scary prospect---the closure of England Air Force Base. Civic and governmental leaders turned this event---which could have cost the region a decade of job growth---into an economic development asset by converting the area into an industrial park/retirement village. **England Industrial Airpark** is now almost totally reoccupied. Several businesses have moved to the site, and the regional airport has been relocated there. A new, 150-person **Immigration and Customs Transfer** facility was opened at the Airpark in the summer of 2014 and serves as a domestic transportation hub for moving detainees. In 1996-97 one of England's newest and largest tenants---J.B. Hunt Trucking---closed creating a slight slowdown.

The Alexandria economy kind of sputtered in the first three years after the 9/11 recession. But that was followed by four very good years. In fact, it was one of the best performances in the state during that time. Employment spiked by 6,100, a strong 2.5% annually, fueled by six nice economic wins:

- Cleco Rodemacher plant ($1 billion+) was constructed, generating 1,700 construction jobs.
- Union Tank Car spent $132 million on its new facility adding 670 permanent jobs.
- England Airpark made sizeable capital expenditures.
- The federal prison at Pollock doubled in size.

  Even more stimulus came from just outside the MSA's boundaries.

- To the east in Avoyelles Parish, Paragon Casino spent $100 million on a new addition.

- Roy O. Martin built a new $60 million oriented strand board facility in Oakdale close to the southern border of the MSA.
- Fort Polk had a major capital spending program underway.

Not all the news was good. Parta Systems closed its 110-person pharmaceutical parts manufacturing plant, an important loss for a community of this size.

2009-19: A Shrinking Economy

Sadly, 2008 was this MSA's last good year. By the end of 2021, the MSA's employment was 7,100 jobs below the 2008 peak, a drop of 10.6%. Between 2009 and 2019---an 11-year period---Alexandria experienced only three growth years, and those were very modest ones. As clearly seen in Figure H-1 the Great Recession dealt the economy its biggest blow during this period. Alexandria's employment dropped for three full years (versus two for the national economy) and its job losses totaled 4,200 jobs or -6.3%.

Several firms in the Alexandria MSA were pounded by this recession.

- Louisiana Hardwood in Lemoyen halted its second shift.
- International Paper shut its container board plant, terminating 230 people.
- Upon completion of the $1 billion+ Cleco Rodemacher plant in 2009, 1,700 construction jobs disappeared.
- Star-Tech dismissed 300 people.
- Dresser Industries closed its facility, costing the MSA 364 jobs.

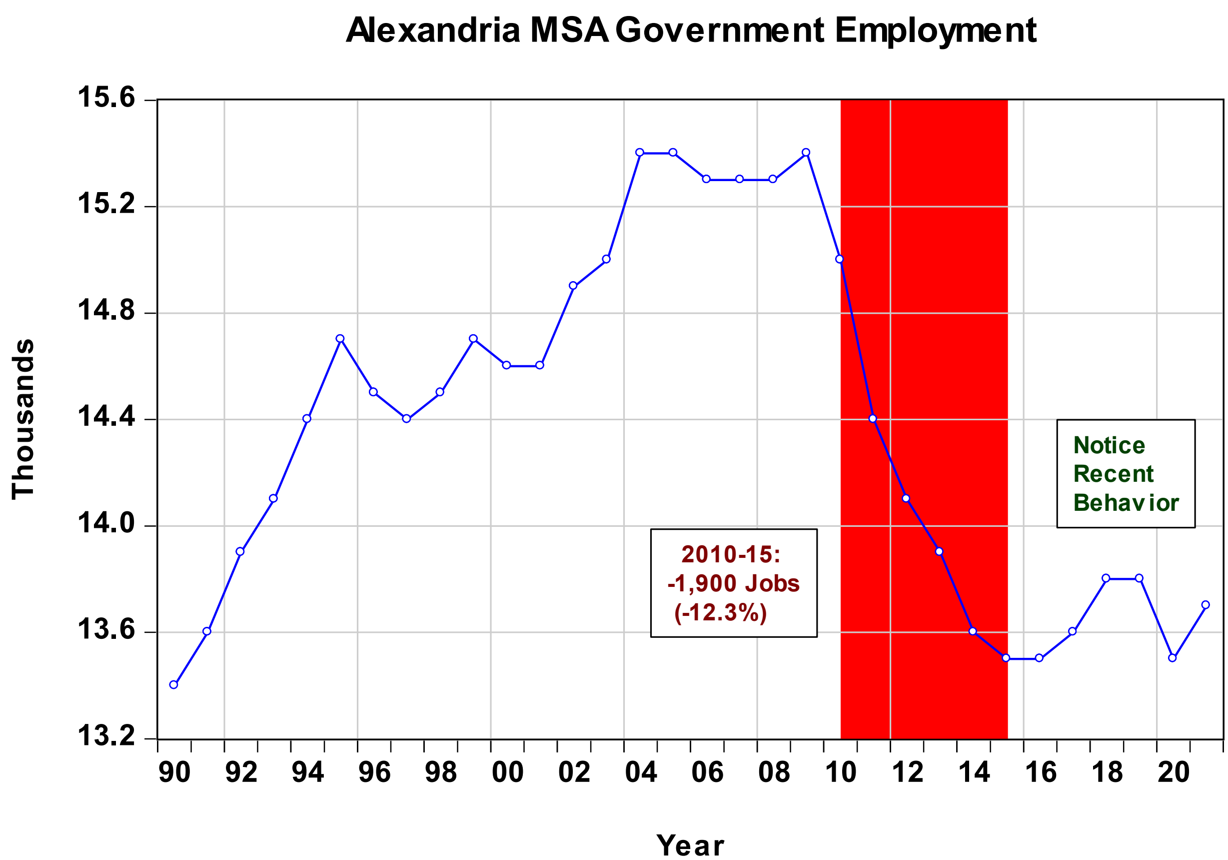
A recession is hard on durable goods manufacturers like **Union Tank Car**. After 2008, orders for UTC tank cars plummeted and UTC's employment fell by 400 jobs (down from a 670 peak). As an indicator of economic sensitivity, before the Great Recession about 60,000 rail cars were idled; by early 2009 this number was up to 540,000.

