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THE DEEPWATER DRILLING MORATORIUM: A SECOND ECONOMIC DISASTER FOR SMALL BUSINESSES?

HEARING

BEFORE THE

COMMITTEE ON SMALL BUSINESS AND ENTREPRENEURSHIP UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

JULY 27, 2010

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THE DEEPWATER DRILLING MORATORIUM: A SECOND ECONOMIC DISASTER FOR SMALL BUSINESSES?

TUESDAY, JULY 27, 2010

UNITED STATES SENATE,
COMMITTEE ON SMALL BUSINESS
AND ENTREPRENEURSHIP,
Washington, DC.

The Committee met, pursuant to notice, at 10:08 a.m., in Room SD–106, Dirksen Senate Office Building, Hon. Mary L. Landrieu (chair of the committee) presiding.

Present: Senators Landrieu, Vitter, Thune, and Wicker.

OPENING STATEMENT OF HON. MARY L. LANDRIEU, CHAIR, AND A U.S. SENATOR FROM LOUISIANA

Chair LANDRIEU. Good morning. If the witnesses would take their seats, thank you so much.

I appreciate everyone joining us for this very important hearing today. Ranking Member Snowe will be joining us in a few minutes, and when she gets here, I will recognize her for her opening statement. Then as members arrive, we will go into a line of questioning after our first panel and after our second panel, and each member will be allowed 5 minutes of questioning. We have about 2 hours set aside for this hearing, and I am very pleased to be able to call this hearing as Chair of this Committee. It is the first hearing conducted in Congress on the moratorium itself, which in the view of many of us that represent the Gulf Coast might be a greater economic disaster than the spill itself, which is what precipitated the calling of this meeting.

Tomorrow will be the 100th day since 11 men perished on the Deepwater Horizon—and, Senator Vitter, as I said, when Senator Snowe comes, she will be able to give an opening statement, and then members will get 5 minutes of questioning for rounds.

Tomorrow will be the 100th day since 11 men perished on the Deepwater Horizon drilling rig. First, the explosion that took the lives of those workers sent millions of barrels of oil spewing into the Gulf and onto our shores and into our marshes. Although this is not the subject of today's hearing, determining an official calculation of the amount of oil will be extremely important to assess the billions of dollars of penalties that will be leveled on BP.

Second, the uninformed and heavy hand of the Federal Government reacted to this tragedy by halting all drilling activity in the Gulf for more than 30 days and canceled the western Gulf leases,

which were scheduled to be leased or offered for bid in August. While some very limited shallow-water drilling has been allowed to move forward, all deepwater drilling has been brought to a complete standstill for an indefinite period of time. In fact, we checked this morning, and not one new shallow-water permit, I believe, has been issued since this action was taken, and it is not officially under a moratorium.

This decision to halt all new energy production in the Gulf of Mexico appears to have been made in an uninformed manner and, in my view, borders on reckless. As a result, thousands of Gulf Coast businesses are confronting a second economic disaster that not only threatens jobs and businesses—those businesses include oil and gas fuel service organizations, transportation organizations, and machinery companies—but it also threatens a way of life just as surely as the BP oil slick does, and perhaps even more.

The Administration's decision to halt drilling activity did more than threaten the livelihood of thousands of rig workers and oil and gas service crews; it drastically reduced the amount of economic activity taking place in the Gulf Coast states of Louisiana, Texas, Mississippi, and Alabama.

While we are here today to talk about the moratorium's economic impact on small business and the economy in the region, we cannot ignore its consequences on our environment internationally and on national security. This Administration seems to be ignoring the fact that this action has actually increased environmental risk, and I will explain.

The fact remains that America consumes 20 million barrels of oil a day. That is what our economy needs to function. So by stopping new drilling here at home, the U.S. will tragically increase exports from other countries who have less environmental standards, countries like Egypt, Nigeria, Angola, and Venezuela and have less pressure, I might say, to keep our oceans clean and beautiful. So this begs the question. By stopping drilling in the Gulf, are we helping the environment or harming it? I believe we are actually harming it.

The impact of the moratorium on national security is even starker. Obviously, a barrel not produced here is a barrel of oil that is vulnerable to geopolitical decisions outside of U.S. control. Most of us in this room are old enough to remember the OPEC embargo. That is not something I think Americans would care to repeat.

Increasing our dependence on foreign oil has direct ramifications on our national security. Consider this: When oil prices spiked in 2008, Americans transferred nearly $700 billion overseas to pay our fuel bill during the price spike. About $400 billion went to OPEC countries. That transfer of U.S. dollars occurred in just one year, and that is when the Gulf was producing. We must get the Gulf of Mexico back producing for national security, for our environmental, and for small businesses, which is the subject of this hearing, along the Gulf.

So today our hearing is intended to address the economic impacts of this moratorium on Gulf Coast small businesses. To be clear, my concern here is not for major oil companies like Shell or Exxon or BP. That will be the subject of many other hearings. We want to focus on the impacts of this moratorium to small business. If big

oil companies are prevented from producing here, they will simply transfer their capital to other countries, as I mentioned before. But the jobs that used to be based in America, many of them hired and employed by small businesses along the Gulf, will be devastated.

I think it is noteworthy that the Administration was forced to revise its earlier ban this month after a Federal court decision ruled that its basis was not solid. As one of the first Senators calling for a full investigation into this accident and demanding more effective regulations, I share the Administration's goal of a safer oil and gas industry, not their method to achieve that.

Louisiana's coastline is a working coast, bringing the country an abundance of seafood, energy, navigation assets, and much more through the mighty Mississippi River and the delta that it created. As residents of this working coast, no one wants drilling to be more safe than we do. No one wants the water to be more clean than we do. We have conducted these industries in balance for literally more than four decades, and we intend to continue that good balance into the future.

But we also know that our ability to recover from this oil spill and any hope of a prosperous future depends on a robust plan to continue exploring and developing the abundant oil and gas reserves off of our coast. We know full well what prolonged suspension of deepwater drilling until November 30th, or longer, will mean for hundreds of oil service companies and other businesses. It will mean economic disaster.

While the Administration has left open the possibility to resume drilling operations, it does not seem to be happening in the shallow water today, and there is no date certain for deepwater drilling in the future. For Louisiana alone, that puts some 330,000 people who earn a living in the oil and gas industry at risk.

Our Federal Government has a responsibility, particularly in these difficult times, to make sure that their paychecks will not turn into pink slips. With our nation hopefully on the verge of an economic recovery, the last thing we need to do is to throw a wrench in the recovery that is underway on the Gulf Coast.

I note for the record that on Wednesday, July 21st, I invited Dr. Christina Romer, Chair of the President's Economic Advisers, to testify before this Committee to provide the Administration's perspective and its own economic analysis in support of the moratorium. Unfortunately, the Administration was unwilling to provide a witness for today's hearing. So yesterday I spoke to Dr. Romer personally, and she indicated the Administration does not currently have the economic impact data, which is very disappointing to learn.

It is my understanding that such a review has been initiated, however, which is encouraging, and with that in mind, I sent a letter to President Obama yesterday announcing my intention to hold another hearing no later than September 16th where the Administration will submit their analysis and will provide testimony to this Committee regarding this moratorium.

It is my sincere hope that this moratorium will be lifted by that time, but if not, I look forward and the people that I represent will look forward to that testimony.

Consider what we know today. Idling the deepwater rigs that were permitted to drill in the deepwater Gulf will immediately impact as many as 46,000 crewmen, deckhands, engineers, welders, ROV operators, caterers, helicopter pilots, and others who operate these service vessels. I have said in speech after speech, to try to paint this picture as clearly as I can to other Americans, it would be like laying off every firefighter and every police officer in Alabama, Mississippi, and Louisiana.

Dun & Bradstreet researchers who will testify at today's hearing have prepared a preliminary analysis that shows 2,828 Louisiana small businesses will be affected by this moratorium, and it will not be just businesses in coastal communities. In fact, Dun & Bradstreet found that nearly 700 of these businesses are located in central and north Louisiana, and that is just the impact to Louisiana. Neighboring states will also be impacted, particularly Texas.

For example, the International Association of Drilling Contractors has found that 46,000 jobs are at immediate risk in 296 congressional districts. That is, 68 percent of all congressional districts will be negatively impacted by this near reckless decision. In addition, according to the Gulf Economic Survival Team, led by our Lieutenant Governor, Scott Angelle, long-term job losses in Louisiana could reach 120,000 by 2014.

While Gulf waters may be clouded by oil in some places, the data against the moratorium is crystal clear. We cannot close down the offshore oil and gas sector without devastating economic impacts to our region. These are businesses like Laborde Marine, a family-owned business headquartered in New Orleans. In the late 1950s, Mr. Laborde pioneered innovations that would revolutionize the offshore service vessel industry. Today the company owns and operates 21 vessels, all built in U.S. shipyards, and employs more than 300 people with a $14 million annual payroll. They invested over $150 million to build or acquire this fleet. The moratorium is essentially telling them to park their vessels for 6 months. For this company to move internationally, they would have to compete with vessels built in foreign shipyards at much lower cost and often subsidized by foreign governments. This is grossly unfair.

This moratorium will also affect many small businesses that have indirect relationships to the offshore industry, as Young's Grocery Store in Intracoastal City, Louisiana, can testify. Owner Scott Young says that his store has been supplying boats and production rigs with food for 12 years. Of the moratorium, Scott says, "It will be a disaster I was not prepared for, one I cannot prepare for."

I would also note that it is not just Louisiana's economy and jobs at stake. This oil service company employs people all along the Gulf Coast and throughout our nation. Consider Broadpoint, a 27-year-old company with 100 employees, based throughout the Gulf Coast, with their headquarters are in Houston. Their operations are 99 percent directly related to providing telecommunications services in the Gulf through satellites. Reliable communication is essential for the health and safety of individuals in the Gulf, but Broadpoint will be struggling to keep their employees on board if this moratorium lasts much longer.

Our hearing today is to learn more about how small businesses are being devastated by this moratorium. Our hearing today is to get testimony onto the record about the ill-conceived and heavy-handed action of the Federal Government. It does not meet our environmental needs; it does not meet our national security needs; and, it most certainly does not meet our economic needs. It fails every test.

I believe this Congress needs to hear these stories of small businesses impacted throughout the nation that will be decimated if this moratorium continues. I am committed and the members of the Gulf Coast are committed to do everything we can to get this message out so that some relief can be put into place.

If the Gulf Coast is going to recover from this nightmare, it will be because of the health and production of coastal Main Street small businesses that support the production of energy that fuels our nation. We cannot continue to support a policy that will put them out of business.

[The prepared statement of Chair Landrieu follows:]

SENATE COMMITTEE ON
SMALL BUSINESS AND ENTREPRENEURSHIP
Senator Mary L. Landrieu, Chair

Opening Statement for
Hearing entitled: *"The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses"*
July 27, 2010 at 10:00 a.m.
Room 106 of the Dirksen Senate Office Building

(As prepared for delivery)

I thank everyone for joining us today for this very important hearing. 99 days have passed since 11 men perished on the Deepwater Horizon oil rig. The night of April 20th changed the Gulf forever. First, the explosion that took the lives of those workers sent millions upon millions of barrels of oil spewing into the Gulf. Second, the heavy hand of United States Government reacted to this tragedy by stopping all drilling activities in the Gulf. While some very limited shallow water drilling has been allowed to move forward, all deepwater drilling has been brought to a complete standstill for an indefinite period.

I'm sorry to say that the decision to stop energy exploration in the Gulf of Mexico appears to have been made in an uninformed, almost reckless, manner. As a result, Gulf Coast businesses are confronting a second economic disaster that threatens our way of life just, as surely as the massive BP oil slick does – perhaps more. The Administration's decision to halt drilling activity did more than threaten the livelihoods of thousands of rig workers and oil service crews; it drastically reduced the total amount of economic activity taking place in Louisiana, Texas, Mississippi, and Alabama.

While we are here today to talk about the moratorium's economic impact on small businesses and the economy, we cannot ignore its consequences on our environment and national security. The Administration seems to have turned a blind eye to the increased environmental risks associated with shutting off new domestic offshore production. The fact remains that America's consumes 20 million barrels of oil a day, and this oil is needed to supply small businesses with the resources needed to deliver the products and services that fuel our economy. By stopping new drilling here, the U.S. simply exports our oil production to foreign countries like Egypt, Nigeria and Venezuela that do not have the safety standards or political will to protect the world's oceans. We must ask ourselves: Is that the environmental solution the U.S. wants to advocate?

To be clear, my concern here is not for the big oil companies. They may lose some money, but they will largely be fine and their workers mostly untouched by this decision. But thousands of businesses will not be so lucky. Today, we will hear from affected small business owners across the Gulf Coast to get a sense of this problem.

I think it is noteworthy that the Administration was forced to revise its ban earlier this month after a Federal court decision ruled that the moratorium on all deepwater drilling was "arbitrary and capacious." Thousands of business owners across the Gulf angrily agree.

As one of the first Senators to call for a full investigation into the accident and demand more effective regulations, I share the Administration's goal of a safer oil and gas industry. Louisiana's coastline is a working coast – bringing the country seafood, energy, and much more through the mouth of the mighty Mississippi River. As residents of this working coast, we want this drilling to be safe. But we also know that our ability to recover from this oil spill and any hope for a prosperous future depends on a robust plan to explore and develop the oil and gas reserves off our coast.

We know full well what a prolonged suspension of deepwater drilling until November 30th – or longer – will mean for hundreds of oil service companies and other small businesses. And while the Administration has left open the possibility to resume drilling operations sooner, Gulf Coast businesses lack the certainty they need to move forward with future plans. In Louisiana alone, some 330,000 people earn a living in the oil and gas industry. Our Federal government has a responsibility to assure them that their paychecks will not turn into pink slips. With our nation on the verge of an economic recovery, the last thing we need to do is cripple the very small businesses that will lead our nation out of this recession.

Unfortunately, it appears the Administration ignored data provided by professors at Louisiana State University, by business experts at Moody's and Dun and Bradstreet, and by industry experts at Cambridge Energy Research Associates. Worse yet, the Administration has imposed this moratorium without ever conducting its own analysis of the economic impacts of their decision.

I note for the Record that on July 21, 2010, I invited Dr. Christina Romer, Chair of the President's Council of Economic Advisers to testify before this committee to provide the Administration's perspective and its own economic analysis in support of maintaining the moratorium. Unfortunately, the Administration was unable to provide a witness for today's hearing. Yesterday, I spoke to Dr. Romer about this issue and she indicated the Administration does not currently have economic impact data. It is my understanding that such a review has been initiated, at the urging of this committee. With that in mind, I sent a letter to President Obama yesterday announcing my intention to hold another hearing no later than September 16th, where the Administration will submit their analysis and provide testimony. It is my sincere hope that the moratorium will be lifted by that time. If not, the Administration will come before our committee and provide justification for why the moratorium is still in place.

Consider what we know today: idling the deepwater rigs that were permitted to drill in the deepwater Gulf will immediately impact employment for as many as 46,000 crewmen, deck hands, engineers, welders, ROV operators, caterers, helicopter pilots, and others who operate and service these vessels. As I have said many times, that is the equivalent of laying off every firefighter and police officer in Louisiana, Alabama and Mississippi!

Dun & Bradstreet researchers, who will be testifying at today's hearing, have prepared a preliminary analysis that shows that 2,828 Louisiana businesses will be affected by the moratorium. And it will not be just businesses in coastal communities. In fact, Dun & Bradstreet found that nearly 700 of these businesses are located in central and north Louisiana. That is just the impact to Louisiana - neighboring states will also be impacted. For example, the International Association of Drilling Contractors has found that the 46,000 jobs that are at immediate risk are found in 296 Congressional Districts. That is 68 percent of all districts.

In addition, according to the Gulf Economic Survival Team, long-term job loss in Louisiana could reach 120,000 by 2014. While Gulf waters may be clouded by oil, the data against the moratorium is crystal clear: we cannot close down the offshore oil and gas sector without devastating economic impacts.

But, this debate is not just about unemployment numbers and bottom lines for small businesses. And it is not about Big Oil – the Exxons, the BPs, the Chevrons, and the Shells. This moratorium is about real people – the dock worker from Houma, accountant from Houston, welder from Morgan City, and truck driver from Lake Charles.

Many of these hard-working men and women are living the American Dream – they have built businesses with their innovation and their sweat and experience. They have invested their life savings to expand their business, hire more employees and stay competitive in this global economy, all with the assumption that the Gulf Coast would be open for business and our nation committed to producing more oil and gas domestically, not less. All of that is at risk if this deepwater moratorium goes on until November 30th or perhaps even longer.

These are businesses like Laborde Marine, a family-owned business headquartered in New Orleans. In the 1950s, Laborde pioneered innovations that would revolutionize the offshore service vessel industry. Today, the company owns and operates 21 vessels, all built in U.S. shipyards; and employs more than 300 people with a $14 million annual payroll. They invested over $150 million to build or acquire this fleet. The moratorium is essentially telling them to "park" their vessels for six months. For Laborde to move internationally, they would have to compete with vessels built in foreign ship yards at a much lower cost and often subsidized by foreign governments.

This moratorium will also affect many small businesses that have no oil and gas industry expertise, small businesses such as Young's Grocery Store in Intracoastal City, Louisiana. Owner Scott Young says that his store has been supplying boats and production rigs with food for 12 years. Of the moratorium, Scott says "It will be a disaster. I cannot prepare for it."

