THE LOUISIANA ECONOMIC

OUTLOOK: 2014 AND 2015

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Unlike forecast published in other states, a reader of the LEO can actually find out what is happening in **individual firms** in Louisiana. That is because we make 100+ phone calls a year to businesses in the state, and we are fortunate enough that you take our calls and share your experiences and forecasts with us. There are too many of you to list individually, but please know we are thankful for your trust and time.

Louisiana is lucky to have an excellent cadre of **economic developers** out there to promote our state. You will see the results of their hard work as you thumb through the LEO. Our Louisiana Department of Economic Development has enjoyed the most successful year in its history. A very busy Secretary **Stephen Moret** spends extra time with us each year to make sure we capture all the new action in the state. Regional developers like **Michael Hecht**, **Adam Knapp**, **Larry Collins**, **Courtney Hornsby**, **Jon Grafton**, **Greg Gothreaux**, **George Swift**, **Rick Ranson**, **Eric England**, **Scott Martinez**, **Diana Simek, Steve Nosacka, Linda Prudhomme, Bob Fudickar**, and **Michael Eades** put together reams of valuable data for us on developments in their areas.

We are fortunate to have a ready and willing contact on any issues regarding the state budget in our friend **Greg Albrecht** with the Louisiana Legislative Fiscal Office. Our forecasts are primarily about non-farm labor in the state, which means throughout the year we keep the phone lines humming to the most helpful people in the Research Division of the **Louisiana Workforce Commission**.

Each year a successful release of the LEO is ensured by long-time, and valuable, friends **Rolfe McCollister** and **Julio Melara** of Baton Rouge Business Report Magazine. When you mark their Top 100 Luncheon on your calendar, you know you are in for a special event. It is great to work with professionals!

Lastly, a loud shout-out to two key people---**Interim Dean Richard White** for his strong support of the LEO, and to our most efficient Managing Editor **Judy Collins**, who has kept us on track this year.

Grazie. Merci. Danke. Gracias. Thanks to you all.

EXECUTIVE SUMMARY

This 32nd edition of the Louisiana Economic Outlook has been much more fun to pen than past LEOs, because the news is generally very good. At this writing, Louisiana is one of only 12 states in the U.S. with more people employed today than in January 2008. Our projections are for growth sufficiently robust over 2014-15 that sometime in the latter year, employment will surpass the 2 million mark for the first time in the state's history. Progress however will be geographically uneven, with regions along and below I-10 performing much better than the central and northern areas of the state.

Behind our forecasts are certain "drivers" that are typically beyond the control of state decision makers but yet have a profound influence on the state's economic path. Included here are the following:

- While escaping a recession over 2014-15, **real gross domestic product** growth is expected to be plodding, hovering in the 2.5% a year range;

- Our forecasts are based on the **30-year fixed mortgage rate** rising only slightly---about 1 ½ percentage points---and only a very modest bump in **inflation**;

- In keeping with present futures market data, **oil prices** are expected to decline into the $95 range by 2015 as more and more oil comes on the market from the shale plays. This price will still make the Gulf of Mexico a very profitable field for exploration;

- **Natural gas prices** are projected to stay near $4 per mmbtu due to the ocean of this fuel that has been discovered in the U.S. via fracking. It will also continue to support an historical construction boom in the chemical industry;

- We cast a wary eye toward three key issues in Louisiana's future: (1) how much money will be pumped into our economy via **BP payments**, (2) will the new **National Flood Insurance Program** be restrained or fully implemented, and (3) what will be the impact of the **sequester and other cuts to the Defense Department budget** on Louisiana's substantial military presence?

Each of Louisiana's eight MSA's has its own unique economic base and as a result we are projecting that each has its own unique growth path over 2014-15. Readers will find that the best outlooks are generally for regions on and below I-10. Here is a quick review of each:

- The **New Orleans** MSA is projected to add about 11,000 jobs or 1.0% a year. An estimated $12.6 billion ($8.9 billion in the public sector) in construction spending will drive this expansion. Completion of the **Big Charity Hospital** in mid-to-late 2015 will generate about 1,000 jobs, and modest growth will come from the region's manufacturing sector (which will suffer through its last round of layoffs at Avondale this year). GNO Inc is working a large number of potential projects that could boost our forecast number significantly.

- The 9-parish **Baton Rouge MSA** is heading into an industrial expansion like none other in its history. The Greater Baton Rouge Industrial Manager's Alliance (GBRIMA) has tabulated a remarkable **$23.7 billion in industrial projects** that are either announced or underway. GBRIMA projects the demand for construction workers in the region will jump from 17,500 to 31,000 in the next year. **IBM** is bringing a new 800-person technology center to Baton Rouge, and another tech company---**Ameritas**---will be at 300 employees by forecast end. We are projecting 21,700 new jobs (+5.6%) for this MSA over the next two years, making it the second fastest growing MSA in the state.

- The **Shreveport-Bossier MSA** has been in an employment dive for four of the past five years, having suffered the loss of GM, cutbacks at Barksdale and Libbey Glass, and a plummeting rig count in the Haynesville Shale. The best news for this area is at the Port of Caddo-Bossier which landed a new plant and the headquarters of **Ronpak** and, more recently, the new $900 **Benteler Steel** complex. The region will also get a boost from the opening of the Margaritaville Casino, though it is unclear what the <u>net</u> increase in gaming employment will be. We have this MSA expanding by 900 jobs a year, or about 1% over the next two years---the 6th fastest growth rate in the state.

- We are projecting that the **Lafayette MSA** will see employment rise by 4,100 jobs over 2014-15 or 1.3% per year. Resurgence in activity in the Gulf will bolster exploration and energy service firms in this region. The big-three employers---**Acadian Companies**, **Stuller Settings**, and the **Schumacher Group**---will be adding marginally to their workforces in this region.

- The third fastest growing MSA in the state is projected to be **Houma**, adding 5,200 jobs (about 2.6% annually). Port Fourchon is exploding with activity due to the return of Gulf exploration activity, as are several key service firms like **Danos** and **Chett Morrison**. Major new hiring will occur at the **Edison Chouest** and **Bollinger** shipyards. A looming uncertainty that could have catastrophic consequences is the possible implementation of the new **National Flood Insurance Program**. All bets are off for Houma if modifications are not made to the NFIP.

- We are projecting that the **Lake Charles MSA** is about to enter the finest growth period in its history. It's projected 7,800 new jobs over 2014-15 (+8.1%) could easily be surpassed. GBRIMA has documented a monumental **$46.6 billion in announced industrial expansions** in this region---including the largest single capital expansion in Louisiana's history, the $16 to $21 billion **Sasol** ethylene cracker/GTL complex. The Lake Area Industrial Alliance projects construction **labor demand to jump from about 6,000 now to 14,000 in 2016**. This number is so daunting that **Global Logistics Solutions** is building a $70 million man-camp at the Port of Lake Charles to house 4,000 of the workers. Adding to the growth will be the opening of the new 1,500-job Golden Nugget Casino and a new name at Chennault Airpark---AAR---that will be adding 500 jobs.