The one positive thing going for the economy was a new 46,000 square foot, class II casino opened by the Jena Indian Tribe in February 2014 that employed 300 people.

There was another key problem sector for Alexandria during this period. Typically having a large government base adds an element of insulation to an economy from recessionary swings, but not when budget cuts are the order of the day. **Government employment in the MSA declined by a total of 1,900 jobs (-12.3%)** in the six years between 2010 and 2015 (see Figure H-2). That alone was enough to drag down an economy of this size. The good news, as seen in Figure

H-2 is that in the last six years, government employment has been flat to rising slightly---no longer a drag on the economy.

Figure H-2



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

On the bright side, **Cleco** helped lead the way to modest job growth in 2018 with the initiation of its $130 million "Start" technology project. This multi-year project brought 100 new, high-wage, IT workers to Alexandria. While Start was an important job producer, it was not near enough to mitigate the layoffs tabulated above. Also, Cleco donated $6 million to the Louisiana Department of Economic Development to invest in economic development projects to increase jobs in their service territories.

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These two years are covered in the main body of this report.

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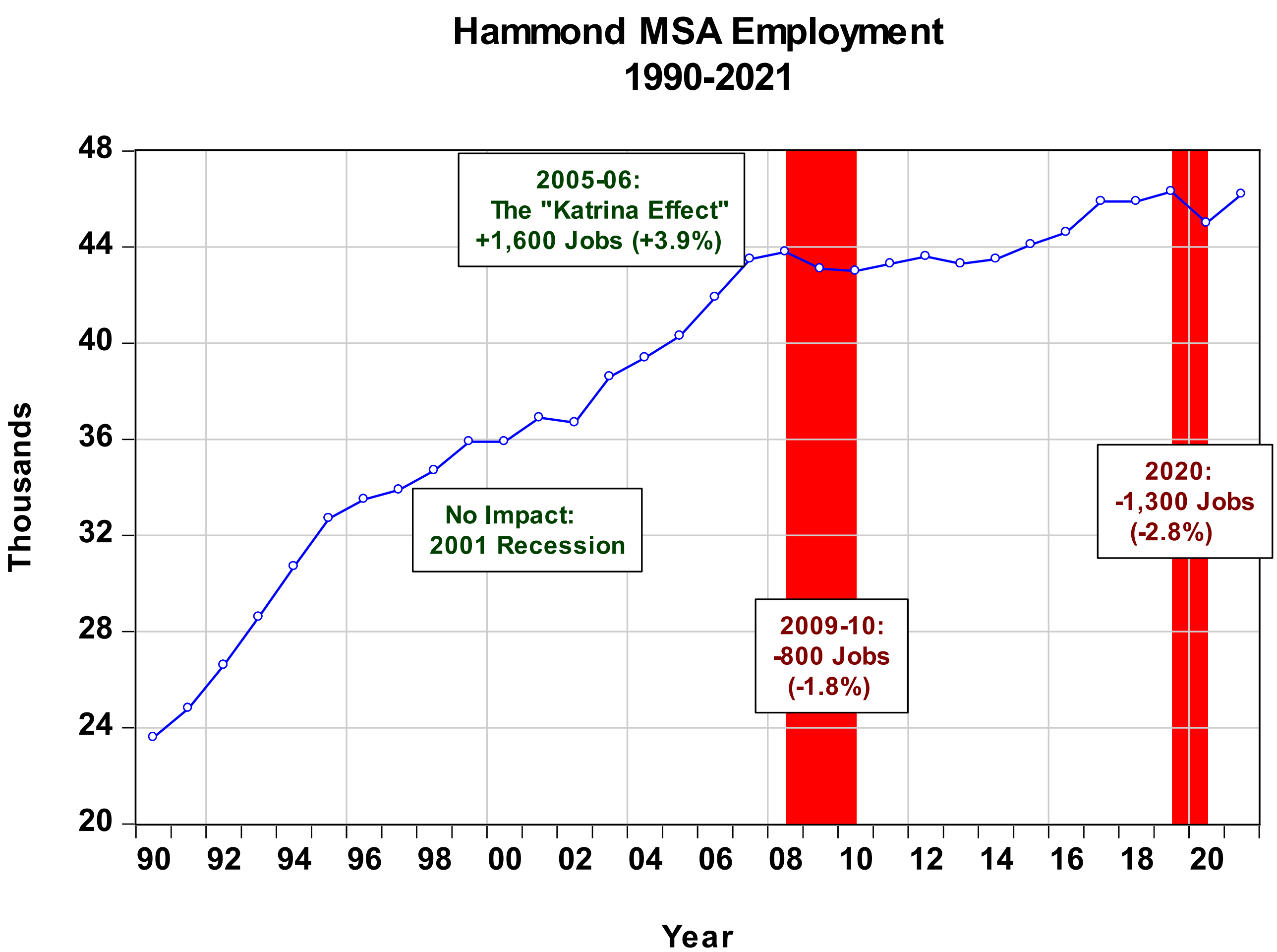
APPENDIX I: History of the Hammond MSA