I would also note that it isn't just Louisiana's economy and jobs at stake. This oil service companies employ people all along the Gulf Coast and throughout our nation. Consider Broadpoint, a 27-year-old company with a 100 employees based along the Gulf Coast with its headquarters in Houston. Their operations are 99% directly related to providing telecommunication services in the Gulf of Mexico through satellite communications. Reliable communications is essential for the health and safety of individuals in the Gulf of Mexico, but Broadpoint will struggle to keep their employees on board if the moratorium persists.

Our hearing today is to learn more about businesses like Broadpoint and Young' Grocery Store. I believe this Congress needs to hear the stories of these small businesses and others throughout this nation who will be desimated by the Administration's moratorium. If the Gulf Coast is going to recover from this horrible nightmare, it will be because of the health and production of Main Street businesses that support the production of the energy that fuels our nation. We cannot continue a policy that will ultimately put them out of business.

Chair LANDRIEU. I will recognize Senator Snowe when she arrives. Let us go to our witnesses, and I will allow you, Senator, to testify during your time, which the two of us will have plenty of time.

Let us start with Mr. Treese until I can get a letter. Mr. Treese, go ahead.

STATEMENT OF ETHAN TREESE, VICE PRESIDENT, FEDERAL GOVERNMENT SOLUTIONS, DUN & BRADSTREET

Mr. TREESE. I would like to thank Madam Chair Landrieu, Ranking Member Snowe, and the Committee members for the opportunity to testify today.

Dun & Bradstreet (D&B) has been the leading provider of business information and insight since 1841. We maintain a global database of over 169 million businesses, ranging from sole proprietors to the largest multinational corporations. Through our DUNSRight Quality Assurance Process, we collect information from more than 20,000 sources, including public record sources, third parties, and business owners themselves. We have more than 23 million active U.S. businesses in our database and update our database about 2 million times a day to help ensure its accuracy, timeliness, and completeness. We serve as a trusted business partner for 95 percent of Fortune 1000 companies, all 15 Cabinet-level departments, most independent agencies, as well as state and local governments who use our information for business verification, risk assessment, and for custom analyses.

D&B provides its customers with insights about businesses, including those that may be impacted by crises. For example, following Katrina, D&B helped both private and public sector customers assess the impact on businesses in the coastal areas in Louisiana, Mississippi, and Florida. In the 12 months after Katrina, we found that 15,670, or roughly 5 percent, of the 319,000 businesses we looked at in the impacted areas went out of business, resulting in the loss of roughly 89,000 jobs.

Following the Deepwater Horizon oil spill, we conducted analyses on the potential business impact. We have since shared our findings with both public and private sector organizations, as well as Members of Congress.

Our first analysis profiled businesses in the five Gulf Coast states by industry and number of employees to identify those industries most likely to be impacted by the oil spill. We determined the oil spill could potentially affect 7.3 million businesses. We further analyzed the top 50 industries and found that eating places, repair services, gift and novelty shops, hotel/motel, and gasoline service station industries had the highest numbers of businesses and employees that could be impacted.

Our second analysis, which is our topic today, focused on the potential economic impact a drilling moratorium could have on small businesses located in the five Gulf states. We first identified industry classifications related to the oil and gas industries, concentrating particularly on oil and gas exploration services, field services and field machinery, as well as air transportation. We then looked specifically at those businesses that met the Small Business

Administration definition of a small business. Our high-level findings are as follows:

There are at least 16,580 businesses in the five Gulf states that could be impacted by a moratorium in the industries I described.

Approximately 98 percent of these businesses meet the definition of a small business, with 85 percent of these businesses having fewer than 10 employees.

Six hundred sixty-seven of these small businesses are classified as woman-owned, minority-owned, or veteran-owned and 97 percent of these small businesses are U.S.-owned businesses.

These small businesses employ 153,502 individuals, with over 95 percent of them located in Texas and Louisiana, as shown on the chart.

On average, these small businesses have been in operation for 16 years, but we also found that roughly 2,000 of these businesses, or about 13 percent, were established within the last 5 years, which puts them at an even greater risk for failure since newer businesses tend to fail at a higher rate than more established ones.

When we look at the potential impact of a drilling moratorium from a geographic perspective, we see that:

The distribution of small businesses at the state level, as the chart shows, is as follows: 12,140 in Texas; of particular interest to you, Senators Landrieu and Vitter, there are 2,831 in Louisiana; 579 in Florida; there are 487 in Mississippi; and 191 in Alabama.

Only 27 percent of these small businesses, as you rightly point out, are located in coastal counties or parishes, while the other 73 percent are located inland, suggesting that a moratorium could be felt more broadly throughout the Gulf states. Tuscaloosa County in Alabama, Miami-Dade County in Florida, Lafayette Parish in Louisiana, Jones County in Mississippi, and Harris County in Texas may be disproportionately affected.

In Lafayette Parish alone, as you rightly point out, there are 780 businesses employing close to 10,500 people that could be impacted.

Now, while our analysis to date has focused on a finite number of industries within the five Gulf states, it is both prudent and reasonable to assume that there is an element of contagious risk which may extend beyond these industries. It is equally prudent to assume that this risk may extend beyond the five Gulf States and may impact small businesses throughout the country.

In summary, D&B information and services are always available to the Committee, Congress, and others that can utilize this information to make policy decisions surrounding the drilling moratorium, the claims handling process, or other areas where sound decisions on policy can be achieved through the use of trusted information and analysis.

I thank you for the opportunity to appear before the Committee, and I look forward to responding to any questions you may have.

[The prepared statement of Mr. Treese follows:]

Ethan Treese
Vice President
Government Solutions, Dun & Bradstreet

Ethan Treese is the Vice President of Dun and Bradstreet's ("D&B") Government Solutions, headquartered in Arlington, VA, where he oversees over 60 government specialists focused on assisting state, local and Federal government agencies with business verification, risk assessment and custom analyses by utilizing D&B's business information and integrated solutions.

With nearly twenty years of information management experience, Mr. Treese is a knowledgeable leader in the field and is a frequent speaker at industry and government sponsored events on best practices of information management.

Mr. Treese received his B.A. from Lehigh University in Pennsylvania.

TESTIMONY

Hearing entitled: *The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses?*

Ethan Treese

Vice President, Government Solutions, Dun & Bradstreet

Testimony presented before the Senate Committee on Small Business and Entrepreneurship

July 27, 2010

I would like to thank Madame Chair Landrieu, Ranking Member Snowe and the Committee members for the opportunity to testify today.

Dun & Bradstreet has been the leading provider of business information and insight since 1841. We maintain a global database of over 169 million businesses, ranging from sole proprietors to the largest multi-national corporations. Through our DUNSRight® Quality Assurance Process, we collect information from more than 20,000 sources, including public record sources, third parties, and business owners themselves. We have more than 23 million active US businesses in our database and update our database about 2 million times a day to help ensure its accuracy, timeliness and completeness. We serve as a trusted business partner for 95% of Fortune 1000 companies, all 15 Cabinet-level Departments, most independent agencies as well as state & local governments who use our information for business verification, risk assessment and for custom analyses.

D&B provides its customers with insights about businesses, including those that may be impacted by crises. For example, following Katrina, D&B helped both private and public sector customers assess the impact on businesses in the coastal areas in Louisiana, Mississippi and Florida. In the 12 months after Katrina, we found that 15,670, or 4.9% of the 319,477 businesses in the impacted areas, went out of business, resulting in the loss of 88,936 jobs.

Following the Deepwater Horizon Oil Spill, we conducted analyses on the potential business impact. We have since shared our findings with both public and private sector organizations, as well as members of Congress.

Our first analysis profiled businesses in the five Gulf Coast states (Alabama, Florida, Louisiana, Mississippi, and Texas) by industry and number of employees to identify those industries most likely to be impacted by the oil spill. We

determined the oil spill could potentially affect 7.3 million businesses. We further analyzed the top 50 industries and found that Eating Places, Repair Services, Gift/Novelty Shop, Hotel/Motel, and Gasoline Service Station industries had the highest numbers of businesses and employees that could be impacted.

Our second analysis focused on the potential economic impact a drilling moratorium could have on small businesses located in the five Gulf States. We first identified industry classifications related to the oil and gas industries, concentrating particularly on oil and gas exploration services, field services and field machinery, as well as air transportation (helicopters). We then looked specifically at those businesses that met the Small Business Administration definition of "small business".

Our high-level findings are as follows:

- There are at least 16,580 businesses in the five Gulf States that could be impacted by a moratorium
- Approximately 98% of these businesses meet the definition of "small business", with 85% of these businesses having fewer than 10 employees
- 667 (4.1%) of these small businesses are classified as Woman-Owned, Minority-Owned, or Veteran-Owned and 97% of these small businesses are US-owned
- These small businesses employ 153,502 individuals, with over 95% of them located in Texas and Louisiana
- On average, these small businesses have been in operation for 16 years. But we also found that 2,065 (12.7%) of these businesses were established within the last five years, which puts them at even greater risk for failure, since newer businesses tend to fail at a higher rate than more-established ones

When we look at the potential impact of a drilling moratorium from a geographic perspective, we see that:

- The distribution of small businesses at the state level is as follows:
  - 12,140 (74.8%) in Texas,
  - 2,831 (17.4%) in Louisiana,
  - 579 (3.6%) in Florida,
  - 487 (3%) in Mississippi, and
  - 191 (1.2%) in Alabama
- Only 27% of these small businesses are located in coastal counties or parishes; while the other 73% are located inland, suggesting that a moratorium could be felt more broadly throughout the Gulf States
- Tuscaloosa County in Alabama, Miami-Dade County in Florida, Lafayette Parish in Louisiana, Jones County in Mississippi and Harris County in Texas may be disproportionately affected
- In Lafayette Parish alone, 780 businesses employing close to 10,500 people could be impacted

While our analysis to date has focused on a finite number of industries within the five Gulf States, it is both prudent and reasonable to assume that there is an element of contagious risk which may extend beyond these industries. It is equally prudent to assume that this risk may extend beyond the five Gulf States and may impact small businesses throughout the country.

In summary, D&B information and services are always available to the Committee, Congress, and others that can utilize this information to make policy decisions surrounding the drilling moratorium, the claims handling process or other areas

where sound decisions on policy can be achieved through the use of trusted information and analysis.

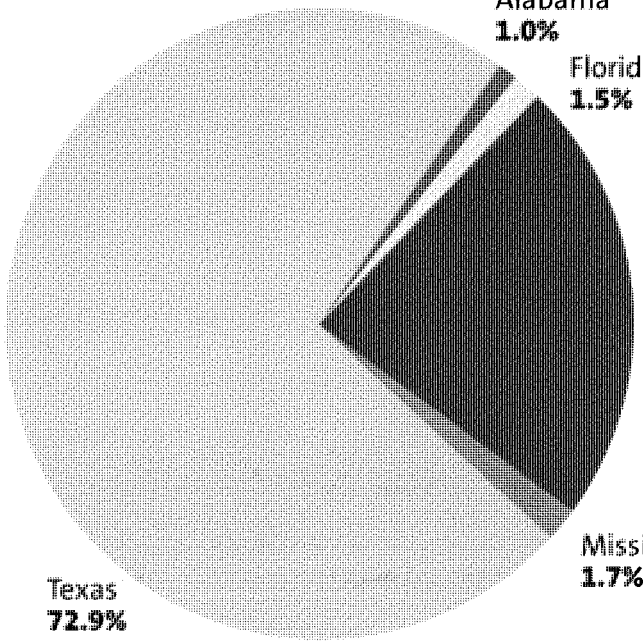
I thank you for the opportunity to appear before the Committee and look forward to responding to any questions you may have.

The Deepwater Drilling Moratorium

Impacted Small Business Employees: Distribution by State

Decide with Confidence

153,502
Employees
may be impacted by the Drilling Moratorium

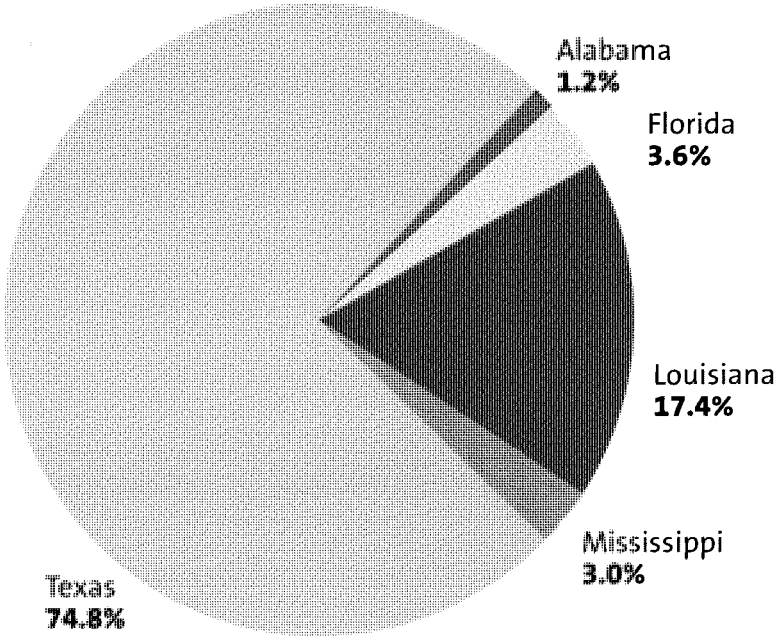


The Deepwater Drilling Moratorium

Impacted Small Businesses: Distribution by State

Decide with Confidence

16,228
Small Businesses
may be impacted by the Drilling Moratorium



Chair LANDRIEU. Thank you very much, and I failed to introduce you properly, and I ask for your apology.

I want you to understand that Mr. Treese oversees 60 government specialists assisting Federal, State, and local agencies with business verification, risk assessment, and custom analysis. We really appreciate your testimony today. I think you added a depth of insight that has been missing from the Congressional Record on this subject, and we look forward to continuing to call upon you all for objective and independent verification of the arguments that we are trying to make, and we thank you very much.

Dr. Joseph Mason is Professor of Finance and Louisiana Bankers Association Endowed Chair of Banking at Louisiana State University. Dr. Mason is also a Senior Fellow at the Wharton School. He has consulted for and advised many Government agencies, research institutions, and corporations. I look forward to hearing your testimony.

And we have Don Briggs at the request of Senator Vitter and myself, President of the Louisiana Oil & Gas Association. Mr. Briggs is a native of Miami, Florida, a 1964 graduate of Southwestern Louisiana. He began his career with Owen Drilling Company and has been with the industry for 45 years. Don will testify on behalf of the thousands of businesses that are part of his association.

Mr. Mason.

STATEMENT OF JOSEPH R. MASON, HERMANN MOYSE, JR./ LOUISIANA BANKERS ASSOCIATION PROFESSOR OF FINANCE, LOUISIANA STATE UNIVERSITY, AND SENIOR FELLOW, WHARTON SCHOOL

Mr. MASON. Thank you, Ms. Landrieu, Ranking Member Snowe, members of the Committee, for inviting me to testify today on this timely and important topic.

My study "The Economic Cost of a Moratorium on Offshore Oil and Gas Exploration to the Gulf Region" was released last week—and I would like to ask that it be included as part of my written testimony for the record here today.

Chair LANDRIEU. Without objection.

Mr. MASON. Thank you. It presents very conservative estimates of the economic loss caused just by the moratorium, assuming no expansion, assuming that it is lifted in November, and only affects the 33 deepwater projects. But even by my conservative estimates, the numbers are extremely large. Just the 6-month moratorium alone can reasonably be expected to result in the loss of approximately $2.1 billion in Gulf Region output, 8,000 jobs, and about $500 million in wages, and nearly $98 million in forfeited state tax revenues in the Gulf Region.

The economic benefits to coastal and state communities from offshore drilling are substantial. Moreover, these offshore drilling activities revolve around small businesses, and many smaller oil companies will be crippled by this moratorium. The Wall Street Journal routinely reports that the oil industry in the Gulf of Mexico was largely developed by relatively small oil and gas companies. In the early 1990s, small players like Kerr-McGee, Ocean Energy, and Unocal were acquiring acreage in deep water, and their finds

helped prove the Gulf's worth to bigger brethren like Chevron, Devon Energy Corp., and Anadarko, which later bought these successful companies at a premium.

More recently, new generations of companies have started exploratory offshore businesses in the Gulf, and it is those new companies that are most at risk from the Administration's policy. For example, Cobalt International Energy is already experiencing delays in its business because the "U.S. Government moratorium on drilling would delay the planned drilling of an exploratory well in the Gulf by at least those 6 months."

In response, President Obama has asserted that the Small Business Administration will be stepping in to help businesses by approving loans and allowing businesses to defer existing loan payments. The Administration seems to understand that businesses will be hurt, but what they do not understand is that some Gulf companies are already expressing worries that they have taken on heavy debts after Katrina and may not be able to repay those loans, much less take on additional loans.

Of course, the simple solution would be to withdraw the moratorium. Unfortunately, that is not being discussed. Instead, the effects of the moratorium reverberate. Table 5 from my paper reports the total expected losses in employment from my study broken down into job types. Of course, a sizable proportion of those losses will occur in mining, about 26 percent. But a larger proportion of job losses, approximately 38 percent, are in high-skilled fields such as health care, real estate, and professional services, manufacturing, administration, finance, education, the arts, information, and management. The region can reasonably be expected to lose 974 health care providers and 260 teachers. Nationwide, we will lose about 1,270 health care providers and another 321 teachers.