- **Monroe** is expected to be the "quietest" region of the state over 2012-15, adding only 400 jobs (+0.6%). One of the state's Fortune 500 firms---CenturyLink---will provide a much needed economic kick to Monroe with its new $30 Technology Center for Excellence and the promise of 800 more jobs by 2016.

- After five straight years of employment losses, we are projecting that the **Alexandria MSA** will add 700 jobs (+1.1%) over the next two years. Two biofuels companies will be making major investments---**Sundrop** ($450 million) and **Cool Planet Energy** ($58 million), and **Crest Industries** and **Sutherland Global** will be increasing their workforces. Alexandria will also be getting a new 150-person **Immigration and Customs Transfer facility** at England Airpark.

- In a real break from the past, the rural (non-MSA) area of Louisiana will be a great source of new jobs over 2014-15, growing by about 2% a year. The only rural parish on the Mississippi River between Baton Rouge and the mouth of the river is **St. James Parish**. A lot of available land with access to the river has created a huge, $8.3 billion industrial construction boom in this parish. A rebounding U.S. housing market has reopened **wood product** plants in the state, and a new wood product industry---the manufacture of wood pellets to be exported to Europe to burn in electricity generation---has created both significant capital expenditures on new plants but also many new jobs.

Executive Summary Table

Item	2013	2014	2015
BASIC ASSUMPTIONS:			
Real Gross Domestic Product	1.7%	2.4%	2.6%
Inflation Rate	1.4%	2.3%	2.2%
30-Year Fixed Interest Rate	4.2%	5.0%	5.0%
Oil Price: barrel	$108	$100 ($85-$120)	$95 ($85-$120)
Natural Gas Price: mmbtu	$3.60	$3.70 ($3.40-$4.50)	$3.90 ($3.40-$4.50)
STATE PROJECTIONS:			
Non-Farm Employment (000s):	1,949.5	1,983.7	2,017.3
Absolute Growth Rate	23.9	34.2	33.6
Percent Growth Rate: Employment	1.2%	1.8%	1.7%
MSA PROJECTIONS: EMPLOYMENT (000s)			
Alexandria	62.7	63.0	63.4
Absolute Change	-0.3	0.3	0.4
Percent Growth Rate	-0.5%	0.5%	0.6%
Baton Rouge	381.5	394.0	403.2
Absolute Change	6.3	12.5	9.2
Percent Growth Rate	1.7%	3.3%	2.3%
Houma	97.1	99.7	102.3
Absolute Change	2.3	2.6	2.6
Percent Growth Rate	2.4%	2.7%	2.6%
Lafayette	157.8	159.9	161.9
Absolute Change	2.1	2.1	2.0
Percent Growth Rate	1.4%	1.3%	1.3%
Lake Charles	93.7	97.0	101.5
Absolute Change	2.7	3.3	4.5
Percent Growth Rate	3.0%	3.5%	4.6%
Monroe	76.9	77.1	77.3
Absolute Change	0	0.2	0.2
Percent Growth Rate	0	0.3%	0.3%
New Orleans	533.9	538.9	544.9
Absolute Change	4.2	5.0	6.0
Percent Growth Rate	0.8%	0.9%	1.1%
Shreveport-Bossier	175.5	176.4	177.3
Absolute Change	-1.8	0.9	0.9
Percent Growth Rate	-1.0%	0.5%	0.5%
RURAL EMPLOYMENT	370.4	377.7	385.5
Absolute Change	8.4	7.3	7.8
Percent Growth Rate	2.3%	1.9%	2.1%

Source: LSU forecasting team.

Like Dishes at the Potluck Each MSA Is Different

It's called a family potluck. Everyone brings a different dish. Someone is in charge of making sure there is no duplication of dishes. Each dish is uniquely different from the other, but all contribute to the overall quality of the feast.

Louisiana's eight MSAs are much like that. They are all part of the Louisiana economy, but each one is very unique and different from the others. Each has a different economic base. Each recovered from the Great Recession at a different pace. Each has different obstacles to overcome going forward, and the future prospects for each are quite different.

Even though it was clobbered by Katrina and Rita, **New Orleans** remains the state's largest MSA with an estimated 533,900 non-farm jobs in 2013. The "city that care forgot" is big in shipbuilding, tourism, petrochemicals and is headquarters for a number of oil and gas extraction and extraction-related companies. Its complex of ports is among the largest in the U.S. in tonnage moved. It has significant medical complexes and is home to several universities---the largest being the University of New Orleans and Tulane University. The state's only land-based casino is located in New Orleans along with two other riverboat casinos and the Churchill Downs Racetrack, four gaming establishments that together employ about 4,100 people.

Baton Rouge, with an estimated 381,500 non-farm jobs in 2013, is the home of two major universities---LSU and Southern University---plus Baton Rouge Community College, which is now larger than Southern. This is also the location of the State Capitol, which means government employment plays a major role in this MSA. This MSA also has the largest concentration of chemical industry employment in the state and is home of the country's second largest refinery. The predominance of these two capital-intensive industries means industrial construction supports proportionately more jobs in the Baton Rouge area than in the other regions of the state. It is now the home of three riverboat casinos, and has a burgeoning film and digital gaming sector.

The third largest MSA in Louisiana, **Shreveport-Bossier (**175,500 jobs in 2013), is an MSA that is unique in a couple of ways. First, Shreveport-Bossier is host to the state's largest gaming market with six riverboat casinos---including the brand new Margaritaville--and one racetrack that altogether employ over 5,300 people. The huge 9,745-person Barksdale Air Force Base gives this community a significant military presence. Shreveport-Bossier has also enjoyed being the host of a huge deposit of natural gas called the Haynesville Shale, and the MSA also has the very active Caddo-Bossier Port on the Red River.

In Louisiana the closest thing to two dishes alike at the family potluck would be the **Lafayette** (157,800 jobs) and **Houma** (97,100 jobs) MSAs. Both have an unusually high concentration of firms associated with the oil and gas extraction industry, so fluctuations in energy prices powerfully impact these two regions. Though located near each other, these two MSAs still differ beyond their connections to oil and gas extraction.