Figure I-1 traces the history of this MSA from 1990 through 2017. Because it is so new, data on this MSA are not available pre-1990. The Hammond MSA has been through three distinct periods---(1) the 1990-2007 period of solid upward growth, (2) a recession over 2009-10 associated with the Great Recession, and (3) eleven years of relative stagnation from 2011-21, including a dip associated with the COVID shutdown.

Figure I-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

SLU 's Heavy Influence

What is behind these three movements in the Hammond MSA's employment? The key is to note that there are two major players that dominate this economy---Southeastern Louisiana University (SLU) and North Oaks Medical System. SLU is

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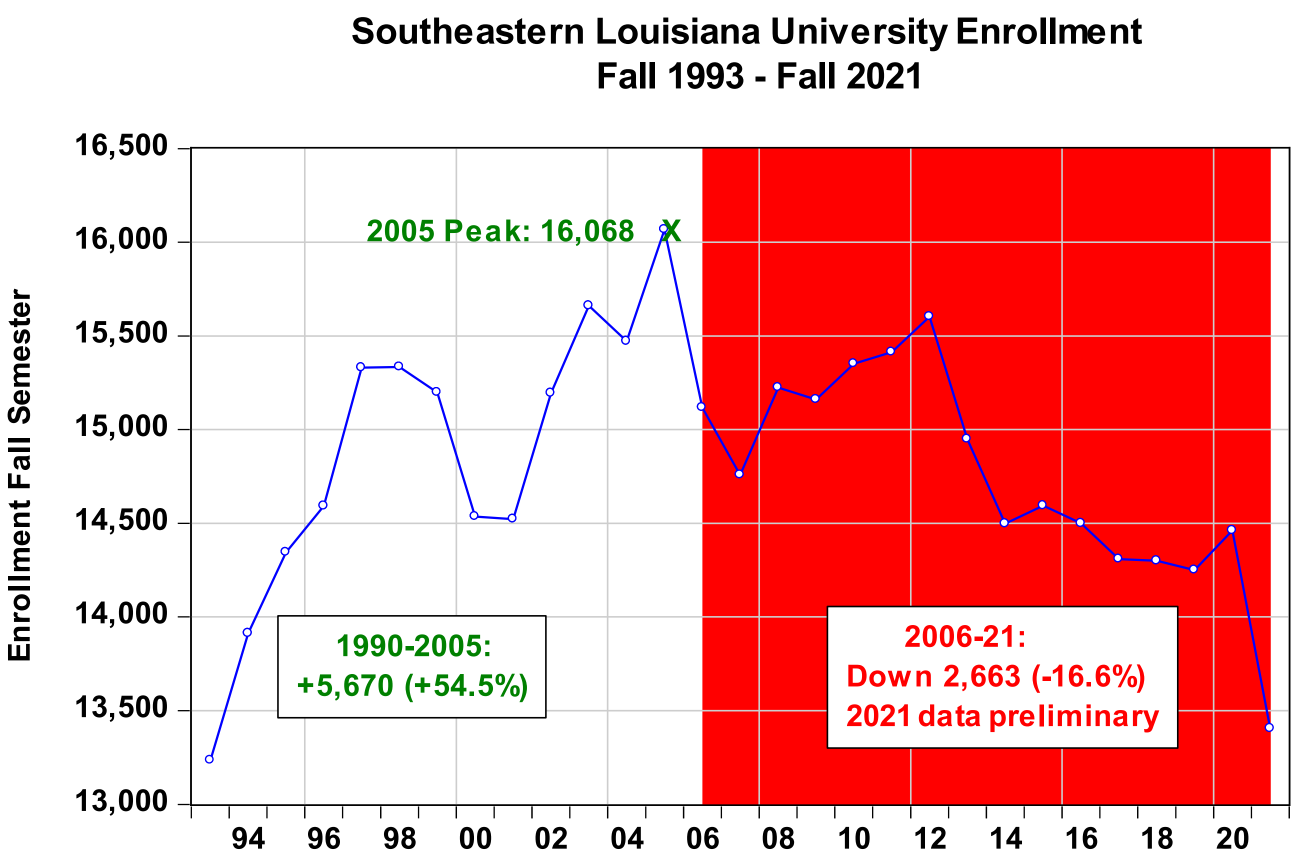
located in Hammond, which makes this city a university town much like Lafayette. **SLU** is a very large employer at 1,429 faculty and staff. The university brings significant spending power to the community because it attracts nearly ten times more students (13,405) than faculty/staff to the region (see Figure I-2).