While those employment and wage losses seem palatable on a national scale, it important to remember the effects of this are primarily local. Some communities' job losses tied to the moratorium may mean the difference between having a local hospital or a local school or sending their children on a bus an hour and a half each direction to attend a school in a different area.

As recently as March, the Administration was opening up the OCS planning areas that are on the map—that I had on the easel, but that is okay. Now they are talking about shutting those planning areas down. With each passing day, the moratorium costs the Gulf Region more jobs. But the Administration has apparently only begun to increase its hostility toward the sector. Some Members of Congress are now proposing changes to the Tax Code that would needlessly debilitate the oil and gas industry further, such proposals that really do not support economic recovery, jobs, or energy independence.

But whether it is financial or environmental regulatory policy, regulators need to more effectively adapt to innovation and change. The escalating rhetoric that we see from this disaster, therefore, needs to be replaced with a clear direction for energy regulation. Regulators, regardless of sector, need not only clear responsibility, but clear unmitigated authority to act to investigate unfettered on the basis of their own suspicions.

The reason regulators require this kind of freedom is that they are often investigating new technologies—drilling or financial technologies—that, because they are new, cannot be deemed safe or risky beyond a substantial degree of error. Nonetheless, the error has to be biased in the direction of the social and economic good. That means we cannot just throw around moratoriums without economic analysis.

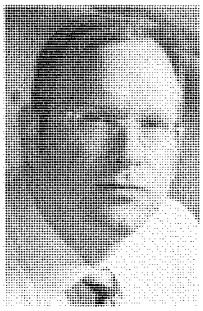
Chair LANDRIEU. Can you take your 30 seconds to wrap up?

Mr. MASON. Yes. That also means that we cannot just rely upon another application of the precautionary principle to address this crisis.

Last, we have to accept that we are always going to have crises, and we have to develop strategies to deal with those crises. We need to be careful to set up incentives that reward those operating safe platforms in this instance and punish those who did not. That is, we need to be careful to preserve capitalism; we need to design policy more intelligently so that it is not obviated by markets but is instead magnified by market directions.

Thank you.

[The prepared statement of Mr. Mason follows:]



Dr. Joseph R. Mason
Louisiana State University and
The Wharton School

(202) 683-8909 ph
joseph.r.mason@gmail.com

Dr. Mason is Professor of Finance and the Hermann Moyse/Louisiana Bankers Association Chair of Banking at the Ourso School of Business, Louisiana State University and Senior Fellow at the Wharton School.

Dr. Mason's academic research focuses primarily on financial and economic crises, investigating liquidity in thinly-traded assets and illiquid market conditions. Current academic research projects analyze default risk, including both immediate and cross-default risk, and default resolution costs in the contexts of asset-backed securities, in systemic and non-systemic environments, as well as the efficacy of bailout and resolution policies through the history of financial markets. His research has been published in the American Economic Review, the Journal of Money, Credit, and Banking, the Journal of Banking and Finance, and many other journals and books.

Dr. Mason has testified before numerous Congressional Committees, European Parliament, and the Federal Reserve Board and advised companies, regulators, and central banks around the world on structured finance and other matters. His research and economic commentary on securitization and financial crises has appeared in print and on radio and television around the world.

Testimony of Joseph R. Mason

Hermann Moyse, Jr. /Louisiana Bankers Association Professor of Finance,
Louisiana State University and Senior Fellow, the Wharton School

Before the Senate Committee on Small Business and Entrepreneurship

July 27, 2010

**"The Deepwater Drilling Moratorium:
A Second Economic Disaster for Small Businesses?"**

My testimony first describes some of the job loss numbers from my study, "The Economic Cost of a Moratorium on Offshore Oil and Gas Exploration to the Gulf Region," released last week. I then discuss some of the responses from Congress, beyond the moratorium. I conclude with some observations about regulation and policy that can help craft meaningful approach to regulation, whether in energy or financial services sectors.

I. My Analysis of the Economic Cost of the Moratorium is a Conservative Estimate of Loss

My study, "The Economic Cost of a Moratorium on Offshore Oil and Gas Exploration to the Gulf Region," released last week and included here for the record presents a conservative estimate of economic loss caused by the moratorium. Several scenarios could cause actual losses to substantially exceed those offered there.

First, the analysis considers the loss to continue only for six months, followed by an immediate return to normal operations. It is possible, however, that the moratorium and/or its effects could last up to a year and half.[1] Until a final decision is made by the administration and the courts, it is hard to predict the scope of the losses for the Gulf region. Thus, the losses could easily, in fact, increase by a factor of 2 or 3.

Second, the initial investment stage in oil and natural gas extraction produces many economic benefits. It is conceivable that some of these benefits will be deferred or simply lost as projects are delayed or moved.[2] As discussed in the study, the effects could be particularly

1. A study by Morgan Stanley, for example, appears "confident that the ban will meaningfully exceed 6-months" and of the affected floaters, at least "a portion of the 35 floaters will leave the region, as operators declare force majeure." The study continues that "the legislative process could take 9-18 months [and that] it could take even longer for rigs to come back into the region after the ban is lifted." *Global Oil Services, Drilling & Equipment*, Morgan Stanley, Jun. 1, 2010, 1 (available at http://www.offshoremarine.org/images/stories/GOM_Drilling_Moratorium_06_01_10.pdf).

2. Morgan Stanley "expect[s] a major supply/demand imbalance as the 35 GOM floaters attempt to relocate internationally, while an additional 30 un-contracted new builds exacerbate the issue. Subsea equipment companies are likely to feel the after-burn, as their orders are a direct function of deepwater drilling." *See Id.*

detrimental for smaller oil companies.[3] ATP Oil and Gas Corp., for example, "expected to see its 2010 production double to at least 12 million barrels of oil and gas but has now dropped its guidance to between 9 million and 10 million."[4] It is challenging, however, to quantify this effect accurately across the whole industry. Thus do not include investment loss in my analysis. This means that I under-report the economic losses for communities in the Gulf and nationwide.

Third, if the end result of the moratorium is to place severe restrictions on offshore drilling and production in the long-term, costs could increase to operators significantly. That could lead to decreased operations, increased oil and natural gas prices, and the movement of operations to cheaper locations. That would again impose significant economic hardship on communities throughout the Gulf region and the nation.

Last, refining also has significant benefits to the economies of the Gulf and the nation. Again, it is difficult to determine the effect of the moratorium on refining capacity. It is reasonable to assume that some capacity will be reduced as a result of stagnant oil and gas extraction, which would further add to the economic hardship caused by the moratorium.

II. Offshore Oil Production Stimulates Diverse Onshore Economies

Offshore oil production benefits federal, state, and local onshore economies. Broadly speaking, there are three "phases" of development that contribute to state economic growth: (1) the initial exploration and development of offshore facilities; (2) the extraction of oil reserves; and (3) the refining of crude oil into finished petroleum products.

Businesses that support those phases are prevalent in the Gulf of Mexico region. With regard to the exploration and development stage, the U.S. shipbuilding industry, for example, has a strong presence in the Gulf region and benefits significantly from initial offshore oil exploration

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3. Angel Gonzalez, *Stiffer Costs, Rules in Gulf Will Squeeze Smaller Players*, THE WALL STREET JOURNAL, Jun. 22, 2010 (available at http://online.wsj.com/article/SB10001424052748704256304575321104202428906.html) [hereinafter *Stiffer Costs, Rules in Gulf*].

4. *Id.*

efforts.[5] This early phase requires specialized exploration and drilling vessels, floating drilling rigs, and miles and miles of steel pipe, as well as highly educated and specialized labor to staff the efforts.

Onshore personnel work on the oil extraction phase as well. A recent report prepared for the U.S. Department of Energy indicates that Louisiana's economy is "highly dependent on a wide variety of industries that depend on offshore oil and gas production,"[6] and that offshore production supports onshore production in the chemicals, platform fabrication, drilling services, transportation, and gas processing industries.[7] Fleets of helicopters and U.S.-built vessels also supply offshore facilities with a wide range of industrial and consumer goods, from industrial spare parts to groceries.

The economic benefits produced by the refining phase are even more widespread than the effects for the two preceding phases. Although capacity is largely concentrated in California, Illinois, New Jersey, Louisiana, Pennsylvania, Texas, and Washington, additional U.S. refining capacity exists throughout the country. As a result, refinery jobs, wages, and tax revenues are more likely to "spill-over" into other areas of the country, even to non-coastal states like Illinois.

The economic benefits to coastal and state communities from offshore drilling are substantial. The Associated Press reports that offshore workers from Louisiana, for example, "frequently earn $50,000 a year or more."[8] One in three jobs in coastal Louisiana "is related to the

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5. U.S. Department of Commerce, Bureau of Export Administration, U.S. Shipbuilding and Repair, National Security Assessment (003-009-00719-4), at 9 ("In some niches, however, the United States currently has a significant world market share based mostly on domestic sales. These niches include offshore oil platforms, yachts, fast patrol boats, and recreational vessels," a preponderance of which are produced in the Gulf Coast region).

6. Advanced Resources International, Inc., Basin Oriented Strategies for CO2 Enhanced Oil Recovery: Offshore Louisiana, Prepared for the U.S. Department of Energy, Mar. 2005, at EX-1.

7. *Id.* ("For example, Louisiana is the third largest consumer of natural gas in the U.S., and a large number of chemical industry jobs in Louisiana are highly dependent on the continued availability of adequate volumes of moderately priced natural gas. Moreover, offshore oil and gas production operations support a vast spectrum of other activities in the state, including platform fabrication, drilling and related services, offshore transport and helicopter operations, and gas processing.").

8. Cain Burdeau, *Rig workers job hunt after drill ban*, ASSOCIATED PRESS for MSNBC (June 18, 2010) (available at http://www.msnbc.msn.com/id/37762247/ns/business-us_business/).

oil and natural gas industry [and] many of the workers earn between $40,000 and $100,000 a year."[9] Louisiana alone could lose up to 10,000 jobs in only a few months.[10] The state of Louisiana estimates that oil and gas production, primarily from the Gulf, supports $12.7 billion in household earnings, "representing 15.4 percent of total Louisiana household earnings in 2005."[11]

The moratorium would put a halt to training new workers and cut jobs for workers already employed within the offshore industry. Additionally, offshore workers that lose their jobs due to the moratorium would receive only a fraction of their wages in unemployment benefits. This will directly affect local businesses, many of which were already weakened by Hurricane Katrina in 2005 and Hurricane Gustav in 2008. Some companies in Louisiana, for example, are already worried that after taking on "heavy debts after Hurricane Katrina [they] may not [be] able to take on additional loans."[12]

In response, President Obama asserted that the Small Business Administration "has stepped in to help businesses by approving loans [and] allowing many to defer existing loan payments."[13] This demonstrates a key understanding by the current administration that small businesses in the Gulf will be hit significantly by the moratorium. It is unclear, however, whether new loans and deferments will effectively mitigate the substantial losses taken by small businesses in the Gulf region. Indeed, a far simpler solution would be to simply withdraw the moratorium and allow businesses to operate normally.

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9. Stephen C. Fehr, Gulf region fear long-term fiscal effects of oil disaster, STATELINE, Jun. 24, 2010 (available at http://www.stateline.org/live/details/story?contentId=493859); Press Release, *JUST THE FACTS: Drilling Moratorium's Impact on Louisiana's Families and Economy*, Government of Louisiana, Jun. 14, 2010 (available at http://emergency.louisiana.gov/Releases/06142010-moratorium.html) [hereinafter *Just the Facts*].

10. The projected employment loss forecasted by my analysis is lower that the estimates presented in this section. The likely reason for this is that my assessment is conservative. For instance, I assume the period of loss from the moratorium is only six months, while the Louisiana Department of Economic Development assumes that the period of loss will be 12 to 18 months. Section VI, subsection F outlines some of the ways in which my analysis may create a lower bound for loss.

11. *Just the Facts*, *supra*.

12. *Louisiana's economic hurt from drilling moratorium warrants action: An editorial*, THE TIMES-PICAYUNE, Jun. 8, 2010 (available at http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/06/louisianas_economic_hurt_from.html).

13. President Barack Obama, Remarks by the President After Briefing on BP Oil Spill, The White House (May 28, 2010) (transcript available at http://www.whitehouse.gov/the-press-office/remarks-president-after-briefing-bp-oil-spill).

Wood Mackenzie Research and Consulting's findings about the impact of a six-month moratorium illustrate the extent to which the offshore industry contributes to local and state economies in the nation. Their research shows that as many as 1,400 workers would be left without jobs, and as many as 46,200 jobs, both on and off shore, would go idle if the 33 drilling platforms were shut down.[14] The report goes on to say that as many as 120,000 jobs could be lost by 2014. Louisiana would lose 3,000 to 6,000 jobs alone in "the first 2-3 weeks and potentially more than 20,000 Louisiana jobs within the next 12-18 months."[15]

In addition to onshore businesses, smaller oil companies that stimulate the economy of the region will be crippled by the moratorium. Offshore drilling revolves around small businesses. The Wall Street Journal reports that the oil industry in the Gulf of Mexico was largely developed by relatively small oil and gas companies.[16] In the early 1990s "relatively small players like Kerr-McGee, Ocean Energy and Unocal were acquiring acreage in deep water; their finds helped prove the Gulf's worth to bigger brethren like Chevron, Devon Energy Corp. and Anadarko Petroleum Corp., which later bought these companies at a premium."[17] New generations of companies have started exploratory offshore businesses in the Gulf. Cobalt International Energy, for example, is already experiencing delays in its business because the "U.S. government moratorium on drilling would delay the planned drilling of an exploratory well in the Gulf by six months."[18]

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14. Kimberly Morin, *GOP Senator introduces bill to terminate Obama's economy killing drilling moratorium*, THE EXAMINER, Jun. 17, 2010 (available at http://www.examiner.com/x-9100-Boston-Conservative-Independent-Examiner~y2010m6d17-GOP-Senators-introduce-bill-to-terminate-Obamas-economy-killing-drilling-moratorium).

15. *Id*, citing the Wood MacKenzie Research and Consulting report. Section VI, Subsection F outlines some reasons for why my analysis predicts lower job loss projections.

16. Angel Gonzalez, *Stiffer Costs, Rules in Gulf Will Squeeze Smaller Players*, THE WALL STREET JOURNAL, Jun. 22, 2010 (available at http://online.wsj.com/article/SB10001424052748704256304575321104202428906.html) [hereinafter *Stiffer Costs, Rules in Gulf*].

17. *Id.*

18. *Id.*

III. The RIMS II Model and the Economic Impact of the Moratorium

Onshore state and local economies benefit from offshore oil production by providing goods and services to offshore oil and gas extraction sites. A variety of industries are involved in this effort: shipbuilders provide exploration vessels, permanent and movable platforms, and resupply vessels; steelworkers fashion the drilling machinery and specialized pipes required for offshore resource extraction; accountants and bankers provide financial services; and other onshore employees provide groceries, transportation, refining, and other duties. These onshore jobs, in turn, support other jobs and other industries (such as retail and hospitality establishments).

The statistical approach known as an "input-output" analysis can be used to measure the economic effects associated with a particular development project, or in this case a drilling moratorium. This approach, pioneered by Nobel Prize winner Wassily Leontif, has been refined by the U.S. Department of Commerce in the form of the Regional Input-Output Modelling System, or "RIMS II." The RIMS II model provides a variety of multipliers that measure how a plant shutdown or slowdown would affect local and regional economies in the U.S., accounting for the elimination of jobs, decreases in wages, and the drain on potential government revenues. This analysis focuses on the negative direct *and* indirect effects associated with placing a moratorium on offshore drilling.

The RIMS II model is the standard method that governmental authorities use to evaluate the benefits associated with an economic development project. According to the Commerce Department, the RIMS II model has been used to evaluate the economic effects of many projects, including: opening or closing military bases, tourist expenditures, new energy facilities, opening or closing manufacturing plants, shopping malls, sports stadiums, and new airport or port facilities.[19] State and local governments have also used the RIMS II model to perform economic analyses.

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19. *See* U.S. Department of Commerce, Bureau of Economic Analysis, Brief Description: Applications of RIMS II (available at http://www.bea.gov/bea/regional/rims/brfdesc.cfm).

The Bureau of Economic Analysis RIMS II model provides multipliers that allow researchers to estimate the comprehensive effect on output, income, or employment as a result of changes to product outputs ("final-demand").[20]

The product outputs analyzed here are the oil and natural gas prevented from reaching the market due to operations halted on 33 existing deepwater rigs.[21] According to the Louisiana Mid-Continent Oil and Gas Association (crediting Wood & Mackenzie), 80,000 barrels of oil equivalent (both oil and natural gas) a day will not go to market as a result of the moratorium.[22] This equals 2.4 million barrels a month, and 14.6 million barrels during the six-month moratorium. I assume that the moratorium only lasts for six months, and that after this point the lost production will resume (thus this estimate may be conservative). This figure can be converted to a dollar value by applying the appropriate price.

Three final sets of demand multipliers are applied to the production loss estimate. First, BEA output multipliers measure the total decrease in economic activity—including the effect on all other industries—resulting from $1 of loss of industrial activity in a particular geographic region.[23] Next, BEA earnings multipliers measure the decrease in wages resulting from a $1 loss of industrial activity.[24] Finally, BEA employment multipliers measure the decrease in employment (in full-time

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20. *See* Everett Ehrlich, Steven Landefeld & Betty Barker, *Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II)*, U.S. Department of Commerce, Third Edition, at 3 (Mar. 1997). ("If the user can estimate the change in final demand in the initially affected industry, the user can estimate the impact on output, earnings, or employment on the basis of final-demand multipliers.") [hereinafter *Rims II Handbook*].