Houma has a significant shipbuilding (Edison Chouest and Bollinger Shipyards) and fabrication sector---much of it closely tied to the extraction industry. Lafayette, on the other hand, is somewhat more diverse. It is home to the nation's largest jewelry settings manufacturer (Stuller Settings) and has as a major employer, Acadian Ambulance, a company whose helicopter ambulance, alarm monitoring, and pipeline/rig safety services are used in several states. The headquarters of the Schumacher Group---a provider of ER and other medical physicians to hospitals in 23 states---is also located in Lafayette.

Lake Charles, (93,700 non-farm jobs in 2013) like Baton Rouge, has an unusually heavy chemical and refining base---the second largest concentration in Louisiana after Baton Rouge. That means industrial construction is also important to this area. However, in two ways Lake Charles is very different from the state capital city. Lake Charles is home to the state's second largest casino market. There are two casinos operating in the MSA (and another large one is under construction), a racetrack, and a very large Indian casino is located only a parish away. Secondly, aircraft maintenance and repair work at Chennault Airpark is also significant in this MSA.

The second smallest MSA in the state with 76,900 non-farm jobs is **Monroe.** Finance plays a larger role in this MSA than in most because of the large Chase mortgage facility there, and CenturyLink's (a Fortune 500 company) large operation makes telecommunications an unusually large component of its base. Paper and lumber industries are also an important component of Monroe's economy. Its geographic position in the northeastern part of the state has given it stronger ties to the agricultural sector than perhaps any other Louisiana MSA.

Finally, there is Louisiana's smallest MSA---**Alexandria**. Located in the central part of the state, this MSA had 62,700 non-farm jobs in 2013. It has historically been the retail trade/service center for that region of the state with only a small manufacturing sector. That has changed with the opening of the Union Tank Car and Roy O. Martin Lumber facilities in the region. Too, Procter and Gamble has significant facilities in this MSA, as does an important group called Crest Industries. Cleco Power is also located in this MSA. Alexandria has a strong military influence due to nearby Fort Polk---the largest single employer in the state.

In the sections below we will give a brief employment history of each of the state's eight MSAs, along with the Louisiana Econometric Model (LEM) forecast for 2014-15. In each MSA, we will explain the key factors and companies driving the region's future.

Lake Charles: Can It Possibly Be This Grand?

Located in the far southwestern corner of Louisiana (see Map 1), the Lake Charles MSA is composed of two parishes---Calcasieu and Cameron. This MSA is dominated by three industries. One is what is broadly referred to as the **petrochemical industry**. This phrase handily combines two closely related industries---chemicals and refining. The Lake Area Industrial Alliance reports that Calcasieu Parish was the home to **20 different chemical plants and two refineries**. Total employment in these facilities was 6,764 direct employees and 4,273 contractors in 2012 according to the LAIA. Like the Baton Rouge area, this huge capital-intensive petrochemical complex supports a very large **industrial construction** industry.

A second major industry in Lake Charles is **gambling**. Pre-Rita, Lake Charles was home to five riverboat casinos. Now there are two in operation and one large one under construction, plus the Delta Downs Racetrack. The largest operational casino is **L'Auberge du Lac**, which opened in the summer of 2005. Hurricane Rita badly damaged both of the casinos owned by Harrahs. Harrahs sold its two licenses to Pinnacle Entertainment, owner of L'Auberge du Lac. Pinnacle moved a license to Baton Rouge. This year, Isle of Capri closed one of its smaller riverboats and moved that license to Shreveport. Total employment at the two operating casinos and the racetrack is at about 4,070 as of 2013-I. We will discuss the status of the new **Golden Nugget Casino** that is under construction in the forecast section below.

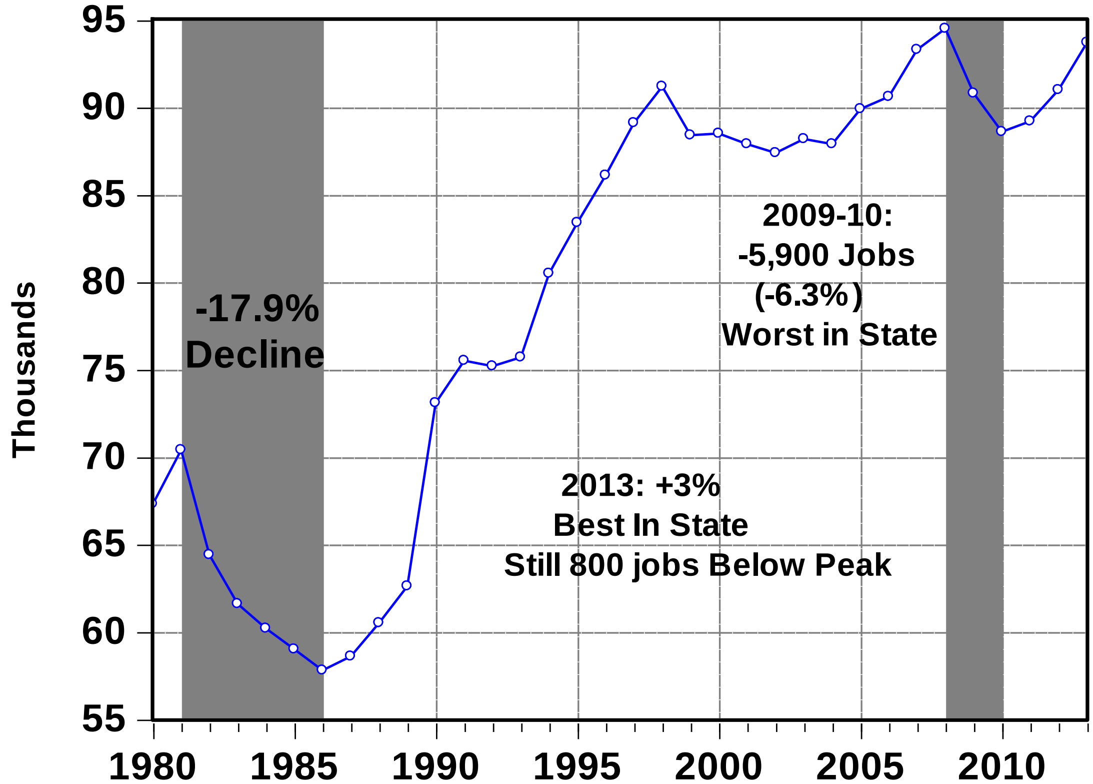
With the closest gambling establishments to the Houston metroplex, Lake Charles' riverboat casinos were an instant success when they opened in the mid-1990s. When **Delta Downs** added slot machines and became a "racino", it added another 1,057 workers to the area's gambling industry, a number that has drifted down to 773.