Figure I-2



Source: SLU Office of Institutional Research & Assessment & Loren C. Scott & Associates, Inc.

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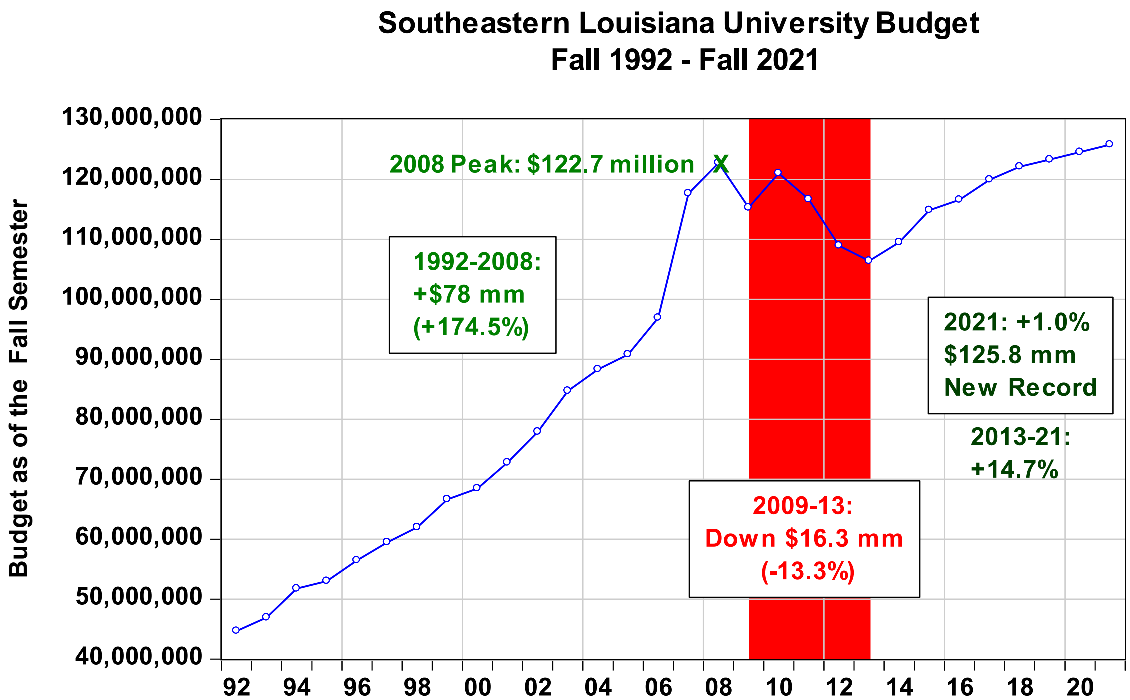
Figure I-3