21. My calculations are based on the provisions of the original moratorium, and do not include additional provisions provided by the July 12th moratorium. As such, my estimates are conservative.

22. Katherine Schmidt, *Oil Industry Predicts Damage to Economy (80,000 bpd says Wood Mackenzie)*, INVESTOR VILLAGE, Jun. 4, 2010 (available at http://www.investorvillage.com/smbd.asp?mb=14535&mid=9098568&pt=msg) [hereinafter *Oil Industry Predicts Damage*].

23. *RIMS II Handbook, supra*, at 3, ("In this [final demand output multiplier] table, each column entry indicates the change in output in each row industry that results from a $1 change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.") [hereinafter *Rims II Handbook*].

24. *See Id.* ("In this [final demand earnings multiplier] table, each column entry indicates the change in earnings in each row industry that results from a $1 change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.").

equivalent jobs) associated with a $1,000,000 decrease in industrial activity.[25] For example, in Texas the oil and gas extraction output multiplier is 2.0721, the wage multiplier is 0.5085, and the employment multiplier is 8.2985. Thus, a loss of $1 million of oil and natural gas extraction translates into a loss of $2,072,100 in annual output, $508,500 in annual wage income, and approximately 8.30 additional full-time jobs for the year.

The direct effect associated with the loss of oil and natural gas production varies by state. The same $1 million loss in production in Louisiana, for example, translates into a loss of $1,793,200 in output, $407,900 in wage income, and approximately 6.8 full-time jobs for the year.

The time period over which this loss is felt has been subject to much debate. In most cases, the BEA considers one year to be the horizon over which its multipliers will achieve full effect.[26] For our purposes, I assume that each BEA multiplier measures the changes that are expected to occur within one year.[27]

To determine the economic effect of a moratorium on deepwater oil and natural gas drilling, the BEA multipliers for "Oil and Natural Gas Extraction" are used. The multipliers are available at the county level, but since I am interested in a broader range of effects, state and national multipliers are used in this paper. In the following sections, these multipliers are applied to production loss estimates to determine the state-by-state, and overall effects of the deepwater drilling moratorium on the Gulf economy.

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25. *See Id.* at 4 ("In the final-demand employment multiplier table, each column entry indicates the change in employment in each row industry that results from a $1 million change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.").

26. *RIMS II Handbook, supra*, at 8 ("RIMS II, like all I-O models, is a "static equilibrium" model, so impacts calculated with RIMS II have no specific time dimension. However, because the model is based on annual data, it is customary to assume that the impacts occur in 1 year. For many situations, this assumption is reasonable.").

27. *Id.*, ("RIMS II, like all I-O models, is a 'static equilibrium' model, so impacts calculated with RIMS II have no specific time dimension. However, because the model is based on annual data, it is customary to assume that the impacts occur in 1 year.").

IV. Present Offshore Oil and Gas Reserve Estimates

As stated above, to determine the economic effect of the moratorium on offshore oil and gas production on Gulf region, it is necessary to the estimate the lost production of oil and natural gas for each state as a result of the moratorium. I take a two-step approach to estimate state-by-state production in the Gulf of Mexico ("GOM"). First, GOM production figures are apportioned to the GOM coastline states by assuming that a state's share of oil and gas reserves (and hence the benefits of utilizing those reserves) is proportional to its share of the GOM production. Then, the dollar value of state production is estimated by applying the current price of oil and gas to each state's share.

For the first step, I assume that a state's production is tied to its available reserves, and by association the state's proximity to oil. The analysis of economic impact therefore hypothesizes that the economic benefits associated with offshore oil and gas production accrue onshore firstly in the local communities that provide the most convenient labor, materials, and support services for offshore production. Thus, to apportion total production to the Gulf states, I use each state's share of the total oil and natural gas reserves in the GOM. In a previous paper, I calculated each state's share of total oil and natural gas reserves, and I use those estimates to apportion production in the current analysis.[28] Table 2 (all table numbers are those in my previous study) presents the result of this calculation. Louisiana stands to lose the most in terms of production, followed by Texas, Alabama, and Mississippi.

For the second step, I quantify the monetary loss by using the EIA's latest oil and gas price forecasts from the *Short Term Energy Outlook July, 7 2010*. The report indicates that for the second

28. In a previous paper, I apportioned OCS Planning Area reserves—and the local economic benefits associated with exploiting those reserves—by each state's share of the ocean coastline bordering an OCS Planning Area. Based on that allocation, the percentage of loss in this study allocated each state would be: LA: 59%; MS: 6%; AL: 7%; TX: 25%; FL: .01%. *See* Joseph R. Mason, The Economic Contribution of Increased Offshore Oil Exploration and Production to Regional and National Economies, American Energy Alliance (Feb. 2009).

half of 2010, the average price of oil will be $79.00 per barrel.[29] The value of each state's production is calculated as its share of available GOM offshore oil production times $79.00 per barrel. At this price, the production losses apportioned to coastal states have the dollar values reported in Table 2 below.

TABLE 2

ESTIMATED SIX-MONTH PRODUCTION LOSS OF OIL EQUIVALENT BARRELS IN THE GOM

State	Mbbl	$ Millions
Texas	3,801	$300
Alabama	1,162	$92
Mississippi	965	$76
Louisiana	8,704	$688
Total	***14,632***	***$1,156***

Sources: The Louisiana Mid-Continent Oil and Gas Association (citing Wood & Mackenzie); U.S Energy Information Administration, Short Term Energy Outlook, July 2010; Joseph R. Mason, *The Economic Contribution of Increased Offshore Oil Exploration and Production to Regional and National Economies*, American Energy Alliance (Feb. 2009).

V. Decreased Investments in Offshore Oil and Gas Production will cause Substantial Losses in Wages and, Employment, and will have Profound Effects on Communities throughout the Gulf

The BEA multipliers for "Oil and Natural Gas Extraction" are applied to the estimates of production loss to determine the probable effect of the moratorium on both Gulf region and total U.S. economic output. Section B quantifies the effect of the moratorium on employment. Section C explains the negative impact of the moratorium on wages. Section D explains the negative impact of a moratorium on local, state, and federal tax revenues. These analyses paint a bleak picture of the economic impact of the moratorium. Further, as is shown in Section E, the analyses do not even consider a number of loss factors, such as rigs not coming back to the GOM after leaving or the loss of economic benefits as a result of investment in exploration.

In no way are these figures meant to be definitive. Instead, the estimates presented represent a reasonable approach to assessing the economic impact of a deepwater drilling moratorium. In fact,

29. U.S Energy Information Administration, *Short Term Energy Outlook* (July 2010).

the greater conservatism of my estimates over other studies highlights the importance of the economic costs of the drilling moratorium: the economic costs of the drilling moratorium are large in even the most conservative economic analysis.

A. The Six-Month Moratorium on Offshore Drilling Activity Will Cost More than $2.7 Billion in Economic Activity Nationwide, and $2.1 Billion in Gulf communities

The broadest measure of the incremental effect of the moratorium is the effect on total economic output. As discussed earlier, GDP and GSP represent the two main measures of output. The BEA's final demand output multipliers can be used to perform a "RIMS II" analysis. First, the production loss estimate is used to measure the change in demand. Then, the multipliers are applied to the production estimates in Table 2 to determine the expected total decrease in output as a result of the moratorium. In summary, the losses in output can be expected to top $2.1 billion in the Gulf region, and $2.7 billion nationwide.

Using the production estimates from Table 2 and the BEA multipliers, the estimated decrease in economic output based on the estimated oil and natural gas production is presented in Table 3. It is important to note, that the multipliers in this table only provide the decrease in output that *is generated at the same location as the decrease in production.* As an integrated economy, however, output in one state is tied to output in other states. For example, the oil and natural gas produced in Louisiana may be used as an input to production in Illinois or Pennsylvania. These effects may be considered "spill-over" effects because they spread from one location to another location. Using the individual multiplier for Louisiana would thus under-report the total loss associated with a moratorium in Louisiana. Comparing the total U.S. result to the additive total of the output decreases in the individual Gulf region, therefore, suggests that there are over $659 million dollars in lost spillover effects from the moratorium, for a total decrease in U.S. economic activity arising from the moratorium of roughly $2.75 billion.

TABLE 3
DECREASE IN OUTPUT FROM THE SIX-MONTH MORATORIUM ON DEEPWATER DRILLING

State	GSP/GDP ($ Mil)
Texas	-$622
Alabama	-$138
Mississippi	-$117
Louisiana	-$1,233
Total Gulf Region	***-$2,110***
United States	***-$2,769***
Spillover Effects	***-$659***

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics, LLC Calculations.

B. The Six-Month Moratorium on Offshore Drilling Could Cost Thousands of Jobs

The moratorium on deepwater oil drilling would also result in the loss of thousands of jobs, not only on the various oil rigs, but also in associated industries. The Louisiana Department of Economic Development estimates a loss of 10,000 jobs within a few months after the moratorium.[30] Moreover, they predict that the state "risks losing more than 20,000 existing and potential new jobs during a 12 to 18 month period."[31] The analysis below offers an alternative estimate for employment losses based on the RIMS II model. My results are slightly more conservative, because I only estimate the period of loss to be six months, with no residual effects thereafter. As before, effects are calculated using estimated state-level production losses.

1. BEA Multiplier Analysis

As presented above, this analysis estimates the total economic effects associated with stopping deepwater drilling. Using the BEA's final-demand employment multipliers (denominated in job-years per $1 million change in final demand), the estimated production loss in Table 1 yields the

30. *Just the Facts, supra.*
31. *Id.*

expected losses in employment in Table 4. The decrease in employment is estimated to be 8,169 full-time jobs in the Gulf region. Louisiana alone stands to lose 4,719 full time jobs. Nationwide, there will be an estimated loss of 12,046 jobs.

TABLE 4

DECREASE IN EMPLOYMENT FROM THE SIX-MONTH MORATORIUM ON DEEPWATER DRILLING

State	Jobs Lost
Texas	-2,492
Alabama	-527
Mississippi	-432
Louisiana	-4,719
Total Gulf Region	***-8,169***
United States	***-12,046***
Spillover Effects	***-3,877***

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics Calculations.

These projections are lower than those presented by other studies because I estimate the period of new production loss to be only six months. However, if we were to extend the loss in new production in our model to the 18 months assumed by other sources, we would see a loss of 36,137 jobs nationally, 24,532 jobs lost in the Gulf region, and 14,156 jobs lost in Louisiana. These estimates are more in line with the projections published by the Louisiana Department of Economic Development and Wood & Mackenzie Consulting.

The state-level BEA multipliers do not account for decreases in employment outside of the state. As a result, jobs lost in one state because of the deepwater drilling heing halted in another state are omitted from the totals. Again, comparing the nationwide job losses to the additive total of state job losses yields a spillover effect of 3,877 jobs lost for the year spanning the moratorium period for a total of just over 12,000 lost jobs, nationwide.

2. Evaluation of the Types of Employment Loss

The BEA data can also be used to analyze the types of employment that would be lost by a moratorium on deepwater drilling. The drilling moratorium will result in job loss in the ancillary industries that support the oil industry throughout the U.S. and cause instability for thousands of Americans already coping with a turbulent economic climate. Further, the oil industry will reduce their investment in local economies as exploration and development, and later production, is moved or shut down.

Oil companies have a great incentive to invest in local communities to improve the quality of life for their employees and attract talent to their offices and rigs. Shell, for example, started a Center for Petroleum Workforce Development at their training center in 2006. The joint venture between the state of Louisiana, Louisiana State University and Shell, made the center "available to the entire industry" in hopes of encouraging oil and gas employees from around the world to develop their skills.[32] As production decreases and rigs and offices are shut down or moved, the incentive for investments such as those spurred on by Shell will evaporate.

For this analysis, job losses are broken down using specific BEA multipliers that determine which industries will stand to lose the most from the moratorium on deepwater drilling. Table 5 reports the expected total losses in employment.

32. "In 2006, Louisiana announced the creation of the Center for Petroleum Workforce Development at Shell Oil Company's Robert, La., training center – the result of a joint venture agreement among the State of Louisiana, Louisiana State University and Shell by Developing the center and making it available to the entire industry, the replacement rate of trained employees will increase. The center's training concept is to have oil companies hire and send employees from all over the world to the Shell/LSU facility to obtain the highest training level possible. This process will ensure a supply of highly trained and skilled personnel. It will also help develop a long-lasting, satisfying career path for workers in the industry." See *Oil & Gas Industry of Louisiana: Exploration and Production*, Louisiana Economic Development (LED), at 3.

TABLE 5
DECREASE IN EMPLOYMENT FROM THE SIX-MONTH MORATORIUM ON DEEPWATER DRILLING, BY SECTOR

Job Sector	Texas	Alabama	Mississippi	Louisiana	*Total Gulf Region*	*United States*
Agriculture, forestry, fishing, and hunting	-24	-3	-3	-29	*-60*	*-185*
Mining	-597	-168	-139	-1,230	*-2,133*	*-2,390*
Utilities	-10	-2	-2	-24	*-39*	*-49*
Construction	-15	-3	-2	-28	*-49*	*-77*
Manufacturing	-96	-24	-19	-141	*-279*	*-707*
Wholesale trade	-67	-15	-10	-130	*-223*	*-353*
Retail trade	-254	-54	-48	-510	*-865*	*-1,194*
Transportation and warehousing	-77	-13	-11	-134	*-236*	*-427*
Information	-35	-6	-4	-58	*-103*	*-208*
Finance and insurance	-130	-19	-14	-150	*-313*	*-639*
Real estate and rental and leasing	-178	-26	-16	-317	*-537*	*-819*
Professional, scientific, and technical services	-148	-24	-16	-233	*-421*	*-759*
Management of companies and enterprises	-23	-5	-7	-86	*-121*	*-194*
Administrative and waste management services	-135	-22	-13	-207	*-377*	*-706*
Educational services	-74	-19	-17	-150	*-260*	*-321*
Health care and social assistance	-277	-56	-50	-591	*-974*	*-1,270*
Arts, entertainment, and recreation	-34	-4	-4	-68	*-110*	*-243*
Accommodation and food services	-169	-36	-33	-352	*-590*	*-825*
Other services	-124	-24	-20	-252	*-420*	*-610*
Households	-24	-3	-3	-29	*-59*	*-71*
Total	***-2,492***	***-527***	***-432***	***-4,719***	***-8,169***	***-12,046***

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics Calculations.

Table 5 represents the distribution of the jobs lost from the moratorium. A large proportion of job losses (approximately 38 percent) are in high-skill fields, such as health care, real estate, professional services, manufacturing, administration, finance, education, the arts, information, and management. A sizable portion of job loss will obviously occur in mining (which includes oil and gas

drilling) with these jobs accounting for over 26 percent of the total jobs lost in the Gulf region, and about 20 percent nationally.[33]

C. The Six-Month Moratorium on Offshore Drilling Will Cause Massive Wage Loss for Workers Already Hit by Recession

The moratorium will also cause dramatic wage losses for an already distressed workforce. Some analysts predict that wage losses could amount to $65 to $135 million per month.[34] The BEA multipliers allow an analysis of the effect of a moratorium on deepwater drilling on wages in affected states.

To estimate wage losses, the BEA's final demand earnings (wage) multipliers are applied to the production estimates. Table 6 presents the results. As the data indicates, the moratorium will result in well over $487 million in lost wages in the Gulf region, and over $707 million nationwide.

Table 6

Decrease in Earnings from the Six-Month Moratorium on Deepwater Drilling

State	$ Millions
Texas	-$153
Alabama	-$29
Mississippi	-$25
Louisiana	-$280
Total Gulf Region	-$487
United States	-$707
Spillover Effects	***-$219***

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics Calculations.

33. For a full listing of the jobs included in "Mining", see *U.S. Census Bureau's 2007 NAICS Codes and Titles*, (available at http://www.census.gov/naics/2007/NAICOD07.HTM).

34. Gary Perilloux, *Groups struggle to assess oil's impact*, 2THEADVOCATE (Jun. 29, 2010)[hereinafter *Groups Struggle to Assess Oil's Impact*].

D. The Moratorium will Cause the Loss of Millions of Dollars in Taxes and other Public Revenues to Local, State, and Federal Governments

Decreased output, fewer jobs, and lost wages translate into lower tax collections and decreases in public revenues. The present analysis applies a broad measure of the total tax revenues (from all sources) that federal, state, and local governments will lose from the moratorium on deepwater drilling. The analysis, again using production loss, estimates that $97 million will be lost in state and local taxes.[35] This will translate into reduced investment in the local economy, schools, hospitals, and other necessary public services.

In order to estimate the decrease in state and local tax revenue attributable to the deepwater drilling moratorium on, the analysis follows the approach outlined by the Federal Reserve Bank of Boston to determine annual state and local tax burdens as a share of GSP.[36] For each state and the District of Columbia, the state and local tax burden can be calculated by dividing annual state and local tax revenue by annual GSP. Data for state and local tax revenues are released by the U.S. Census Bureau annually with a two year lag. As such, the state and local tax burden calculations are based on the most recent available fiscal year, 2008.[37] Those data produce the *average* state and local tax burden in 2008 in each state. The effective tax burdens are applied to the production estimates. Table 7 presents the estimated losses in tax revenues. As before, the losses in tax revenues presented have the same caveats regarding "spill-over" revenues.[38] The estimates thus represent a lower bound on potential state and local tax revenues lost from a moratorium on deepwater oil drilling.