A third key sector is **aircraft repair**. There are now two significant employers located at Chennault Industrial Airpark---**Northrop Grumman** and **AAR** (formerly Aeroframe Services). Changes in tenants at Chennault have had a major impact on the MSA's employment pattern over time. Closely allied with the aircraft industry, two significant employers at Lake Charles Regional Airport are **Era Helicopters** with 750 employees and **PHI**---another helicopter service firm. A relatively new firm---**CB&I Modular Solutions** (formerly Shaw)---has about 1,000 workers whose main focus to date has been manufacturing modular equipment for the nuclear power industry.

A History of Ups and Downs

A history of the Lake Charles economy is depicted in Figure 25. This MSA suffered mightily between 1981 and 1986 as the **chemical industry** reeled from a huge loss of sales in its foreign markets. The region lost a whopping 17.9 percent of its non-farm jobs. This loss was caused by a large run up in the exchange value of the dollar. Not only did the industry itself reduce employment by one-third, but capital expansion plans were also halted, hammering the industrial construction sector at the same time.

Fig. 25: Lake Charles MSA Non-Farm Employment: 1980-2013



Coincidentally, the Reagan Administration fully **deregulated the price of crude oil** in the early 1980s. One side effect of this action was that several marginal refineries found it increasingly difficult to remain competitive and shut down. The loss of jobs in the two highest-wage industries in Louisiana's manufacturing sector, combined with a shuddering halt to industrial construction and other negative multiplier effects, sent the Lake Charles economy into a serious, 5-year dive.

Lake Charles was actually the first MSA in Louisiana to begin recovering from the terrible statewide recession of 1982-87. The key was the attraction of **Boeing Aircraft** to Chennault Field. Boeing created over 2,000 jobs to refurbish K-135 transport airplanes for the Air Force. That helped set Lake Charles off on a recovery mode. The recovery was further aided by a sudden drop in the exchange value of the dollar, which rejuvenated foreign markets for the chemical firms and set them off on a new round of hiring and capital expansions. (Note the magnitude of this recovery is distorted in Figure 25 by the addition of Cameron Parish employment data to this MSA's job statistics.)

In 1992, Boeing announced the closure of its facility, and the job loss there caused Lake Charles' employment to slide sideways for two years. The next three years were excellent growth years for Lake Charles. Three factors powered this expansion. First, there were some unusually large capital projects under construction in the petrochemical sector. **Citgo** and **Conoco/Pennzoil** combined for $1.6 billion in expansions during this period.

Secondly, it was during this period that the **riverboat casinos** came to Lake Charles. Thirdly, Boeing was replaced at Chennault Airpark by **Northrop Grumman---** a facility that took 707s, stripped them down, and installed the Joint System Target Attack Radar System (JSTARS) in them. This was an addition of 1,900 good-paying jobs for the Lake Charles economy.

It is obvious from Figure 25 that the good times ended for Lake Charles in 1999. The MSA lost 2,800 jobs in that year and was essentially flat for the next six years. There were several contributors to this poor performance. The first involved hits at the aircraft repair facilities at Chennault Airpark. As Northrop Grumman came near the end of its JSTARS contract, the firm began handling fewer aircraft and consequently began terminating workers. NG reverted to doing maintenance, repair and overhaul (MRO) work on the JSTARS aircraft, and its workforce dropped all the way down to 350**.** The attraction of EADS to Chennault helped offset NG layoffs somewhat, but even that firm reduced its workforce from about 350 down to 160 before selling to **Aeroframe Services**.

Secondly, a combination of 9/11 and the national recession reduced trips to the area gambling establishments, prompting layoffs there. Thirdly, **Xspedius** moved its headquarters office in Lake Charles to St. Louis.

But by far the most important contributor to the downturn was the **funk in the chemical industry**. High natural gas prices forced this vitally important industry in Lake Charles to hunker down and look for ways to reduce costs. One way was to reduce the number of employees. Too, the industry placed capital expansion projects on hold and delayed maintenance/repair work as much as was safely feasible. The result was a significant reduction in **industrial construction** employment.

The Surprising "Rita Effect"

What may surprise readers the most about the data in Figure 25 is the growth in 2005 and 2006. Despite being hit by a vicious storm, this MSA's employment actually grew---adding 2,700 jobs over those two years. The larger portion of that growth occurred in 2005, the year of the hurricane.

Rita's impact on housing. There were 47,384 homes damaged by Rita in this MSA---but only 2,284 incurred severe damage and 6,673 major damage. Residents could and did return to the Lake Charles area fairly quickly. Normally one would be aghast at these figures, but against the backdrop of the housing destruction in New Orleans, they pale. It is very important to note that with the exception of lower Cameron Parish (the most sparsely populated parish in the state) **there was virtually no flood water damage** in Lake Charles. That means regular homeowner's insurance was applicable to the damage. As a result, all the impediments to rebuilding that existed in New Orleans due to standing flood waters did not exist in Lake Charles.

Rita's impact on Lake Charles manufacturing. It is the nature of the manufacturing industries in Lake Charles that they would seemingly be very vulnerable to a powerful storm like Rita. Chemical plants and refineries are very capital-intensive, and all their capital is outside and exposed to the elements. In fact, three refineries in the area were damaged and shut down: (1) Citgo (324,000 bd); ConocoPhillips (239,400 bd), and (3) Calcasieu (30,000 bd). All three were back up by December 2005.

Also, the aircraft industry, which operates in large hangers, seemed likely victims of high winds. Despite these vulnerabilities, these industries made it through the storm without losing much downtime. There was $40 million in damage to hangers at Chennault, but the two firms operating there continued to do so despite the inconvenience.

Importantly, staffing was not as difficult a problem as in New Orleans because most housing remained intact in Lake Charles.

Rita's impact on the Lake Charles gaming sector. As a result of Rita the two Isle of Capri-owned casinos and the L'Auberge du Lac encountered minor damage and were reopened by November 2005. However, the two Harrah's riverboats were badly damaged by the hurricane. Again, Pinnacle Entertainment, which owns L'Auberge du Lac, purchased both of Harrah's licenses in Lake Charles. Pinnacle returned one license to the Gaming Control Commission and moved the other license to Baton Rouge.

Rita's impact on other sectors. A look at other sectors in Lake Charles indicates a solid recovery in the aftermath of the storm. By January 2005, all **hospitals** in the MSA except one in Cameron Parish were fully operational. The **Lake Charles Regional Airport** began operating at an even higher level than pre-Rita. By contrast, the New Orleans airport was still operating below pre-Katrina levels in 2011.

Within a month of Rita's landfall, 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. The **Port of Lake Charles** escaped any flooding by Rita. However, it did experience about $40 million in wind damage and initially had no power. Within a few days power was restored and the port was open to receive shallow water vessels.