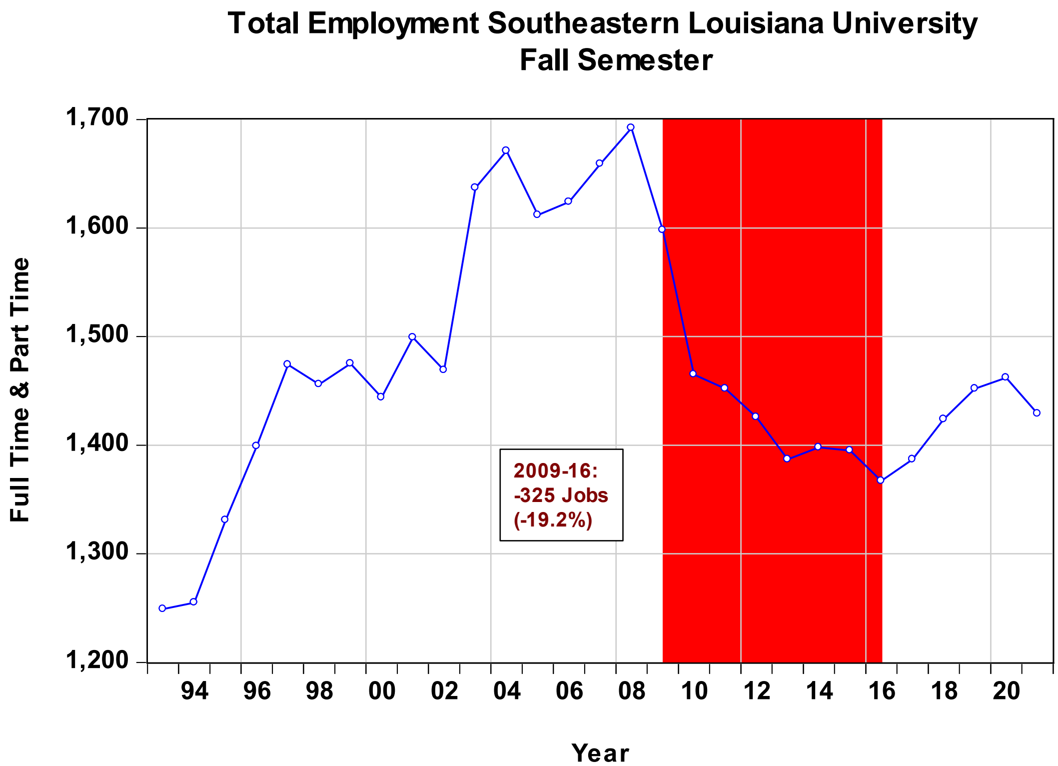


Source: John Paul Domiano, Budget Director, SLU & Loren C. Scott & Associates, Inc.

Figure I-3 tracks SLU's budget over time since 1992. Readers will note the relatively high correlation between what happens at SLU, whether enrollments or budget, and what happens to overall employment in the MSA. The powerful influence that SLU has on this MSA is seen when comparing the MSA employment data in Figure I-1 with SLU's enrollment data in Figure I-2 and the university's budget data in Figure I-3. When the university's budget (+174.5%) and enrollment (+54.5%) exploded in the 90s and early 2000s, that mega increase correlated with steady gains in employment in the MSA. Similarly, when things flattened out at the university so did the MSA's employment. The years of budgetary declines (-13.3%) over 2009-2013 track the very flat employment period in Figure I-1. The enrolment reduction shown in Figure I-2 meant fewer students to spend money in the MSA, contributing further to the flat period in Figure I-1.

While enrollment trends and actual employment trends at the university (see Figure I-4) have not supported employment growth overall in this region recently, there has been a period of significant recovery in SLU's budget, of about 14.7% since 2013, enabling the university to fully recover all the losses between 2009 and 2013. That budgetary infusion has helped promote some of the very modest growth in employment in the MSA the last five years.

. **Figure I-4**



Source: SLU Office of Institutional Research & Assessment & Loren C. Scott & Associates, Inc.