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35. Note that this analysis is conservative because it does not consider the state and local taxes produced from "spill-over" effects. These tax revenues cannot be accurately measured because spill-over output cannot be attributed to particular states. Because spill-over output is significant, however, my estimate significantly understates the total incremental state and local taxes that would be produced *annually*.

36. Matthew Nagowski, *Measures of State and Local Tax Burden*, New England Public Policy Center, Federal Reserve Bank of Boston (Jul. 13, 2006), *available at*: http://www.bos.frb.org/economic/neppc/memos/2006/nagowski071306.pdf.

37. *Available at*: http://www.census.gov/govs/www/06censustechdoc.html#fiscalyr.

38. It is impossible to quantify these benefits because state and local taxes differ from state to state and because the BEA does not provide a means to allocate the spill-over revenues to particular states. To be conservative, the analysis estimates only the revenues that can be accurately assigned and measured.

Table 7
Decrease in State and Local Tax Revenues from the Six-Month Moratorium on Deepwater Drilling

State	Decrease in State and Local Tax Revenues
Texas	-$22,843,972
Alabama	-$7,247,044
Mississippi	-$8,418,401
Louisiana	-$59,356,236
Total Gulf Region	***-$97,865,652***

Sources: U.S. Census Bureau; Bureau of Economic Analysis; Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics Calculations.

The decrease in economic activity resulting from a moratorium on deepwater oil drilling will also produce significant losses in *federal* tax revenues. According to the IRS, the average effective tax rate in the United States in FY2008 was 18.98 percent of GSP.[39] Applying this rate to the total oil and natural gas production loss ($1.16 billion) suggests that U.S. federal tax receipts would decrease by $219 million.[40] Applying that rate to the overall decline in economic activity results in lost Federal tax revenues of nearly $317 million.

E. Communities Nationwide will Suffer from Decreased Health, Education, Welfare, and Social Services

Communities around the Gulf and throughout the country will suffer additional negative effects associated with decreased economic activity as a result of a moratorium, including health care, education, and other community services. The oil and gas industry represents a significant portion of the Gulf region's tax revenue. In 2006, "the oil and gas industry paid more than 14

39. Department of the Treasury, Internal Revenue Service, SOI Tax Stats.- IRS Data Book: 2008, Table 5, (available at http://www.irs.gov/taxstats/article/0,,id=168593,00.html).

40. GNO Inc. estimated that the moratorium "could cut state and local tax revenue by more $700 million over four years, accruing at a rate of $8 million to $15 million a month." See *Groups Struggle to Assess Oil's Impact, supra.*

percent of total state taxes, licenses and fees collected by the state of Louisiana…[which represents] a substantial portion of Louisiana's budget."[41]

The estimated decrease in employment in the health and education sectors is one indicator of the tertiary effects associated with the moratorium. As indicated in Table 5, the drilling moratorium would result in the loss of 974 health care providers and 260 teachers in the Gulf region. Nationwide there would be a reduction of 1,270 health care providers and 321 teachers.

While those employment and wage losses may seem palatable on a national scale, many of the job losses would be concentrated in small coastal towns like Port Fourchon, Louisiana (which is home to substantial resources serving Gulf of Mexico offshore production).[42] Indeed, in some communities the decrease in demand associated with lost jobs tied to the offshore drilling moratorium may mean the difference between having a local hospital and school or not.

Coastal cities like Port Fourchon experienced significant growth as a direct result of their central role in offshore oil and gas production.[43] Port Fourchon alone services half of all drilling rigs presently operating in the Gulf of Mexico.[44] Furthermore, current plans call for more than half of all new deep water drilling platforms in the Eastern and Central Gulf of Mexico to use towns like Port Fourchon as their service base.[45] Given the concentration of the deep water Gulf of Mexico

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41. *Just the Facts, supra.*

42. In fact, the town houses one of the rigs that is affected by the moratorium. *See* Joe Nocera, *Moratorium Won't Reduce Drilling Risks*, Jun. 25, 2010, THE NEW YORK TIMES, (available at http://www.nytimes.com/2010/06/26/business/26nocera.html); For a discussion of Port Fourchon, *see* Loren C. Scott Associates, The Economic Impacts of Port Fourchon on the National and Houma MSA Economies, Apr. 2008, (available at http://www.portfourchon.com/site100-01/1001757/docs/port_fourchon_economic_impact_study.pdf).

43. The Greater Lafource Port Commission was first organized in 1960 (the surrounding community had a population of 55,381) *See* Greater Lafourche Port Commission, About Us, (available at http://www.portfourchon.com/overview.cfm); U.S. Census Bureau, Louisiana: Population of Counties by Decennial Census: 1900 to 1990, (available at http://www.census.gov/population/cencounts/la190090.txt) [hereinafter *Historical Census Data*].

44. *See* LA1 Coalition, Facts and Figures: Port Fourchon, (available at http://www.la1coalition.org/facts.html). The executive direct of Port Fourchon estimates that the port "services 90 percent of all the deepwater activity in the Gulf of Mexico, and all 33 of the rigs" that fall under the moratorium. *Louisiana Port Operator Pleased With Dismissal of Drilling Moratorium*, FOX NEWS, Jun. 23, 2010 (available at http://www.foxnews.com/story/0,2933,595184,00.html).

45. *See id.* Port Fourchon has seen an increase of their population to 95,554 in 2006. Overall, between 1960 and 2006, the Lafourche Parrish population grew by 72.5 percent whereas the State of Louisiana population grew 31.6 percent. *See* U.S. Census Bureau, Quickfacts, Lafourche Parrish, Louisiana, (available at

operations at coastal communities, it is reasonable that losses to communities around the Gulf region like Port Fourchon will be substantial.

VI. The Risk of Policy Rhetoric Regarding the Gulf and the Energy Industry

Every day more and more jobs are being lost in the Gulf region as the Administration's moratorium continues. Moreover, the longer the moratorium lingers on the higher the probability that those jobs are lost forever. According to my research, the Gulf Coast region will be devastated just under the current six-month moratorium. I estimate that it will lose in excess of 8,000 jobs, nearly one-half billion dollars in wages, more than $2.1 billion in economic activity, and some $100 million in state and local tax revenue. Furthermore, the spill-over effect could cost 12,000 jobs and nearly $3 billion nationwide (including almost $200 million in Federal tax revenues). Should the moratorium be extended, more than 25,000 jobs could be lost and if a permanent moratorium comes to pass – a worst case scenario no doubt – nationwide economic losses would exceed $95 billion and more than 400,000 jobs would disappear.

Despite those risks, however, lawmakers are currently discussing additional policies that would hurt the overall energy industry in the U.S. and further hinder the economic recovery in the Gulf region and across the country. Specifically, some in Congress are proposing two changes to the tax code that would put U.S. energy companies at a competitive disadvantage to foreign owned energy giants like BP, China's SINOPEC and Hugo Chavez's CITGO.

Tax increases on energy companies would lead increased energy costs for consumers. Additionally, since the tax increases are directed solely to U.S.-based energy companies, many of those companies would most likely relocate their operations to foreign countries, cutting U.S. jobs and weakening our nation's energy security. Today, the U.S. energy sector supports more than 9

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http://quickfacts.census.gov/qfd/states/22/22057.html); *Historical Census Data, supra,* at note **Error! Bookmark not defined.**.

million jobs across the country and about 7.5 percent of our nation's GDP. Congress is placing that entire industry in jeopardy in the name of politics.

The 'dual capacity' tax credit provides a deduction to American businesses with operations overseas relative to the amount of taxes they have already paid other countries. The purpose of the credit is to allow U.S. companies to remain competitive in the global energy marketplace with foreign-owned companies. Doing away with the credit will irreparably harm U.S. companies.

Section 199 of the tax code is an advantage conferred on all businesses that manufacture goods inside the U.S. and employ U.S. workers. Of course a repeal of Section 199 for oil and gas companies would have the unintended, but predictable, result of discouraging investment in the nation's energy infrastructure and a reducing domestic energy production.

The Congressional Research Service said that Section 199's repeal would "adversely affect domestic production and increase imports." Also, according to analysis provided by the Institute for Energy Research in 2008, a repeal of Section 199 deductions for domestic oil and gas companies would lead to a dramatic increase in U.S. reliance on imported oil, an end to 637,000 U.S. jobs and cost nearly $35 billion in lost wages over the next 10 years. So acting to eliminate this tax provision is counterintuitive to policymakers' main quest to add jobs and strengthen our nation's energy security.

The energy industry is critical to our nation's economic health, both because it provides affordable energy resources and good-paying jobs. Unfortunately, the political rhetoric that's swirling around could ultimately doom the nation's energy industry costing tens of thousands of jobs, billions of dollars in economic activity, and hundreds of millions of dollars in tax revenue.

We're already seeing an air of caution among prospective investors and any further action that would eliminate energy sector jobs, raise energy prices, and threaten the future of the energy industry would cause long-term harm to our nation.

Although we're all concerned with the environmental consequences of the BP spill, we cannot allow that concern to translate into short-sighted government policies that would have a much worse consequence on our nation as a whole.

VII. Guidelines for Sound Supervisory Policy

Whether it is financial or environmental regulatory policy, regulators need to more effectively adapt to innovation and change. Drilling technologies have not remained static over the past thirty years. It is therefore important to keep the Administration's response in the context of the history of offshore energy policy.

As recently as March 31, 2010, President Obama proposed the opening of new stretches of water along the Atlantic, Gulf of Mexico, and Alaskan coasts to oil and gas drilling. That move marked a new era of progressive policy that matched technological and safety improvements over the previous three decades. But less than a month after President Obama unveiled his proposal, the debate was renewed by the explosion on the Deepwater Horizon oil rig 40 miles off the coast of Louisiana on April 20, 2010, Earth Day.

The escalating rhetoric makes it unlikely that current energy policy will stop at the current temporary moratorium. Repeating the analysis with the assumption that all Gulf drilling and production activity is halted can therefore be a useful exercise by providing an idea of the total amount of output, employment, wages, and tax revenue at stake.

The rhetoric needs to be replaced with a clear direction for energy regulation.

As in financial services, regulators need to be responsible for overseeing new technologies and encouraging applications of those technologies on scales corresponding with their established record of experience and safety. Too often, in both financial services and energy, regulatory investigations are stanched by politicians and officials who demonstrate a vested interest in the outcome. Whether it is the modern-day energy equivalent of the Keating five or just an official who

desires a position in industry, the conflict of interests that detract from effective regulation must be addressed.

Regulators, regardless of sector, need not only clear responsibility, but clear unmitigated authority to act to investigate unfettered on the basis of their own suspicious.

The reason regulators require such freedom is that they are often investigating new applications of technologies (drilling or financial) that – because they are unproven – cannot be deemed safe or risky beyond a substantial degree of error. Nonetheless, the error must be biased in the direction of the social and economic good. That means that we can't just throw around moratoriums without economic analysis.

That also means, however, that we cannot rely on further specious applications of the precautionary principle merely in the name of public safety. The success of policies grounded in the precautionary principle depends in large part on policymakers' ability to place the risks associated with a given industry or product in the proper context. While public safety should be a paramount concern for regulators, absolute certainty about the safety of any item or application can never be scientifically *guaranteed.*

Applied in conjunction with the scientific method of investigation, therefore, the precautionary principle leads to a logical dead end. Scientific methods hypothesize experimental results based upon theories. An experiment can only support or not support a theory. Hence, the only outcome of an experiment is another theory. No experiment, therefore, can – in and of itself – provide the one hundred percent certainty that is required of the precautionary principle.

Taken in extremis, economists Bob Hahn and Cass Sunstein have observed that "strong versions of the precautionary principle… would frequently eliminate *all* policies from

consideration… because almost all policies impose risks of one kind or another."[46] The key, therefore, is to place the risks of any given policy in context, by comparing the risks of a product with the risks posed by its substitutes, and also to weigh the risks of the product against the benefits it creates.

Furthermore, policymakers who ban a known, relatively safe, element may push industries into less well-understood alternatives, the equivalent of jumping "out of the frying pan and into the fire." For instance, when the EPA attempted to regulate the use of all asbestos, federal courts intervened and over-ruled the regulation.[47] Although asbestos was harmful to humans, alternatives were deemed more dangerous and unknown.[48] In this case the precautionary principle increased risk by forcing unknown, untested substances to be used instead of known commodities.

Moreover, as long as we will be regulating new technological applications we will never have complete and unmitigated success. Hence, we will always be responding to supervisory failure and crisis and we must therefore become comfortable doing so. Whether it is financial or environmental disaster, we first need to audit our approaches to the proximate causes of the disaster, separating those that work from those that require remediation. Then, we must reward businesses operations based on prudent safety and technological standards, while punishing those who operate otherwise. Such an approach not only preserves economic activity and business investment, but provides incentives to direct investment rationally toward safe and sound applications of technology and away from socially harmful alternatives.

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46. *Hahn & Sunstein, supra,* at 7 ("Indeed, taken seriously, the precautionary principle can be paralyzing, providing no direction at all.").

47. Hahn & Sunstein provide multiple examples of such failures. For example, nuclear energy has several risks associated with it, including exposure to radiation, environmental contamination, and the threat of a catastrophic event at a nuclear facility. A strict interpretation of the precautionary rule would side against the widespread adoption of nuclear power. This perspective, however, fails to consider the environmental, health, and economic risks posed by alternative sources of power. Power generated by coal and fossil-fuel increases the threat of global warming, and nuclear power does not. Coal-based plants also contaminate the air with greenhouse gases and other pollutants, even when functioning properly; a risk not posed by properly functioning nuclear plants. The economic efficiencies of nuclear power also dwarf those of alternative power sources. *See Hahn & Sunstein, supra,* at 2.

48. *Id.*

In summary, we need to be careful to preserve capitalism while acting, occasionally, where markets cannot. In such actions, however, we want to preserve, not usurp, market functions by helping align incentives so that markets can effectively *magnify* the effects of policy. All too often, however, poorly designed policy is obviated by markets, as firms contort their operations to meet the letter – while obviating the intent – of specific outdated and onerous regulations.

The Economic Cost of a Moratorium on Offshore Oil and Gas Exploration to the Gulf Region

By Joseph R. Mason, PhD*
Louisiana State University

July 2010

SAVE U.S. ENERGY JOBS

SAVE U.S. ENERGY JOBS

LSU Professor Warns Senate Committee Of Detrimental Energy, Tax Policies

White House tax proposal would further burden Americans already economically crippled by drilling moratorium, recession

WASHINGTON – Following this month's release of his sobering economic analysis of the Obama administration's moratorium on exploration in the Gulf of Mexico, LSU Banking Chair and nationally renowned economist Joseph Mason testified today before the Senate Small Business Committee. In the first six months alone, Dr. Mason's study found the drilling ban will cost Americans 12,000 jobs, $2.8 billion in economic activity, $98 million in forfeited state tax revenues in the Gulf region, and $220 million in federal tax revenue. Since the moratorium and/or its effects could last up to a year and half, these relatively conservative figures could, realistically, double or triple.

In his testimony, Mason also addressed proposed tax changes for the oil and gas sector which would greatly increase the costs of overseas activity, placing American companies at a competitive disadvantage:

"This political rhetoric stirred up by the BP disaster is creating a perfect storm that could doom the nation's energy industry and cost our nation tens of thousands of jobs, billions of dollars in economic activity, and hundreds of millions of dollars in tax revenue. We're already seeing an air of caution among prospective investors and any further action that would eliminate energy sector jobs, raise energy prices, and threaten the future of the energy industry would cause long-term harm to our nation.

"Although we're all concerned with the environmental consequences of the BP spill, we cannot allow that concern to translate into short-sighted government policies that would have a much worse consequence on our nation as a whole.

"With each passing day, the administration's moratorium on energy exploration in the Gulf of Mexico costs the region more jobs. The longer the moratorium continues, the greater the risk that these jobs won't come back. It's especially tragic that the negative economic impact of this action is harming a region that is still fighting to recover from the recent disasters of Hurricanes Katrina, Gustav, and Ike."

Dr. Mason's report was sponsored by Save U.S. Energy Jobs – a project of the American Energy Alliance – established to help promote the nation's energy sector. To learn more and get exclusive information on upcoming projects, follow Save U.S. Energy Jobs on Twitter and Facebook.

Founded in May, 2008, The American Energy Alliance ("AEA") is a not-for-profit organization that engages in grassroots public policy advocacy and debate concerning energy and environmental policies. AEA is the advocacy arm of the Institute for Energy Research (IER), a not-for-profit organization – founded in 1989 – that conducts intensive research and analysis on the functions, operations, and government regulation of global energy markets.

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- A. The Six-Month Moratorium on Offshore Drilling Activity Will Cost More than $2.7 Billion in Economic Activity Nationwide, and $2.1 Billion in Gulf communities
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VII. Summary and Conclusions

Appendix A

"Halting all offshore deepwater drilling in response to a likely low-probability event serves neither to address the root causes of the accident, nor to aid in the economic rehabilitation of the Gulf region. Indeed, a moratorium on offshore drilling would result in billions in additional lost economic activity in the Gulf."