Careful reviewers may have noticed another important fact back in Figure 25. In 2007 Lake Charles MSA set a **new record in employment**---exceeding the previous peak by 2,100 jobs. Construction associated with the storm recovery was still robust in 2007, about 2,200 jobs higher than just after Rita. However, construction's growth peaked in 2007 and was slightly lower in 2008, constituting something of a temporary drag on the area economy.

The Great Recession Felt Hardest Here

Among Louisiana's eight MSAs, none suffered more than the Lake Charles MSA from the Great Recession. Although this MSA's employment began to slide later than the national economy---in February 2009 as compared to January 2008---2009 was particularly harsh on the region. In that year the MSA shed 3,700 jobs and then it lost another 2,200 in 2010---an employment drop over two years of 6.3%. This is a worse decline than that experienced at the national level (6.1%).

What was behind this poor performance over 2009-10? There were several factors, including:

- In 2008 **Citgo** announced it was closing its 192-peron lube plant which added to the drag of reduced construction spending.

- **Aeroframe**, which does maintenance work for FedEx and US Airways aircraft had to reduce its workforce from 475 to 250 as both firms idled many of their jets due to the sagging global economy.

- The weak national economy hurt business at the area's important **casino industry**.

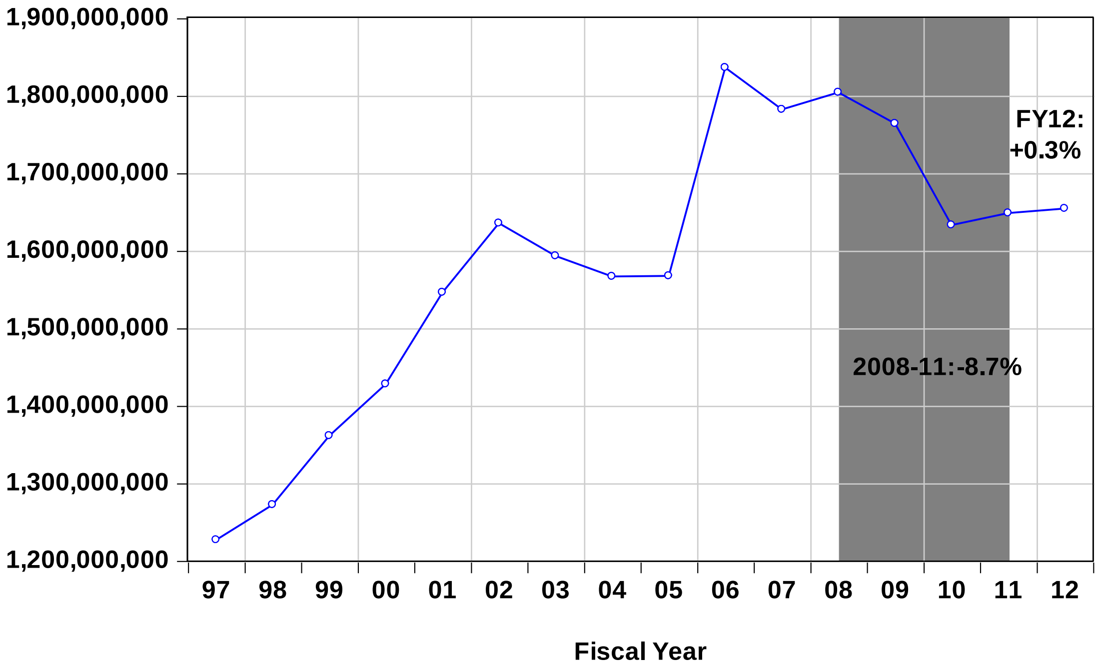
- During this period the region's **petrochemical firms** really tightened their belts especially with regard to capital projects. This is illustrated below in Table 14 which contains data supplied by the Lake Industrial Alliance Association which shows an almost **3,000-job decline in contractor jobs** at area plants over 2007-10. Fortunately, the data for 2011-12 show this downward trend has been reversed, and in the case of contract workers has almost doubled from the 2010 trough.

Table 14
Employment in Lake Charles Area Petrochemical Plants

Year	Full Time Employees	Contract Employees
2005	6,401	3,003
2006	6,158	2,830
2007	*6,221*	*5,412*
2008	*6,070*	*3,572*
2009	*6,042*	*3,070*
2010	*5,961*	*2,456*
2011	6,683	3,265
2012	6,754	4,273

- The region was delivered a blow in the Summer of 2010 when Pinnacle announced it was stopping construction on the **Sugarcane Bay Casino** and was turning in that license to the Gaming Control Board. It should be noted that the combination of the Great Recession and the unusually weak recovery negatively impacted the casino market. As seen in Figure 26, casino revenues statewide dropped 8.7% between FY08 and FY11, and rose only 0.3% in FY12.

Fig. 26: Louisiana Casino Revenues by Fiscal Year



Finally: A Growth Year in 2012

Referring back to Figure 25, readers will notice the beginnings of a recovery in 2011 (+600 jobs) and very good growth over 2012-13. In fact, **the latest data indicate Lake Charles is the fastest growing MSA in the state**. What is particularly impressive about this performance is it was accomplished despite the fact that a major employer---**Dynamic Industries**---basically shut down its 500-person operation in Lake Charles. The firm won phase I work on manufacturing components for the Marine Well Container project. However, the company was unsuccessful in landing phase II, so terminated its operations in this region.