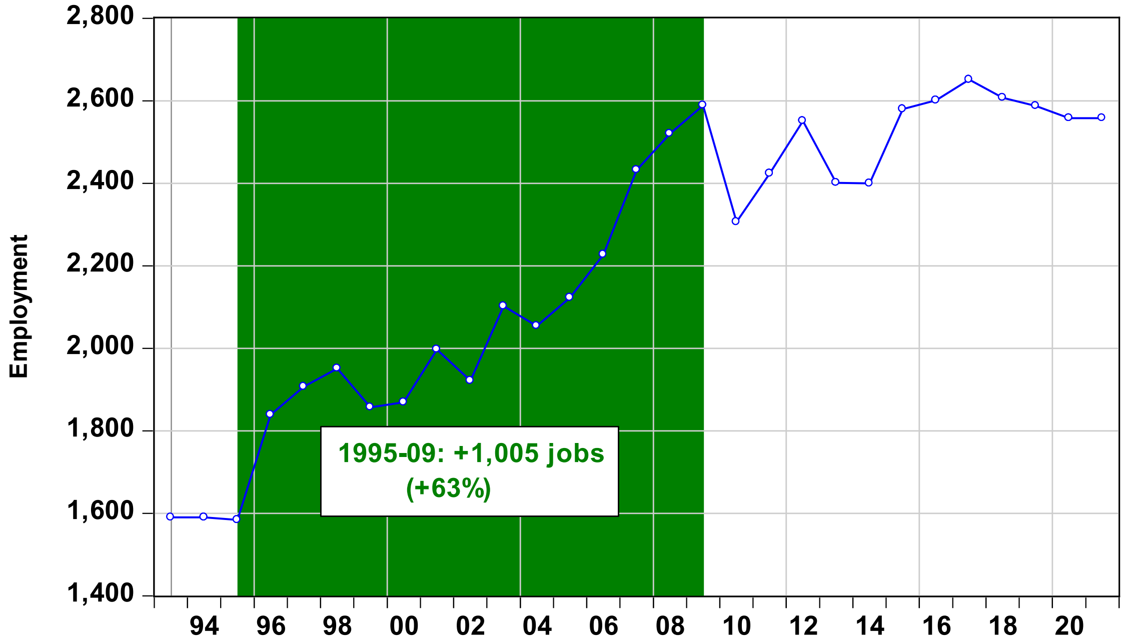
Healthcare Employment Also Mirrors the MSA

The second major player in this MSA is the **North Oaks Medical System**. As was the case with SLU, trends in this large system are highly correlated with trends in overall employment in the MSA. The history of employment at North Oaks is shown in Figure I-5. Just as with total employment in the MSA, North Oak's employment grew rapidly (+63%) over 1995-2009, adding over 1,000 jobs.

Since then, employment at North Oaks has been essentially flat, settling in at about 2,600 employees. This correlates almost perfectly with the rather lethargic trend in the MSA's employment during that same period. The hospital's problem recently can be traced back to Governor Edwards' Medicaid expansion program. The expansion caused the hospital's percent of Medicaid patients to double, a patient load on which hospital is paid only 38 cents on the dollar of costs. The absence of a medical education element at the hospital and the absence of a "rural" designation results in the hospital receiving only the lowest per diem reimbursements.

Figure I-5

North Oaks Medical System Employment



Source: North Oaks Medical System Human Resources Division & Loren C. Scott & Associates, Inc.

To sum up, what happens to employment in this MSA depends largely on what happens at SLU and North Oaks. Over time, other additions or departures from this economy may move the needle a little around the trends in these two systems, but by and large, they drive the economy.

2017: A Variation from the SLU & North Oaks Trends

In the paragraph above it was mentioned that sometimes there are additions/deductions that move the needle a bit round the SLU/North Oaks trend line. The year 2017 is just such a year as seen back in Figure I-1. The MSA gained 1,300 jobs that year. The MSA's small manufacturing and distribution centers added an unusual spark to the region. These included the following:

- Smitty Supply made some significant investments.
- Intralox initiated capital and employment expansions.

- The Walmart Distribution Center added 70 jobs.
- Southern Foods added 206 jobs through expansion and the relocation of its Brown's Dairy milk processing facility to Hammond.

Recessions Mean Little Here

There is one characteristic of this MSA that it shares with the Alexandria MSA---national recessions ding this economy very little. As seen back in Figure I-1, Hammond actually grew through the short U.S. recession in 1990 and also during the 2001 recession. The MSAs employment did fall modestly (-1.8%) during the Great Recession, but at less than a third of the rate of decline nationally.

Like its sister MSA, Alexandria, in central Louisiana, there is a heavy governmental influence in the Hammond MSA (SLU) and a virtual absence of durable goods manufacturing. The latter tends to get creamed during recessions while the governmental sector is only lightly tagged. Too, the huge North Oaks healthcare system is another sector that typically holds up well even during recessionary times. This is clearly seen in North Oaks' employment line in Figure I-5.

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These two years are discussed in the body of the report.