Executive Summary

In the wake of the recent *Deepwater Horizon* oil rig spill, federal lawmakers have struggled both to address the causes of this rare and disastrous event and to enact policies to guide the environmental and economic recovery of the Gulf region. As part of its effort to respond to the crisis, the Obama administration issued a moratorium on offshore deepwater drilling (first enacted on May 30th, 2010). The goal of the moratorium is to shield the Gulf from further harmful effects by limiting the likelihood of a similar oil spill in the future. The moratorium, however, will do more harm than good. By ceasing offshore drilling, even for as little as six months, the moratorium will further depress onshore state and local economies dependent on oil production. Evidence indicates that the *Deepwater Horizon* spill was attributable to a lack of sufficient oversight during the transition of the rig from exploration to commercial production. Halting all offshore deepwater drilling in response to a likely low-probability event serves neither to address the root causes of the accident, nor to aid in the economic rehabilitation of the Gulf region. Indeed, a moratorium on offshore drilling would result in billions of dollars in *additional* lost economic activity in the Gulf.

The Fifth Circuit Court of Appeals agreed with this line of reasoning by refusing to reverse the lower court's stay of the May 30th, 2010 moratorium. The court found that President Obama's administration "failed to demonstrate the likelihood that the district court's ruling would cause irreparable injury during the time that the administration's appeal is pending."[1] Undeterred by the court ruling, the current administration issued a new moratorium on July 12th, 2010. The moratorium reasserts the policies outlined on May 30th, 2010 with an additional caveat that would include all floating facilities.[2] Such a comprehensive measure could further cripple the economy of the Gulf region. The new moratorium maintains the timeframe of May 30th policy and will be in effect until November 30th.

In this report, Dr. Joseph R. Mason investigates the resultant economic effects if either moratorium is allowed to stand.[3] By analyzing the total economic harm associated with the moratorium, Dr. Mason finds that there would be broad economic losses within the Gulf region and throughout the nation as a whole. He uses the Bureau of Economic Analysis's RIMS II "input-output" analysis to measure the economic effects associated with a potential production stoppage. Table 1 summarizes the results. Dr. Mason concludes that President Obama's moratorium will have grave economic consequences for the Gulf and the nation.

Table 1

Summary of Potential Lost Economic Activity

	Total GOM	Total U.S.	Spillover Effects
Output ($ Mil)	-$2,110	-$2,769	-$659
Employment (Jobs)	-8,169	-12,046	-3,877
Wages ($ Mil)	-$487	-$707	-$219
State & Local Tax Revenues ($ Mil)	-$98	N/A	N/A
Federal Tax Revenues ($ Mil)	N/A	-$219	N/A

Note: Production is assumed to be stopped for six months. Losses are expected to accrue over 12 months following the start of the moratorium, on May 30th, 2010.

[1] Courts Block Deepwater Drilling Moratorium, Salazar Issues Revision in Response, *OMB Watch*, Jul. 13, 2010 (available at http://www.ombwatch.org/ node/11131).
[2] Press Release, U.S. Department of the Interior, Interior Issues New Suspensions to Guide Safe Pause on Deepwater Drilling, Jul. 12, 2010.
[3] Dr. Mason's work measures the effect of a moratorium since May 30th, which effectively encompasses the rejected May 30th moratorium and the more recent July 12th moratorium, since both measures result in a six-month moratorium. Dr. Mason's work does not account for new provisions in the July 12th moratorium – and thus may be conservative estimates in that regard.

I. INTRODUCTION

The recent *Deepwater Horizon* oil rig disaster and President Obama's subsequent Offshore Deepwater Drilling Moratorium ("moratorium"), originally issued on May 30th, have fanned the flames of the already heated debate over the extent to which drilling for oil and natural gas off U.S. coasts should be permitted. Until recently, the U.S. government has withdrawn leases from areas between 3 and 200 miles off the coasts of 20 states for the extraction of oil and natural gas.[4]

Even prior to the April 20th, 2010 explosion on Transocean's *Deepwater Horizon* rig, which was leased to British Petroleum (BP), policymakers argued that the federal moratoria should be renewed. In an effort to respond to the explosion and subsequent oil spill, President Obama issued a moratorium on exploratory deepwater rigs. The President acknowledged that the moratorium would create problems "for the people who work on [offshore] rigs, but for the sake of their safety, and for the sake of the entire region, [the government needs] to know the facts before [they] allow deepwater drilling to continue."[5] These restrictions, however, are causing significant hardship and economic loss to communities already dealing with a historic recession.

The White House issued the moratorium on May 30th, 2010, stating the need to investigate the causes of the spill and to determine if future spills were possible. The moratorium states:

> The Moratorium Notice to Lessees and Operators (Moratorium NTL) issued today directs oil and gas lessees and operators to cease drilling new deepwater wells, including wellbore sidetrack and bypass activities; prohibits the spudding of any new deepwater wells; and puts oil and gas lessees and operators on notice that, with certain exceptions, MMS will not consider for six months drilling permits for deepwater wells and for related activities. For the purposes of the Moratorium NTL, "deepwater" means depths greater than 500 feet... Activities necessary to support existing deepwater production may continue, but operators must obtain approval of those activities from the Department of the Interior.[6]

The moratorium banned deepwater drilling activity, but allowed existing production to continue.[7]

Critics claim that this policy is unjustified, arbitrary, and capricious given the economic harm it will inflict upon communities dependent upon offshore drilling for jobs and revenue.[8] Accordingly, a federal judge in New Orleans blocked enforcement of the moratorium, writing that "[t]he blanket moratorium, with no parameters, seems to assume that because one rig failed and although no one yet fully knows why, all companies and rigs drilling new wells over 500 feet also universally present an imminent danger,"[9] justifying the taking of economic value from private sector jobs and firms. Although the Obama administration has already filed an appeal with a higher court, the judge's decision demonstrates the need to consider how the moratorium on offshore drilling will affect the economies of the Gulf states (Louisiana,

"Even prior to the April 20th, 2010 explosion on Transocean's Deepwater Horizon rig, which was leased to British Petroleum (BP), policymakers argued that the federal moratoria should be renewed."

[4] U.S. Department of the Interior, Minerals Management Service, Report to Congress: Comprehensive Inventory of U.S. OCS Oil and Natural Gas Reserves, Feb. 2006 [hereinafter MMS Report to Congress], at xii ("Part or all of nine OCS planning areas, which include waters off 20 coastal states, have been subject to longstanding leasing moratoria enacted annually as part of the Interior and related agencies appropriations legislation, or are withdrawn from leasing until June 30, 2012, as the result of presidential withdrawal (under section 12 of the OCSLA). Some of these areas contain large amounts of technically recoverable oil and natural gas resources."). See also id. at 3 ("The Federal OCS generally extends from 3 to 200 miles offshore and covers an area of about 1.76 billion acres.").

[5] President Barack Obama, Remarks by the President to the Nation on the BP Oil Spill, The White House, Jun. 15, 2010, (transcript available at http://www.whitehouse.gov/the-press-office/remarks-president-nation-bp-oil-spill).

[6] Press Release, U.S. Department of the Interior, Interior Issues Directive to Guide Safe, Six-Month Moratorium on Deepwater Drilling (May 30, 2010) (available at http://www.doi.gov/news/pressreleases/Interior-Issues-Directive-to-Guide-Safe-Six-Month-Moratorium-on-Deepwater-Drilling.cfm).

[7] While the moratorium is a de jure stoppage in deepwater, the lack of precise safety regimes going forward has resulted in a de facto stoppage of all drilling.

[8] Matt Stephens, Offshore drilling moratorium hurting local companies, *The Courier*, Jul. 13, 2010 (available at http://www.hcnonline.com/articles/2010/07/13/conroe_courier/news/moratorium071410.txt).

[9] Laurel Brubaker Calkins & Margret Cronin Fisk, Deepwater Drilling Ban Lifted by New Orleans Federal Judge, Bloomberg, Jun 23, 2010 [hereinafter Deepwater Ban Lifted by Judge] (available at http://www.bloomberg.com/news/2010-06-22/u-s-deepwater-oil-drilling-ban-lifted-today-by-new-orleans-federal-judge.html).

"A significant halt to oil and natural gas exploration and drilling would not just affect upstream and downstream industries, but could also impact state and local governments, as well as small retail stores, education services, healthcare assistance, and a host of other industries.

Texas, Florida, Alabama, and Mississippi), as well as the nation as a whole. Despite these legitimate concerns, the Obama administration issued a new moratorium on July 12th, 2010 – which in fact expands on the original moratorium to include all floating facilities.[10]

In this study, I estimate the total economic harm associated with the White House moratorium on deepwater drilling.[11] I use data from the U.S. Department of the Interior, Department of Energy, Census Bureau, and the Treasury Department to estimate the total decrease in output, employment, wages, and public revenues to the Gulf states and the nation as a whole. Additionally, I use figures presented by Louisiana Mid Continent Oil and Gas Association and estimated by Wood Mackenzie Research and Consulting to get industry estimates for the effects of the moratorium.

My estimates suggest that the moratorium would produce broad economic losses within the Gulf region and throughout the nation as a whole. Given the integrated nature of the U.S. economy, a negative effect in one industry is likely to be felt throughout the country. A significant halt to oil and natural gas exploration and drilling would not just affect upstream and downstream industries, but could also impact state and local governments, as well as small retail stores, education services, healthcare assistance, and a host of other industries.

"The effective six-month moratorium on offshore oil and natural gas production will result in the loss of approximately $2.1 billion in output, 8,169 jobs, over $487 million in wages, and nearly $98 million in forfeited state tax revenues in the Gulf states alone."

The effective six-month moratorium on offshore oil and natural gas production will result in the loss of approximately $2.1 billion in output, 8,169 jobs, over $487 million in wages, and nearly $98 million in forfeited state tax revenues in the Gulf states alone. Additionally, although a significant portion of oil and natural gas production is localized in the Gulf, the U.S. is a fully integrated economy, so there is an expectation that the loss will "spill-over" into other states. From this spillover effect, there could be an additional loss of $0.6 billion in output, 3,877 jobs, and $219 million in potential wages nationwide. Moreover, the federal government stands to lose $219 million in tax revenue. These losses are dramatic in both the context of local economies in which the oil industry operates, and on a national scale.

The remaining sections of this study outline the specifics of the moratorium regulations, and provide the methodology for assessing the economic cost of the suspension of deepwater drilling. Section II provides some background on U.S. offshore oil and natural gas drilling, the *Deepwater Horizon* explosion, and the White House moratoriums. Section III describes the significance of offshore oil production activities to onshore economies. Section IV outlines the model this paper uses to predict the economic impacts of a moratorium on drilling. Section V provides estimates for oil and natural gas production in the Gulf of Mexico and the U.S. Section VI estimates the economic impact of the moratorium in the U.S. on both a regional and national level. Finally, Section VII discusses conclusions from this work, most importantly that the implementation of the deepwater drilling moratorium would be catastrophic to Gulf and national economies.

II. BACKGROUND ON U.S. OFFSHORE OIL PRODUCTION

Drilling for oil and natural gas off U.S. coasts has occurred since the late 19th century, beginning in California and eventually spreading to the Gulf of

[10] Press Release, U.S. Department of the Interior, Interior Issues New Suspensions to Guide Safe Pause on Deepwater Drilling, Jul. 12, 2010.
[11] My analysis considers the moratorium to be in effect since May 30th, 2010, the date of the first moratorium. I do not consider the expanded scope of the new moratorium, which includes all floating facilities. Thus, my results in this respect may be conservative.

"By the mid-20th, oil was surpassed only by income taxes as the largest generator of revenue for the U.S. government."

Mexico and Atlantic coasts.[12] This expansion was spurred largely by the advent of the internal combustion engine and accompanying increase in demand for gasoline, improvements in technology, the development of modern seismology, and profitability of offshore drilling to local economies.[13] By the mid-20th, oil was surpassed only by income taxes as the largest generator of revenue for the U.S. government.[14] Growth of the industry was slowed, however, as the government imposed a legislative moratorium on new drilling on the Outer Continental Shelf (OCS) in 1981.[15] President George H.W. Bush signed an executive ban reinforcing this congressional moratorium in 1990.[16]

A few years ago, government policies towards offshore drilling once again changed direction. As gas prices skyrocketed, the government faced strong pressures to find solutions that would offer relief.[17] In 2008, the same year that the congressional moratorium was set to expire, President George W. Bush terminated the executive ban previously in place.[18] Then, on March 31st, 2010, President Obama proposed the opening of new stretches of water along the Atlantic, Gulf of Mexico, and Alaskan coasts to oil and gas drilling.[19] As expected, the proposal drew significant criticism from environmental groups.[20]

Less than a month after President Obama unveiled his proposal, the debate was renewed by an explosion on the *Deepwater Horizon* oil rig 40 miles off the coast of Louisiana. The rig, a joint venture between Transocean and BP, sank into the Gulf of Mexico following the April 20th explosion at the facility. Since that time, the well that had been attached to the rig has continued to spill oil into the Gulf of Mexico. Though BP has attempted to stop the spill using a variety of methods, the company has thus far been unable to seal the leak or substantially contain the damage. While precise damage from the spill cannot be accurately estimated in the short term, news sources and investigators estimate that somewhere between 1,000 and 100,000 barrels of oil are leaked per day.[21]

On April 30th, 2010, in a dramatic response to the unprecedented disaster,[22] President Obama imposed a stay on deepwater drilling until the exact cause of the explosion could be determined.[23] Although there has been much speculation about the source of the explosion and the failures to stop the spill, many analysts have opined that the proximate causes of the *Deepwater Horizon* disaster were "gross negligence or willful misconduct."[24] One *Washington Post* writer noted that "[n]ot only did BP take shortcuts during the drilling of the well and ignore warning signs in the final few weeks before it blew, but it has repeatedly botched the cleanup effort and engaged in ham-handed tactics to keep the media in the dark."[25] Nonetheless, one month later, the secretary of the Interior announced a moratorium on all exploratory offshore drilling.

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[12] National Ocean Industries Association (NOIA) (available at http://www.noia.org/website/article.asp?id=123); Rick Jervis, William M. Welch and Richard Wolf, Worth the risk? Debate on offshore drilling heats up, *USA Today*, Jul. 14, 2008 (available at http://www.usatoday.com/money/industries/energy/2008-07-13-offshore-drilling_N.htm).

[13] Id.

[14] National Ocean Industries Association (NOIA).

[15] Outer Continental Shelf (OCS): Supplies, Bans, and Natural Seeps, Institute for Energy Research (IER), (available at http://www.instituteforenergyresearch.org/cleaning-up-the-environment-one-more-reason-to-develop-the-outer-continental-shelf/); Offshore Drilling and Exploration, The *New York Times*, (discussion available at http://topics.nytimes.com/top/reference/timestopics/subjects/o/offshore_drilling_and_exploration/index.html?scp=1-spot&sq=offshore%20drilling&st=cse) [hereinafter Offshore Drilling and Exploration.]. [Some sources put the exact date in 1982.]

[16] Id.

[17] Offsbore Drilling and Exploration, supra.

[18] Outer Continental Shelf (OCS): Supplies, Bans, and Natural Seeps, Institute for Energy Research (IER).

[19] John M. Broder, Obama to Open Offshore Areas to Oil Drilling for First Time, The *New York Times*, Mar. 30, 2010 (available at http://www.nytimes.com/2010/03/31/science/earth/31energy.html).

[20] Offshore Drilling and Exploration, supra.

[21] Deborah Zabarenko, Hustle and flow: how much oil is really gushing? *Reuters*, Jun. 25, 2010, (available at http://www.reuters.com/article/idUSTRE65O3C720100625).

[22] In 1969, an offshore platform explosion off the coast of Santa Barbara occurred. Approximately three million gallons of crude oil spilled from the cracks in the channel floor. The explosion was caused by a crack at the bottom of the Santa Barbara Channel. Darren Hardy, 1969 Santa Barbara Oil Spill http://www2.bren.ucsb.edu/~dhardy/1969_Santa_Barbara_Oil_Spill/Home.html.

[23] Timeline: Gulf of Mexico oil spill, *Reuters*, Jun. 28, 2010 (available at http://www.reuters.com/article/idUSTRE65R42W20100628?loomia_ow=t0:s0:a49:g43:r1:c0.197842:b35266052:z).

[24] Edward Tan and John E. Morris, The Drill: Et Tu, Anadarko?, *Wall Street Journal*, Jun. 22, 2010 (available at http://online.wsj.com/article/BT-CO-20100622-703614.html?mod=WSJ_latestheadlines).

[25] Brendan Borrell, Which oil companies are more eco-friendly than the rest, The *Washington Post*, Jun. 29, 2010 (available at http://www.washingtonpost.com/wp-dyn/conte nt/article/2010/06/28/AR2010062803812.html).

"Some findings implicate the 'use of a less robust well design, failure to anchor the well's casing using a process recommended under industry practices and cutting short procedures to ensure cementing was sound.'"

A. The Gulf Oil Spill

The spill began on April 20th, 2010 with an explosion on Transocean's *Deepwater Horizon* oil drilling rig. The explosion is reported to have been the culmination of poor communication, planning, and management by Transocean's leasing partner, BP. Transocean was "under contract with [BP] to drill an exploratory well."[26] In preparation for converting the well from exploration to commercial production, BP and Transocean were planning to temporarily close the well. On the day of the explosion, BP's site manager and the Transocean team met to discuss the future of the rig but did not disclose the precise details of their decision.[27] Halliburton was contracted to perform some repairs necessary for the reopening of the well, and had completed cementing "of casings in the well less than 24 hours prior to the accident."[28] Two days after the explosion, BP sent two remotely operated vehicles (ROVS) to investigate the damage and determined that there were two oil leaks at approximately 5,000 feet below sea level.