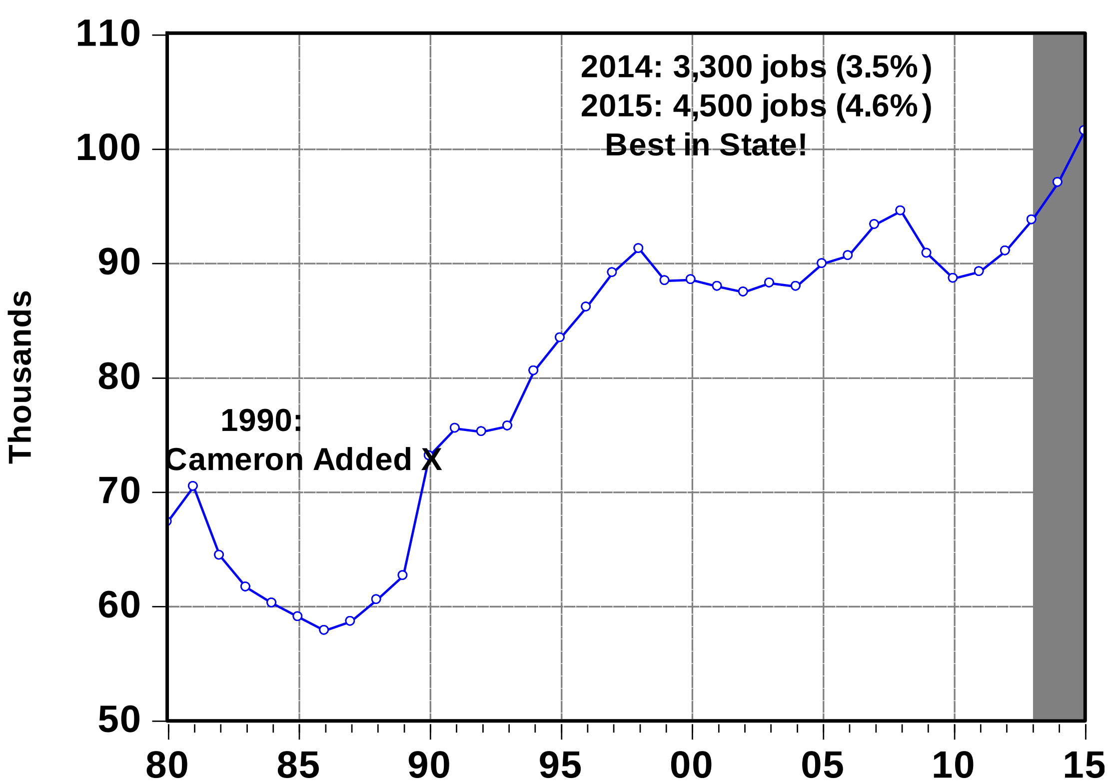
On a far more positive note, during this period **Shaw Modular Solutions** opened its new facility and now has about 1,000 employees now. **Aeroframe** added employees as one of its key customers---FedEx---began to fly more planes. Importantly, **turnover work** at area petrochemical firms rose from $350 million in 2010 to over $800 million in 2012, and area **chemical firms** in general were enjoying an increase in business due to increased exports. Note back in Table 12 that LIAA surveys indicate direct employment in petrochemical firms jumped by 793 employees over 2011-12 and contract employment rose a whopping 1,817 jobs over that same time period.

Ground-breaking took place on the $500 million **Golden Nugget Casino** in July of 2012. Work began on a $176 million expansion at **Sasol** and at the Lake Charles Port, **IFG** started construction on phase I of a new $59.5 million grain elevator. Even more importantly, $5.6 billion worth of work began on the first two "trains" at **Cheniere's** new LNG export terminal. We will have more to say about this project below.

Forecast for 2014-15: An Historical Boom Has Started

Figure 27 shows our forecasts for the Lake Charles MSA over the next two years. **We are expecting Lake Charles to add 3,300 jobs in 2014 and another 4,500 jobs in 2014---a stellar increase of 8.1% over this period.** No other MSA in the state is expected to come close to this growth rate. The closest should be Baton Rouge at 5.6%. Sometime in 2014, Lake Charles should surpass its previous peak reached back in 2008 and begin to set new employment records. In fact, we project that in 2015 this MSA will break through a barrier which has been seemingly illusive since the mid-90s---over 100,000 employed.

Fig. 27: Lake Charles MSA Non-Farm Employment Forecast: 2014-15



Massive Industrial Construction: Where to Get---and House---Workers

There are two primary sources of this very optimistic outlook for Lake Charles. By far the most significant is the looming boom in industrial construction. A recent Greater Baton Rouge Industrial Managers Association (GBRIMA) survey documents **$46.6 billion in planned (or underway) spending on industrial projects** in this region.

Clearly that is an enormous figure, but two reference points may put it in perspective. First, we have been monitoring this MSA for nearly four decades. In the past, a good year would be when $2 billion in capital spending was announced. Twenty-three times that amount is expected over the next few years. Secondly, the closest MSA to Lake Charles using this metric is Baton Rouge---also a major petrochemical center---where the capital spending number is $23.7 billion, considered remarkable there but about half of what is expected in Lake Charles.

LNG Export Facilities Leading the Way

Presently leading the way in industrial expansions are the LNG export terminals. Referring back to Figure 7, there was a 6-year period from 2003-08 when the price of natural gas rose dramatically and the signal was that there was a shortage of this important fuel. Entrepreneurs responded the way they always do---they began to look for more of the fuel (or a close substitute for it). The result was the construction of three onshore, and one offshore, LNG import terminals.

The wide use of fracking to produce natural gas from shale rock was so wildly successful that the country is now awash in natural gas and its price has fallen commensurately. This ocean of natural gas has incentivized entrepreneurs to turn our existing LNG import terminals into **LNG export** terminals.

Three vital permits. To make this switch, owners of these terminals are not only required to secure the normal environmental permits, but they must also secure two others. They must secure from the Federal Energy Regulatory Commission (FERC) permission to export the fuel, and they must obtain from the Department of Energy (DOE) permission to export this fuel to non-free trade countries. This latter permit is especially crucial since the owners want to be able to export to the rich markets in Japan, Korea, India, Britain, France and other countries which are not free trade partners of the U.S.

Investment funds. There is one other vital item that must be secured in order to proceed with construction---**money**. Converting natural gas from a gas form to a liquid form for transporting on an LNG vessel involves constructing what the industry refers to as a “train”. A train is a series of very complex pieces of machinery lined up in a row. Natural gas goes in as a gas one end and comes out as a liquid (at one 600th of its original volume) at the other end. An LNG export facility typically starts with two trains. Each train will cost about $4.6 - $6 billion.

How does an owner raise such a huge amount of money in the capital market? The key is to go to lenders with a market for your product already secured. In this case, owners go to the market with several 20-year contracts from buyers of the LNG in their hip pockets. When lenders in the capital markets see these contracts, and also see that the gas can be purchased in the U.S. for about $4 per mmbtu and sold in these contracts at $18 per mmbtu, their check books open.

Four export terminals in Lake Charles? There are three LNG export terminals that are well along in the permitting/capital raising process and a fourth that was just recently announced.

- **Cheniere Energy's** Sabine Pass LNG is the most advanced in this process. It has landed both the necessary permits and contracts. Cheniere has 20-year contracts from BG Gulf Coast, Gas Natural Fenosa, GAIL, KOGAS, Natural Gas Aprovisionamerientos SDG, Centrica PLC, TEPCO, and Total Gas North America to purchase its product when it becomes available in 2015. Cheniere actually started construction of its first train in September 2012, and as of May 2013 it was 30% complete. This $5.6 billion project should be ready for exports in late 2015. A contract to build the second train (at $4.6 billion) was let to Bechtel in December 2012. Construction of the third and fourth trains was determined to be a "go" in May 2013 and Bechtel was issued a notice to proceed. A newly secured contract with Total Gas & Power will allow for a fifth train to be built. Cheniere is expected to apply to FERC for permission to build trains 5 and 6 in September 2013. All other permits have been secured for these additional trains. The company will hire another 178 people to supplement its existing workforce of 77.