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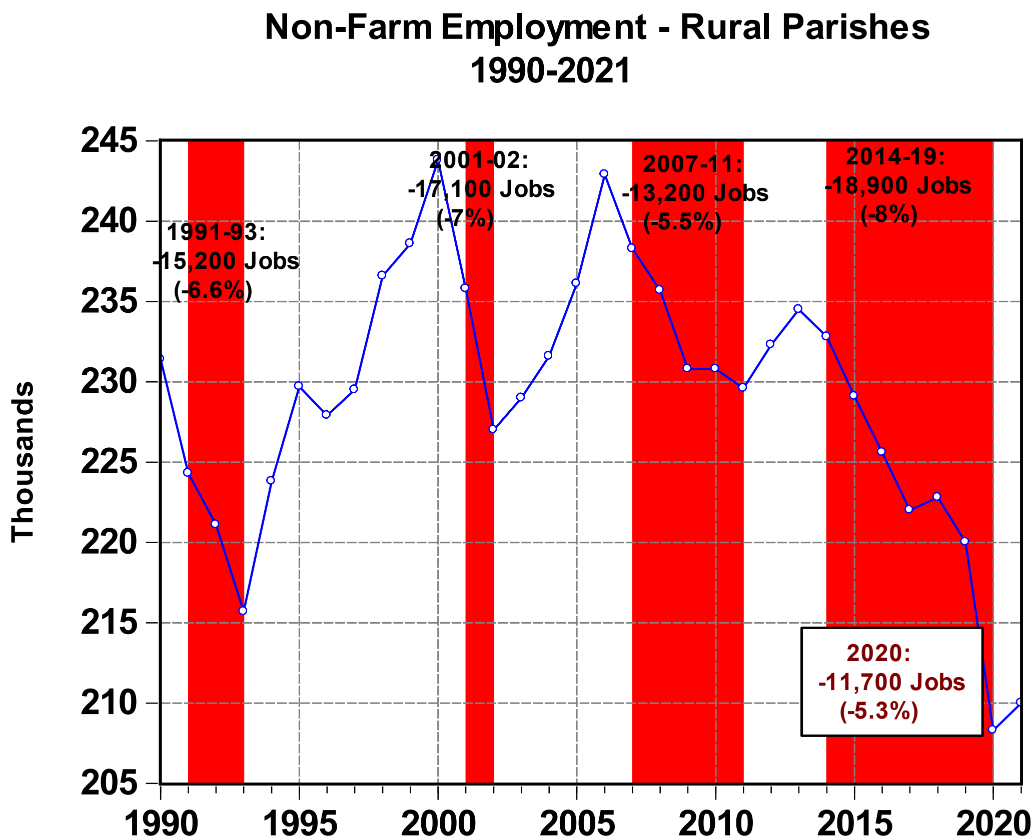
APPENDIX J: History of Louisiana's Rural Parishes

Figure J-1 tracks the history of nonfarm employment in Louisiana's rural parishes from 1990 through 2021. These parishes are shown in Figure 11 of the body of the report as the parishes in white. Over the past three decades employment in this region has only varied over a range from a low of 210,000 to a high of 243,800 (it may appear to be more, but the Y axis does not start at zero).

Figure J-1



Source: Bureau of Labor Statistics & Loren C. Scott & Associates, Inc.

Recessions Do Matter to Rural Louisiana

Unlike the Hammond and Alexandria MSAs, the economies of the rural parishes do feel the brunt of national recessions as seen in Figure J-1. In fact, these parishes tend to feel the recessions even more than usual. Note that the very short national recession in 1990 resulted in a 3-year employment decline in the rural parishes that was quite deep (-6.6%). Similarly, the short national recession in 2001, was two years long, and deep (-7%) in rural Louisiana. Whereas, the

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Great Recession lasted 18 months long at the national level, rural Louisiana employment declined for four full years.

A key reason for this hypersensitivity to recessionary influences is that recessions hit the housing industry particularly hard. When the economy is bad, the last thing people think about is buying a home. Rural Louisiana is well-populated with logging and sawmill companies, especially in central and north Louisiana. A classic case of this phenomenon was the bursting of the housing bubble that led to the great recession. Note what happened in rural Louisiana:

- Weyerhaeuser Corporation reduced its workforce at its facilities in Lincoln, Bienville, and Winn Parishes (-224).
- Boise Cascade laid off workers at its plywood veneer plant in Allen Parish (-130).
- Hunt Forest Products temporarily closed its Natalbany facility in Tangipahoa Parish.

Not all the news from the Great Recession was bad for rural Louisiana, mainly because of the influence of the energy sector. Down on the coast, St. Mary Parish was booming due to the large sums of money flowing into the parish for cleanup work from the BP oil spill and claims payments made to businesses and individuals as a result of the spill. This period also coincided with the boom in the Haynesville Shale in northwest Louisiana, which powered a flourishing Red River Parish.

2011-12: +5,000 Jobs

Rural Louisiana did not bounce back fully from the hit of the Great Recession. In the two years of 2011-12 the region added back about 5,000 jobs, still well below the pre-recession peak in 2006. There were several nice economic wins for the rural parishes over these two years, including:

- In Richland Parish, Conagra built a 2-phase sweet potato processing plant adding several hundred jobs.
- General Dynamics opened a 600-person call center in Bogalusa.
- Metal Shark Boats in Jeanerette won a $192 million contract with the Coast Guard to construct 500 patrol boats (+100 jobs).