Over the past three months, BP and the U.S. government have worked on mechanisms to stop the well from dumping oil into the Gulf. Additionally, lawmakers have been attempting to decipher how such a disaster was permitted to occur.[29] Some findings implicate the "use of a less robust well design, failure to anchor the well's casing using a process recommended under industry practices and cutting short procedures to ensure cementing was sound."[30] By all accounts, the decision to use Halliburton's cementing method and create shortcuts in preparing the well for production was not in compliance with best practices. In preparation for the cementing, Halliburton even indicated that the well may have gas-flow issues.[31] Although investigations are still pending, by some accounts, BP appears to have chosen a riskier option for the design of the well to reduce costs, thereby putting the well in a precarious position even before the explosion.[32]

B. The White House Moratorium on Offshore Drilling and Exploration

The federal government's response to the *Deepwater Horizon* incident has been to block exploratory drilling in the region. However, the all-encompassing moratorium seems misguided given the primary allegations of disregard for best practices on the part of the involved parties as the proximate cause of the disaster. Instead, the overly-broad and unwarranted moratorium needlessly imposes economic costs on an already distressed region and a nation in recession.

Despite the prevailing public perception that the fault for the spill was attributable solely to negligent conduct by a small number of firms, the Obama administration ultimately imposed a six-month moratorium on all deepwater drilling projects,[33] citing the need to better understand what caused the accident before other endeavors can be considered safe.[34] The moratorium leaves already-producing rigs unaffected but would freeze 33 exploratory drilling projects and suspend the

[26] Alton Parrish, Timeline of Events in BP Oil Spill: Day by Day, April 20 to May 26, Before It's News, May 27, 2010 (available at http://beforeitsnews.com/news/50/386/Timeline_of_Events_in_BP_Oil_Spill:_Day_by_Day,_April_20_to_May_26.html) [hereinafter Parrish (May 27, 2010).

[27] BP, Transocean argues well plans before rig blast, CNN, May 26, 2010, (available at http://www.cnn.com/2010/US/05/26/oil.spill.investigation/index.html).

[28] Parrish (May 27, 2010), supra.

[29] "The more I learn about this accident, the more concerned I become. This catastrophe appears to have been caused by a calamitous series of equipment and operational failures. If the largest oil and oil services companies in the world had been more careful, 11 lives might have been saved and our coastlines protected." See Hearing on 'Inquiry into the Deepwater Horizon Gulf Coast Oil Spill' Before the Subcomm. On Oversight and Investigations Comm. on Energy and Commerce, 111th Cong. (May 12, 2010) (opening statement by Rep. Waxman, Chairman, Comm. on Energy and Commerce).

[30] Jeff Plungis. BP Raised Risks at 'Nightmare' Well, Lawmakers Say (Update 1), *Bloomberg–BusinessWeek*, Jun. 15, 2010, (available at http://www.businessweek.com/news/2010-06-15/bp-raised-risks-at-nightmare-well-lawmakers-say-update1-.html).

[31] Id.

[32] Matthew Daly and Ray Henry, Documents: BP cut corners in days before blowout, *Associated Press*, Jun. 14, 2010 (available at http://news.yahoo.com/s/ap/20100614/ap_on_bi_ge/us_gulf_oil_spill).

[33] Secretary of the Interior Ken Salazar recommended "a six-month moratorium on permits for new wells being drilled using floating rigs. The moratorium would allow for implementation of the measures proposed in this report and for consideration of the findings from ongoing investigations, including the bipartisan National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. The Secretary further recommends an immediate halt to drilling operations on the 33 permitted wells, not including the relief wells currently being drilled by BP, that are currently being drilled using floating rigs in the Gulf of Mexico." (Increased Safety Measures for Energy Development on the Outer Continental Shelf, Department of the Interior, 3).

issuance of new permits, leaving time for investigations to be completed.[35] Secretary of the Interior Ken Salazar explained:

> The six-month moratorium on deepwater drilling will provide time to implement new safety requirements and to allow the Presidential Commission to complete its work. Deepwater production from the Gulf of Mexico will continue subject to close oversight and safety requirements, but deepwater drilling operations must safely come to a halt. With the BP oil spill still growing in the Gulf, and investigations and reviews still underway, a six-month pause in drilling is needed, appropriate, and prudent.[36]

A federal judge in New Orleans blocked the enforcement of this initial moratorium on June 22nd, 2010, citing a lack of basis for the regulation.[37] In response, the Obama administration issued a new moratorium on July 12th, 2010.[38] When asked about the differences between the two moratoriums, the Department of Interior stated,

> Like the deepwater drilling moratorium lifted by the district court on June 22nd, the deep-water drilling suspensions ordered today apply to most deep-water drilling activities and could last through November 30th. The suspensions ordered today, however, are the product of a new decision by the secretary and new evidence regarding safety concerns, blowout containment shortcomings within the industry, and spill response capabilities that are strained by the BP oil spill.[39]

The effective result of the reissued moratorium is that the original moratorium is renewed, so there is still a six-month moratorium. There were, however, several new provisions which include: 1) the moratorium is not based on drilling depth, but rather on the basis of drilling configurations and technologies; and 2) the new moratorium includes all floating facilities.[40] Regardless, the effective result is that there is currently an ongoing six-month moratorium on deepwater drilling.

"The effective result of the reissued moratorium is that the original moratorium is renewed, so there is still a six-month moratorium."

Unfortunately, the moratorium is not economically viable for the Gulf region and it imposes significant economic harm upon the rest of the U.S. Sections IV and V, therefore, discuss in detail the economic implications of this decision.

III. OFFSHORE OIL PRODUCTION STIMULATES DIVERSE ONSHORE ECONOMIES

Offshore oil production benefits federal, state, and local onshore economies. Broadly speaking, there are three "phases" of development that contribute to state economic growth: (1) the initial exploration and development of offshore facilities; (2) the extraction of oil reserves; and (3) the refining of crude oil into finished petroleum products. Businesses that support those phases are prevalent in the sections of the Gulf of Mexico that are currently open to offshore drilling. With regard to the exploration and development stage, the U.S. shipbuilding industry, for example, has a strong presence in the Gulf region and benefits significantly from initial offshore oil exploration efforts.[41] This early phase requires specialized exploration and drilling vessels, floating drilling rigs, and miles and miles of steel pipe, as well as highly-educated and specialized labor to staff the efforts; thus, the jobs and businesses involved in the production of these inputs are supported by offshore drilling.

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[34] Charlie Savage, Drilling Ban Blocked; US Will Issue New Order, The *New York Times* (available at http://www.nytimes.com/2010/06/23/us/23drill.html?scp=1&sq=offshore%20drilling%20moratorium&st=cse).
[35] Id.
[36] Press Release, U.S. Department of the Interior, Interior Issues Directive to Guide Safe, Six-Month Moratorium on Deepwater Drilling, May 30, 2010, (available at http://www.doi.gov/news/pressreleases/Interior-Issues-Directive-to-Guide-Safe-Six-Month-Moratorium-on-Deepwater-Drilling.cfm).
[37] Deepwater Ban Lifted by Judge, supra.
[38] Press Release, U.S. Department of the Interior, Interior Issues New Suspensions to Guide Safe Pause on Deepwater Drilling, Jul. 12, 2010.
[39] Greenspace, Gulf Oil Spill: New Moratorium Explained, LA Times Blog, Jul. 12, 2010 (available at http://latimesblogs.latimes.com/greenspace/2010/07/gulf-oil-spill-new-moratorium-explained.html).
[40] Press Release, U.S. Department of the Interior, Interior Issues New Suspensions to Guide Safe Pause on Deepwater Drilling, Jul. 12, 2010.
[41] U.S. Department of Commerce, Bureau of Export Administration, U.S. Shipbuilding and Repair, National Security Assessment (003-009-00719-4), at 9 ("In some niches, however, the United States currently has a significant world market share based mostly on domestic sales. These niches include offshore oil platforms, yachts, fast patrol boats, and recreational vessels," a preponderance of which are produced in the Gulf Coast region).

Along with production, onshore personnel work on the oil extraction phase as well. A recent report prepared for the U.S. Department of Energy indicates that Louisiana's economy is "highly dependent on a wide variety of industries that depend on offshore oil and gas production,"[42] and that offshore production supports onshore production in the chemicals, platform fabrication, drilling services, transportation, and gas processing industries.[43] Fleets of helicopters and U.S.-built vessels also supply offshore facilities with a wide range of industrial and consumer goods, from industrial spare parts to groceries.

The economic benefits produced by the refining phase are even more widespread than the effects of the two preceding phases. Although capacity is largely concentrated in California, Illinois, New Jersey, Louisiana, Pennsylvania, Texas, and Washington, additional U.S. refining capacity exists throughout the country.[44] As a result, refinery jobs, wages, and tax revenues are more likely to "spill-over" into other areas of the country, including non-coastal states like Illinois.

The economic benefits to coastal and state communities from offshore drilling are substantial. The Associated Press reports that offshore workers from Louisiana, for example, "frequently earn $50,000 a year or more."[45] One in three jobs in coastal Louisiana "is related to the oil and natural gas industry [and] many of the workers earn between $40,000 and $100,000 a year."[46] Louisiana alone could lose up to 10,000 jobs in only a few months.[47] The state of Louisiana estimates that oil and gas production, primarily from the Gulf, supports $12.7 billion in household earnings, "representing 15.4 percent of total Louisiana household earnings in 2005."[48]

The moratorium would put a halt to training new workers and cut jobs for workers already employed within the offshore industry. Additionally, offshore workers that lose their jobs due to the moratorium would receive only a fraction of their wages in unemployment benefits. This will directly affect local businesses, many of which were already weakened by Hurricane Katrina in 2005 and Hurricane Gustav in 2008. Some companies in Louisiana, for example, are already worried that after taking on "heavy debts after Hurricane Katrina [they] may not [be] able to take on additional loans."[49]

In response, President Obama asserted that the Small Business Administration "has stepped in to help businesses by approving loans [and] allowing many to defer existing loan payments."[50] This demonstrates a key understanding by the current administration that small businesses in the Gulf will be hit significantly by the moratorium. Additionally, it is unclear how much the approval and deferment of loans will mitigate the substantial losses taken by small businesses in the Gulf. Indeed, a far simpler solution would be to withdraw the moratorium and allow businesses to operate normally.

Wood Mackenzie Research and Consulting's findings about the impact of a six-month moratorium illustrate the extent to which the offshore industry contributes to local and state economies in the nation. Their research shows that as many as 1,400 workers would be left without jobs, and as many as 46,200 jobs, both on–and offshore, would go idle if the 33 drilling platforms were shut down.[51] The report goes on to say that as many as 120,000 jobs could be lost by 2014. Louisiana would lose 3,000 to 6,000 jobs alone in "the first two to three weeks and potentially more than 20,000 Louisiana jobs within the next twelve to eight months."[52]

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[42] Advanced Resources International, Inc., Basin Oriented Strategies for CO2 Enhanced Oil Recovery: Offshore Louisiana, Prepared for the U.S. Department of Energy, Mar. 2005, at EX-1.

[43] Id. ("For example, Louisiana is the third largest consumer of natural gas in the U.S., and a large number of chemical industry jobs in Louisiana are highly dependent on the continued availability of adequate volumes of moderately priced natural gas. Moreover, offshore oil and gas production operations support a vast spectrum of other activities in the state, including platform fabrication, drilling and related services, offshore transport and helicopter operations, and gas processing.").

[44] See Table A1 in the Appendix, infra.

[45] Cain Burdeau, Rig workers job hunt after drill ban, Associated Press for MSNBC, June 18, 2010, (available at http://www.msnbc.msn.com/id/37762247/ns/business-us_business/).

[46] Stephen C. Fehr, Gulf states fear long-term fiscal effects of oil disaster, *Stateline*, Jun. 24, 2010 (available at http://www.stateline.org/live/details/story?contentId=493859); Press Release, Just The Facts: Drilling Moratorium's Impact on Louisiana's Families and Economy, Government of Louisiana, Jun. 14, 2010 (available at http://emergency.louisiana.gov/Releases/06142010-moratorium.html) [hereinafter Just the Facts].

[47] The projected employment loss forecasted by my analysis is lower that the estimates presented in this section. The likely reason for this is that my assessment is conservative. For instance, I assume the period of loss from the moratorium is only six months, while the Louisiana Department of Economic Development assumes that the period of loss will be 12 to 18 months. Section VI, subsection F outlines some of the ways in which my analysis may create a lower bound for loss.

[48] Just the Facts, supra.

[49] Louisiana's economic hurt from drilling moratorium warrants action: An editorial, The *Times-Picayune*, Jun. 8, 2010 (available at http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/06/louisianas_economic_hurt_from.html).

[50] President Barack Obama, Remarks by the President After Briefing on BP Oil Spill, The White House, May 28, 2010, (transcript available at http://www.whitehouse.gov/the-press-office/remarks-president-after-briefing-bp-oil-spill).

In addition to onshore businesses, smaller oil companies that stimulate the economy of the region will be crippled by the moratorium. Offshore drilling has helped develop the oil industry around the country by encouraging smaller companies to compete for business with larger players. The *Wall Street Journal* reports that the oil industry in the Gulf of Mexico was largely developed by relatively small oil and gas companies.[53] In the early 1990s "relatively small players like Kerr-McGee, Ocean Energy and Unocal were acquiring acreage in deep water; their finds helped prove the Gulf's worth to bigger brethren like Chevron, Devon Energy Corp. and Anadarko Petroleum Corp., which later bought these companies at a premium."[54] New generations of companies have started exploratory offshore businesses in the Gulf. Cobalt International Energy, for example, is already experiencing delays in its business because the "U.S. government moratorium on drilling would delay the planned drilling of an exploratory well in the Gulf by six months."[55]

IV. THE RIMS II MODEL CAN BE USED TO MEASURE THE ECONOMIC IMPACT OF THE MORATORIUM

As discussed in the previous section, onshore state and local economies benefit from offshore oil production by receiving compensation and economic benefit from providing goods and services to offshore oil and gas extraction sites. Onshore communities provide all manner of goods and services required by offshore oil and gas extraction. A variety of industries are involved in this effort: shipbuilders provide exploration vessels, permanent and movable platforms, and resupply vessels; steelworkers fashion the drilling machinery and specialized pipes required for offshore resource extraction; accountants and bankers provide financial services; and other onshore employees provide groceries, transportation, refining, and other duties. These onshore jobs, in turn, support other jobs and other industries (such as retail and hospitality establishments).

The statistical approach known as an "input-output" analysis can be used to measure the economic effects associated with a particular development project, or in this case a production stoppage. This approach, pioneered by Nobel Prize winner Wassily Leontif, has been refined by the U.S. Department of Commerce in the form of the Regional Input-Output Modelling System, or "RIMS II". The RIMS II model provides a variety of multipliers that measure how a plant shutdown or slowdown would affect local and regional economies, accounting for the elimination of jobs, decreases in wages, and the drain on potential government revenues. This analysis focuses on the negative direct *and* indirect effects associated with placing a moratorium on offshore drilling.

The RIMS II model is the standard method that governmental authorities use to evaluate the benefits associated with an economic development project. According to the Commerce Department, the RIMS II model has been used to evaluate the economic effects of many projects, including: opening or closing military bases, tourist expenditures, new energy facilities, opening or closing manufacturing plants, shopping malls, sports stadiums, and new airport or port facilities.[56] State and local governments have also used the RIMS II model to perform economic analyses.

"This analysis focuses on the negative direct and indirect effects associated with placing a moratorium on offshore drilling."

[53] Kimberly Morin, GOP Senator introduces bill to terminate Obama's economy killing drilling moratorium, *The Examiner*, Jun. 17, 2010 (available at http://www.examiner.com/x-9100-Boston-Conservative-Independent-Examiner~y2010m6d17-GOP-Senators-introduce-bill-to-terminate-Obamas-economy-killing-drilling-moratorium).

[54] Id, citing the Wood MacKenzie Research and Consulting report. Section VI, Subsection F outlines some reasons for why my analysis predicts lower job loss projections.

[55] Angel Gonzalez, Stiffer Costs, Rules in Gulf Will Squeeze Smaller Players, The *Wall Street Journal*, Jun. 22, 2010 (available at http://online.wsj.com/article/SB10001424052748704256304575321104202428906.html) [hereinafter Stiffer Costs, Rules in Gulf].

[56] Id.

[55] Id.

The Bureau of Economic Analysis (BEA) RIMS II model provides multipliers that allow researchers to estimate the comprehensive effect on output, income, or employment as a result of changes to product outputs ("final-demand").[57]

Thus for these figures, I consider that the moratorium will prevent oil and natural gas from reaching the market and halt operation for 33 deepwater rigs.[58] According to the Louisiana Mid-Continent Oil and Gas Association (crediting Wood Mackenzie), 80,000 barrels of oil equivalent (both oil and natural gas) a day will not go to market as a result of the moratorium. [59] This equals 2.4 million barrels a month, and 14.6 million barrels during the six-month moratorium. I assume that the moratorium only lasts for six months, and that, after this point, the lost production will resume (thus this estimate may be conservative). This figure can be converted to a dollar value by applying the appropriate price.