- **Sempra Energy's** Cameron LNG facility is close to starting construction. The firm has inked contracts with Mitsubishi Corporation, Mitsui & Company and GFD Suez of France to purchase the gas. Securing all the necessary permits stands between Sempra and construction startup. Sempra has been successful in securing a permit from the DOE to export to free-trade partners of the U.S. but its permit to export to non-free trade partners is still pending. An application to begin construction of the facility has been filed with FERC and final approval is expected in early 2014. Plans are for this site to ultimately be a 3-train facility and add 130 jobs. Expectations are that construction will start in 2014 and the plant should become operational in 2017, exporting 1.7 bcf/d of its product.

- The third proposed LNG export terminal in this region is **Lake Charles Exports**, a company that is jointly owned by the BG Group and Southern Union. This is also expected to be a 3-train unit. The firm has applied to FERC to begin construction in 2014 and has received "conditional approval" (not full approval yet) from DOE to export to non-free trade countries. Lake Charles Exports hopes to be in operation by 2018, exporting about 2 bcf/d of natural gas.

- Finally, **Magnolia LNG**---a subsidiary of Australian LNG---has announced it is examining the construction of a mid-scale, $2.2 billion LNG export facility at the Port of Lake Charles. Magnolia says it will make a final decision in late 2014 after it secures financing and the necessary permits. If these efforts are successful, construction would begin in 2015. The firm plans to sell its product domestically and to free-trade partners of the U.S. Once operational it would have a workforce of 45, earning about $75,000 per year.

General Chemicals: Largest Project in Louisiana's History

This petrochemical-intensive region is getting a terrific boost from lower natural gas prices. The planned expansions are more often than not measured in the billions of dollars.

- Of the announcements made by far the ones that have generated the most excitement in this region are the two proposed new **Sasol** facilities. Sasol has completed the feasibility studies and made the decision to move forward on both a world-scale ethylene cracker and a new gas-to-liquids (GTL) plant at its site in Westlake. The ethylene cracker---a huge $5-$7 billion facility---would be constructed first. Final permitting would be secured over 2013-14, along with the front-end-engineering-design (FEED) work. Construction would commence in 2014, with completion in 2017. **Sasol's $11-$14 billion GTL plant will be the largest single capital investment in Louisiana's history**. This huge plant will convert natural gas into 96,000 barrels per day of diesel, naphtha and other chemical products. Final permitting would be secured over 2013-14, and the FEED work would be ongoing over 2013-16. Construction would commence in 2016, with completion of phase I in 2019 and phase II in 2020. Combined, the two projects will create 1,228 Sasol jobs and 358 contract construction jobs.

- For several years now we have been writing about the development of Leucadia's proposed synthetic natural gas plant. Now that there is an abundance of natural gas in the country, there is no demand for a plant to make a synthetic version. Leucadia has responded by forming a new unit---**Lake Charles Clean Energy**---to build a $2.5 billion plant at the Port of Lake Charles to produce methanol from petcoke imported or purchased from nearby refineries. The firm has contracts for its final products in hand to sell methanol (BP), hydrogen (Air Products) and carbon dioxide (Denbury Resources). An agreement has been signed with the Port for handling and storage of the methanol, and the firm has spent $50 million on preparing the 70-acre site and on electricity infrastructure. It looks like this project is finally in the "go" stage.

- The Port of Lake Charles has potentially landed another big fish with the recent announcement that **G2X Energy** is conducting a feasibility study to build a $1.3 billion plant on 200 acres at the Port. A GTL plant, this plant will convert natural gas into methanol and then into gasoline (90% of output) and propane (10% of output). Assuming a positive late 2013 decision on the project, G2X would start the almost 4-year construction in 2014 and open in 2017. Hiring of 243 employees to operate the plant (at $66,500 per year) will actually be completed in 2015.

- **Juniper GTL** will invest $100 million to renovate a dormant steam methane reformer in Westlake and convert it to a gas-to-liquids facility that will produce clean waxes, drilling fluids, diesel and naphtha. Construction stats in late 2013 and ends in early 2013 and will generate 29 new jobs at $85,000 annually.

- **Westlake Chemicals** will be finishing up a $128 million expansion in 2014.

- **Phillips 66** is examining the possibility of spending $800 million at its refinery. The expenditure would be necessary to produce an ultra-low sulfur diesel at the plant. It is not clear when this decision will be made. The company may continue to make its less-than-low-sulfur diesel and sell it internationally.

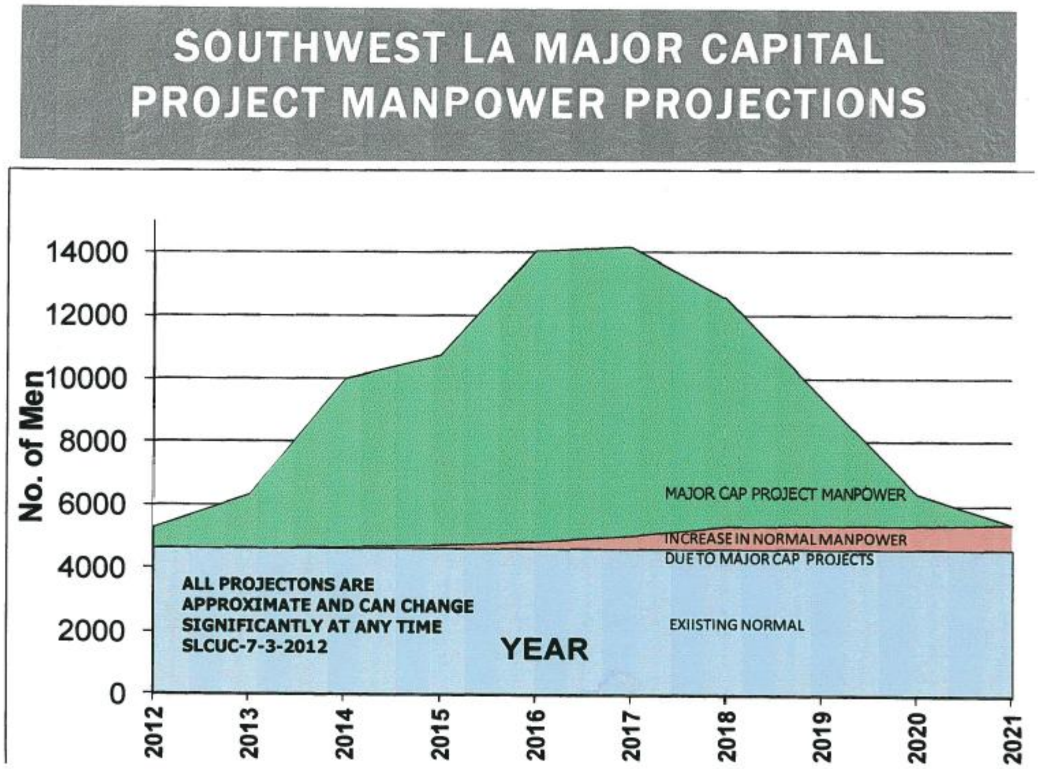
Where to Get/House Workers

The construction of all these unusually large LNG and petrochemical facilities has created some issues for the region that is leading to even more construction. One issue of concern involves where to get the industrial construction workers to build these new facilities. The projected needs are rather startling. As seen in Figure 28, the Lake Area Industrial Alliance has estimated the construction manpower needs will rise from around 7,000 now to about 14,000 in 2014.