- In Ruston, Mortgage Contracting Services added 90 employees.
- In Urania, German Pellets GmbH began construction on the world's largest wood pellets manufacturing plant (+150 jobs).
- Universal Plant Services built a $3.9 million, 95-person welding, fabrication, and equipment overhaul and repair plant in LaSalle Parish.

Back to 1991: the 2014-19 Decline

The period from 2014 to 2019 were recession-free years at the national level, but not so for rural Louisiana. Note in Figure J-1 that these 29 parishes lost a shattering 8% of its jobs or 18,900 jobs in total. There was only one slight growth year among these six years.

Partly this decline was driven by problems at individual firms across these parishes. For example:

- German Pellets GmbH plant in LaSalle Parish went into bankruptcy.
- Fruit-of-the-Loom closed its Vidalia plant (-167 jobs).
- Life Care Specialty Hospital in Ruston closed (-167 jobs).

Shipyards in these rural parishes in south Louisiana took it on the chin as well. Bollinger Shipyards in the Amelia and Morgan City areas cut their employment from 700 to 350, and shipyards and fabricators in St. Mary Parish also initiated cutbacks. All of these shipyards began to look beyond work for offshore oil exploration/production to other sectors like government, brown water vessels and research ships.

Red River Parish, which enjoyed such a spark from the Haynesville Shale boom, went into a tailspin as the rig count in that play dropped from 142 to fewer than 20 rigs. St. Mary Parish had benefitted mightily from high oil prices, but now felt the brunt of prices below $30 a barrel.

All of these factors contributed to the funk rural Louisiana has been in since 2014.

Underlying It All: Population Out-Migration

A quick peek back at Figure J-1 reveals that rural Louisiana has basically been in a downward slide since 2006. Generally speaking, we expect this to continue because of the underlying problem of out-migration of population from these parishes. For example, of Louisiana's 29 rural parishes only three experienced population gains between 2010 and 2020---Lincoln, Beauregard, and Jeff Davis---while ten rural parishes found their populations fell by 10% or more.[6] We expect this out-migration to continue over the foreseeable future.

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These years are covered in the main body of the text.

[6] www.bea.gov

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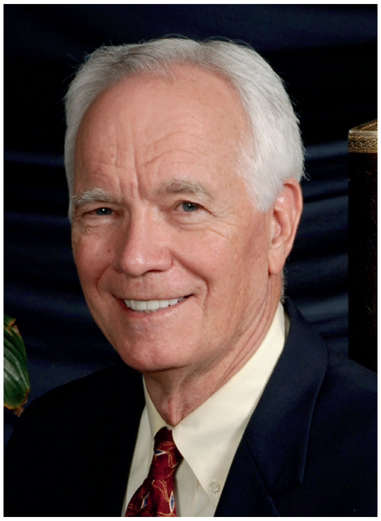

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Dr. Scott is the President of Loren C. Scott & Associates, Inc., a 40-year old economic consulting firm that currently conducts impact studies, policy analyses, and litigation support for various size private/public companies and governmental bodies. The firm's clients span diverse industries and have included national firms such as BP, Capital One Financial, Entergy, ExxonMobil, J.P. Morgan Chase, Nucor, Sasol, Chesapeake Energy. A frequent public speaker, Dr. Scott gives 50-70 speeches a year across the country on the state of the economy.

Dr. Scott is an energy specialist on the National Business Economic Issues Council. NBEIC is a 52-member council, which meets quarterly to collaborate on issues of state, national, and international interest. The group includes experts who cover international trade, Washington economic policy, retail trade, trucking, steel, chemicals, etc.

He has been interviewed on CNBC, MSNBC, and Bloomberg TV, in addition to several local TV stations, and his work has been cited in such publications as the *Wall Street Journal*, *Forbes*, the *Los Angeles Times*, the *New York Times*, *USA Today*, the *Moscow Times*, and the *Financial Times*, to name a few.

His career started at Louisiana State University in 1969 where he spent 33 years, rising through the ranks from assistant professor to the prestigious Freeport McMoran Endowed Chair of Economics and the Director of the Division of Economic Development and Forecasting. Over the thirteen-year period from 1983-96, he was the chairman of the LSU Economics Department. During that time, the Department's ranking among the 3,000 economics departments in the U.S. rose from 101st to 38th. He is presently Professor Emeritus at LSU. He received seven awards at LSU for outstanding classroom teaching and authored numerous peer reviewed publications.

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