Fortunately for the construction firms, much of the rest of the country is operating in what could best be described as languid conditions with little construction activity. Construction workers tend to be highly mobile, so attracting them to the Lake Charles area with the bones of a job plus high wages should get these prospects to Lake Charles.

The problem then becomes, where will the region house this large influx of humanity? A company called **Greenfield Logistics Solutions** has---appropriate to its name---come up with a solution. Mimicking what has happened in the Bakken Oil Shale Play in North Dakota, this company is planning to build a $70 million “man camp” on 200 acres leased from the Port of Lake Charles. This will provide temporary dorm-type housing for 4,000 workers. It will also provide parking, transportation, eating facilities, recreational activities, laundering services, carded entry and security services.

Figure 28



More Tenants Means More Improvements at the Port of Lake Charles

Careful readers will note we have frequently referred to the **Port of Lake Charles** as the home for many of the projects listed above. The Port has responded with $290 million in upgrades. The Port is constructing Bulk Terminal 1 to service Lake Charles Clean Energy and is making improvements to the City Dock. The entrance gate to the Port is being upgraded along with the construction of a new administrative building.

In addition to aiding general operations at the Port, upgrades to the City Dock are being made to support anther new Port tenant---**IFG**. IFG is in the midst of building the first greenfield grain elevators in the U.S. in the last 25 years. The $59.5 million phase I of IFG investment is 40% done and should be completed in late 2014, generating 36 permanent jobs. A $50 million phase II should begin as soon as phase I is operational. Union Pacific Railroad has made a $7 million investment to support IFG, and the Port has invested $12 million for loop trains, dredging and road work to support IFG.

Public Projects & Mardi Gras Boardwalk

There are a number of public construction projects scheduled for The Lake Charles region over the next two years, which---though not all that large---will provide jobs for local citizens. The largest by far will be the **$145.1 million in state road/bridge projects** the Louisiana Department of Transportation and Development has let for 2014-15. The largest of these is $65 million to 6-lane I-10 from East Coone Gulley to the Texas line.

The state will also spend $20 million on a new training center at **SOWELA Technical Community College**, primarily to meet the training needs for Sasol's expansion. That same facility will receive $3.7 million to establish an Aircraft MRO Center of Excellence to train workers for companies at Chennault Field (discussed below). Finally, ground-breaking took place about a year ago on the $10 million, 45,000 square foot **West Calcasieu Event Center** which should open in spring 2014.

In July of this year, the City of Lake Charles notified **Mardi Gras Boardwalk** that it can proceed with development of the old Harrah's property along the lakefront. The company still must have its final plan approved, but expectations are that dirt will be turned on the project by early 2014. Initial description shows a <u>$45 million entertainment project</u> with a festival park, an amphitheater, a 5-story 100-room condo/hotel a 35,000 square foot sports bar, and a 25,000 square foot family entertainment center, plus other commercial facilities.

Golden Nugget Opening = Lots of Jobs

Last July 2012, ground was broken for a new, very large casino in Lake Charles. This license has been through many hands before landing with **Golden Nugget**. Initially, the license was owned by Creative Casinos which was then sold to Ameristar in March 2012. It was then purchased by Pinnacle in December 2012. Pinnacle already owned the La Berge du Lac Casino, and when Pinnacle bought Ameristar's casino, the Justice Department determined that Pinnacle had to divest itself of one of the casinos in Lake Charles. Pinnacle decided to sell to Golden Nugget in the summer of 2013.

Throughout the change in ownership, construction on the $500 million casino complex with a 700-room hotel continued. It is on schedule to open in late 2014 with <u>1,500 new jobs</u> for the area. Consensus opinion seems to be that---unlike the case of the new Margaritaville Casino in Shreveport---the Golden Nugget will <u>not</u> be cannibalizing business away from the other gaming institutions in the area. Thus, the <u>gross</u> increase of 1,500 new jobs at the Golden Nugget could likely be the <u>net</u> increase in gaming jobs in the area as well. That is very good news for Lake Charles.

Other Manufacturing: Some Good News & One Major Worry

Most of our focus as we discussed manufacturing in Lake Charles has centered on the petrochemical/LNG industries. However, this MSA has major players in other areas.

Two of those players are at Chennault Industrial Park. Here there is really good news and a worry.

The really good news is that in August 2013, Aeroframe was purchased by **AAR**---the largest aircraft maintenance-repair-overhaul (MRO) organization in the U.S. and the third largest in the world. Just before this purchase, Aeroframe had landed a contract with ILFC, the largest aircraft leasing firm in the U.S. After every lease ends, ILFC's planes have to be brought in for updating and repainting. The marriage of Aeroframe and AAR means this site can perform MRO work on all wide-bodied aircraft up to the Airbus A380. A new facility will be added at the site and AAR plans to <u>boost its present 250-person workforce by 500</u> between now and 2017.

Our worrisome issue has to do with the other large tenant at Chennault—**Northrop Grumman**. NG does MRO work on the JSTARS and KC10 military aircraft. Its workforce of 650 should remain stable through 2015. After that, employment should ramp up some because a <u>more intense maintenance cycle</u> on the KC10 will come up in 2016-17. What is worrisome is the question of the effects of the sequester on aircraft MRO work for the military. Further, the Defense Department has been the target of the present administration when it comes to cuts in the federal budget. Will MRO work escape this hatchet?

A final large manufacturer in the area is **CB&I (formerly, Shaw) Modular Systems**. CB&I uses Westinghouse technology to manufacture equipment for the nuclear power industry using AP1000 technology---considered the safest and most economical technology in the industry. The company is also planning to use its modular building technology to manufacture parts for all the petrochemical expansions occurring in Louisiana and Texas. Its large 1,000-person workforce is expected to rise by 100-200 persons a year over 2014-15 as CB&I expands into this new market.

Unless there is some unforeseen large spike in natural gas prices, the Lake Charles MSA should be the shining light in the Louisiana economy over the next two years.