Three final sets of demand multipliers are applied to the production loss estimate. First, BEA output multipliers measure the total decrease in economic activity—including the effect on all other industries—resulting from $1 of loss of industrial activity in a particular geographic region.[60] Next, BEA earnings multipliers measure the decrease in wages resulting from a $1 loss of industrial activity.[61] Finally, BEA employment multipliers measure the decrease in employment (in full-time equivalent jobs) associated with a $1,000,000 decrease in industrial activity.[62] For example, in Texas the oil and gas extraction output multiplier is 2.0721, the wage multiplier is 0.5085, and the employment multiplier is 8.2985. Thus, a loss of $1 million of oil and natural gas extraction translates into a loss of $2,072,100 in annual output, $508,500 in annual wage income, and approximately 8.3 additional full-time jobs for the year. The direct effect associated with the loss of oil and natural gas production varies by state. The same $1 million loss in production in Louisiana, for example, translates into a loss of $1,793,200 in output, $407,900 in wage income, and approximately 6.8 full-time jobs for the year.

The time period over which this loss is felt has been subject to much debate. In most cases, the BEA considers one year to be the horizon over which its multipliers will achieve full effect.[63] For our purposes, I assume that each BEA multiplier measures the changes that are expected to occur within one year.[64]

To determine the economic effect of a moratorium on deepwater oil and natural gas drilling, the BEA multipliers for "Oil and Natural Gas Extraction" are used (see Appendix Tables A2 and A3). The multipliers are available at the county level, but since I am interested in a broader range of effects, state and national multipliers are used in this paper. In the following sections, these multipliers are applied to production loss estimates to determine the state-by-state, and overall effects of the deepwater drilling moratorium on the Gulf economy.

V. PRESENT OFFSHORE OIL AND GAS RESERVE ESTIMATES

As stated above, to determine the economic effect of the moratorium on offshore oil and gas production on Gulf States, it is necessary to the estimate the lost production of oil and natural gas for each state as a result of the moratorium. The Louisiana Mid-Continent Oil and Gas Association (crediting Wood Mackenzie) stated in a recent report that 80,000 barrels of oil equivalent (both oil and natural gas) a day will not go

[56] See U.S. Department of Commerce, Bureau of Economic Analysis, Brief Description: Applications of RIMS II (available at http://www.bea.gov/bea/regional/rims/brfdesc.cfm).

[57] See Everett Ehrlich, Steven Landefeld & Betty Barker, Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II), U.S. Department of Commerce, Third Edition, at 3 (Mar. 1997). ("If the user can estimate the change in final demand in the initially affected industry, the user can estimate the impact on output, earnings, or employment on the basis of final-demand multipliers.") [hereinafter Rims II Handbook].

[58] My calculations are based on the provisions of the original moratorium, and do not include additional provisions provided by the July 12th moratorium. As such, my estimates are conservative.

[59] Katherine Schmidt, Oil Industry Predicts Damage to Economy (80,000 bpd says Wood Mackenzie), *Investor Village*, Jun. 4, 2010 (available at http://www.investorvillage.com/smbd.asp?mb=14535&mid=9098568&pt=msg) [hereinafter Oil Industry Predicts Damage].

[60] RIMS II Handbook, supra, at 3, ("In this [final demand output multiplier] table, each column entry indicates the change in output in each row industry that results from a $1 change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.") [hereinafter Rims II Handbook].

[61] See Id. ("In this [final demand earnings multiplier] table, each column entry indicates the change in earnings in each row industry that results from a $1 change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.").

[62] See Id. at 4 ("In the final-demand employment multiplier table, each column entry indicates the change in employment in each row industry that results from a $1 million change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.").

[63] RIMS II Handbook, supra, at 8 ("RIMS II, like all I-O models, is a "static equilibrium" model, so impacts calculated with RIMS II have no specific time dimension. However, because the model is based on annual data, it is customary to assume that the impacts occur in 1 year. For many situations, this assumption is reasonable.").

[64] Id., ("RIMS II, like all I-O models, is a 'static equilibrium' model, so impacts calculated with RIMS II have no specific time dimension. However, because the model is based on annual data, it is customary to assume that the impacts occur in 1 year.").

to market as a result of the moratorium. This equals 2.4 million barrels a month, and 14.6 million barrels during the six – month moratorium.[65]

I take a two-step approach to estimate state-by-state production in the Gulf of Mexico (GOM). First, GOM production figures are apportioned to the GOM coastline states by assuming that a state's share of oil and gas reserves (and hence the benefits of utilizing those reserves) is proportional to its share of the GOM production. Then, the dollar value of state production is estimated by applying the current prices of oil and gas to each state's share.

It is reasonable to assume that a state's production is tied to its available reserves, and by association the state's proximity to oil. The analysis of economic impact, therefore, hypothesizes that the economic benefits associated with offshore oil and natural gas production accrue onshore firstly in the local communities that provide the most convenient labor, materials, and support services for offshore production. Thus, to apportion total production to the GOM states, I use each state's share of the total oil and natural gas reserves in the GOM. In a previous paper, I calculated each state's share of total oil and natural gas reserves, and I use those estimates to apportion production in the current analysis.[66] Table 2 presents the result of this calculation. Louisiana stands to lose the most in terms of production, followed by Texas, Alabama, and Mississippi.

To quantify the monetary loss, I use the U.S. Energy Information Administration's (EIA) latest price forecasts from the Short Term Energy Outlook July 7, 2010. The report indicates that for the second half of 2010, the average price of oil will be $79 per barrel. The value of each state's production is calculated as its share of available GOM offshore oil production times $79.00 per barrel.[67] At this price, the production losses apportioned to coastal states have the dollar values reported in Table 2 below.

TABLE 2
Estimated Six-Month Production Loss Of Oil Equivalent Barrels In the GOM

State	Mbbl	$ Millions
Texas	3,801	$300
Alabama	1,162	$92
Mississippi	965	$76
Louisiana	8,704	$688
Total	**14,632**	**$1,156**

Sources: The Louisiana Mid-Continent Oil and Gas Association (citing Wood Mackenzie); U.S. Energy Information Administration, Short Term Energy Outlook, July 2010; Joseph R. Mason, The Economic Contribution of Increased Offshore Oil Exploration and Production to Regional and National Economies, American Energy Alliance (Feb. 2009).

VI. DECREASED INVESTMENTS IN OFFSHORE OIL AND GAS PRODUCTION WILL CAUSE SUBSTANTIAL LOSSES IN WAGES AND, EMPLOYMENT, AND WILL HAVE PROFOUND EFFECTS ON COMMUNITIES THROUGHOUT THE GULF

In the following sections, the BEA multipliers for "Oil and Natural Gas Extraction" are applied to the previously discussed estimates of production loss (see Appendix Tables A2 and A3). Section A explains the effect of the moratorium on both the Gulf states and total U.S. economic output. Section B quantifies the effect of the moratorium on employment (a particularly salient topic given the current unemployment woes of many Americans). Section C explains the negative impact of the moratorium on wages. Section D explains the negative impact of a moratorium on local, state, and federal tax revenues. These analyses paint a bleak picture of the economic impact of the moratorium. Further, as is shown in Section E, the analyses do not even consider a

[65] Oil Industry Predicts Damage, supra.
[66] In a previous paper, I apportioned OCS Planning Area reserves—and the local economic benefits associated with exploiting those reserves—by each state's share of the ocean coastline bordering an OCS Planning Area. Based on that allocation, the percentage of loss in this study allocated each state would be: LA: 59%; MS: 6%; AL: 7%; TX: 25%; FL: .01%. See Joseph R. Mason, The Economic Contribution of Increased Offshore Oil Exploration and Production to Regional and National Economies, American Energy Alliance, Feb. 2009.
[67] U.S Energy Information Administration (EIA), *Short Term Energy Outlook*, July 2010.

number of loss factors, such as rigs not coming back to the GOM after leaving or the loss of economic benefits as a result of investment in exploration.

In no way are these figures meant to be definitive. Instead, the estimates presented represent a reasonable approach to assessing the economic impact of a deepwater drilling moratorium.

A. The Six-Month Moratorium on Offshore Drilling Activity Will Cost More than $2.7 Billion in Economic Activity Nationwide, and $2.1 Billion in Gulf Communities

The broadest measure of the incremental effect of the moratorium is the effect on total economic output. As discussed earlier, GDP and GSP represent the two main measures of output. The BEA's final demand output multipliers can be used to perform a RIMS II analyses. The multipliers are applied to the production estimates in Table 2 to determine the expected total decrease in output as a result of the moratorium. The production loss estimate is used to measure the change in demand. In total, the loss in output can be expected to over $2.1 billion in the Gulf states, $2.7 billion nationwide.

Using the production estimates from Table 2 and the BEA multipliers in Table A2, the estimated decrease in economic output based on the estimated oil and natural gas production is presented in Table 3. It is important to note, that the multipliers in this table only provide the decrease in output that *is generated at the same location as the decrease in production.* As an integrated economy, however, output in one state is tied to output in other states. For example, the oil and natural gas produced in Louisiana may be used as an input to production in Illinois or Pennsylvania. These effects may be considered "spill-over" effects because they spread from one location to another location. Using the individual multiplier for Louisiana would thus under-report the total loss associated with a moratorium in Louisiana. Comparing the total U.S. result to the additive total of the output decreases in the individual Gulf states, suggests that there are over $659 million dollars in lost spillover effects from the moratorium.

TABLE 3

Decrease in Output From the Six–Month Moratorium on Deepwater Drilling

State	GSP/GDP ($ Mil)
Texas	-$622
Alabama	-$138
Mississippi	-$117
Louisiana	-$1,233
Total GOM	**-$2,110**
United States	**-$2,769**
Spillover Effects	**-$659**

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics, LLC Calculations.

B. The Six-Month Moratorium on Offshore Drilling Could Cost Thousands of Jobs

The moratorium on deepwater oil drilling would also result in the loss of thousands of jobs, not only on the various oil rigs, but also in associated industries. The Louisiana Department of Economic Development estimates a loss of 10,000 jobs within a few months after the moratorium.[68] Moreover, they predict that the state "risks losing more than 20,000 existing and potential new jobs during a 12 to 18 month period." [69] The analysis below offers an alternative estimate for employment losses based on the RIMS II model. My results are slightly more conservative, because I only estimate the period of loss to be six months. As before, effects are calculated using estimated state-level production losses.

1. BEA Multiplier Analysis

As presented above, this analysis estimates the total economic effects associated with stopping deepwater drilling. Using the BEA's final-demand employment multipliers (denominated in job-years per $1 million change in final demand) in Table A2 and the estimated production loss in Table 1 yields the expected losses in employment in Table 4. The decrease in employment is estimated to be 8,169 full-time jobs in the GOM. Louisiana alone stands to lose 4,719 full time jobs. Nationwide, there will be an estimated loss of 12,046 jobs.

[68] Just the Facts, supra.
[69] Id.

TABLE 4

Decrease in Employment from the Six–Month Moratorium on Deepwater Drilling

State	Jobs Lost
Texas	-2,492
Alabama	-527
Mississippi	-432
Louisiana	-4,719
Total GOM	**-8,169**
United States	**-12,046**
Spillover Effects	**-3,877**

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics Calculations.

These projections are lower than those presented by other studies because I estimate the period of new production loss to be only six months. However, if we were to extend the loss in new production in our model to the 18 months assumed by other sources, we would see a loss of 36,137 jobs nationally, 24,532 jobs lost in the GOM, and 14,156 jobs lost in Louisiana. These estimations are more in line with the projections presented in Section III by the Louisiana Department of Economic Development and Wood Mackenzie Consulting.

The state-level BEA multipliers do not account for decreases in employment outside of the state. As a result, jobs lost in one state because of the deepwater drilling being halted in another state are omitted from the totals. Again, comparing the nationwide jobs lost to the additive total of the state job losses, yields a spillover effect of 3,877 jobs lost for the year spanning the moratorium period.

2. Evaluation of the Types of Employment Loss

The BEA data can also be used to analyze the types of employment that would be lost by a moratorium on deepwater drilling. The production stoppage throughout the nation will result in job loss in the ancillary industries that support the oil industry, and cause instability for thousands of Americans already coping with a turbulent economic climate. Further, oil producers will reduce their investment in local economies as rigs are moved or shut down.

Oil companies have a great incentive to invest in local communities to improve the quality of life for their employees and attract talent to their offices and rigs. Shell, for example, started a Center for Petroleum Workforce Development at their training center in 2006. The joint venture between the state of Louisiana, Louisiana State University and Shell, made the center "available to the entire industry" in hopes of encouraging oil and gas employees from around the world to develop their skills.[70] As production decreases and rigs and offices are shut down or moved, the incentive for investments such as those spurred on by Shell will evaporate.

For this analysis, the losses are broken down using specific BEA multipliers for each industry (see Table A3), that determine which industries will stand to lose the most from the moratorium on deepwater drilling. Table 5 reports the expected total losses in employment.

TABLE 5

Decrease in Employment from the Six–Month Moratorium on Deepwater Drilling, by Sector

Job Sector	Texas	Alabama	Mississippi	Louisiana	Total GOM	United States	Spillover Effects
Agriculture, forestry, fishing, and hunting	-24	-3	-3	-29	**-60**	**-185**	**-125**
Mining	-597	-168	-139	-1,230	**-2,133**	**-2,390**	**-257**
Utilities	-10	-2	-2	-24	**-39**	**-49**	**-10**
Construction	-15	-3	-2	-28	**-49**	**-77**	**-28**
Manufacturing	-96	-24	-19	-141	**-279**	**-707**	**-428**
Wholesale trade	-67	-15	-10	-130	**-223**	**-353**	**-130**
Retail trade	-254	-54	-48	-510	**-865**	**-1,194**	**-329**
Transportation and warehousing	-77	-13	-11	-134	**-236**	**-427**	**-192**
Information	-35	-6	-4	-58	**-103**	**-208**	**-105**

[70] "In 2006, Louisiana announced the creation of the Center for Petroleum Workforce Development at Shell Oil Company's Robert, La., training center – the result of a joint venture agreement among the State of Louisiana, Louisiana State University and Shell by Developing the center and making it available to the entire industry, the replacement rate of trained employees will increase. The center's training concept is to have oil companies hire and send employees from all over the world to the Shell/LSU facility to obtain the highest training level possible. This process will ensure a supply of highly trained and skilled personnel. It will also help develop a long-lasting, satisfying career path for workers in the industry." See Oil & Gas Industry of Louisiana: Exploration and Production, Louisiana Economic Development (LED), at 3.

TABLE 5 *(cont.)*

Job Sector	Texas	Alabama	Mississippi	Louisiana	Total GOM	United States	Spillover Effects
Finance and insurance	-130	-19	-14	-150	**-313**	**-639**	**-326**
Real estate and rental and leasing	-178	-26	-16	-317	**-537**	**-819**	**-281**
Professional, scientific, and technical services	-148	-24	-16	-233	**-421**	**-759**	**-338**
Management of companies and enterprises	-23	-5	-7	-86	**-121**	**-194**	**-73**
Administrative and waste management services	-135	-22	-13	-207	**-377**	**-706**	**-329**
Educational services	-74	-19	-17	-150	**-260**	**-321**	**-60**
Health care and social assistance	-277	-56	-50	-591	**-974**	**-1,270**	**-296**
Arts, entertainment, and recreation	-34	-4	-4	-68	**-110**	**-243**	**-133**
Accommodation and food services	-169	-36	-33	-352	**-590**	**-825**	**-234**
Other services	-124	-24	-20	-252	**-420**	**-610**	**-190**
Households	-24	-3	-3	-29	**-59**	**-71**	**-12**
Total	**-2,492**	**-527**	**-432**	**-4,719**	**-8,169**	**-12,046**	**-3,876**

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics Calculations.

These tables give a sense of the distribution of the jobs lost from the moratorium. A large portion of lost positions (approximately 38 percent) would be lost in high-skill fields, such as health care, real estate, professional services, manufacturing, administration, finance, education, the arts, information, and management. A sizable portion of job loss will obviously occur in mining (which includes oil and gas drilling) with these jobs accounting for over 26 percent of the total jobs lost in the Gulf area, and about 20 percent nationally.[71]

C. The Six-Month Moratorium on Offshore Drilling Will Cause Massive Wage Loss for Workers Already Hit by Recession

The moratorium will also cause a huge loss in wages for an already distressed workforce. Some analysts predict that this could mount to $65 to $135 million in wage losses per month.[72] The BEA multipliers allow an analysis of the effect of a moratorium on deepwater drilling on wages in affected states.

To estimate lost wages, the BEA's final demand earnings (wage) multipliers are applied to the production estimates. Table 6 presents the results. As the data indicates, the moratorium will result in well over $487 million in lost wages in Gulf states, over $707 million nationwide. The previously discussed, caveats regarding spill-over effects remain true for this wage analysis, with spill-over effects of $219 million in wages.

TABLE 6

Decrease in Earnings from the Six–Month Moratorium on Deepwater Drilling

State	$ Millions
Texas	-$153
Alabama	-$29
Mississippi	-$25
Louisiana	-$280
Total GOM	**-$487**
United States	**-$707**
Spillover Effects	**-$219**

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics Calculations.

[71] For a full listing of the jobs included in "Mining", see U.S. Census Bureau's 2007 NAICS Codes and Titles, (available at http://www.census.gov/naics/2007/NAICOD07.HTM).

[72] Gary Perilloux, Groups struggle to assess oil's impact, *WBRZ 2: The Advocate*, Jun. 29, 2010, [hereinafter Groups Struggle to Assess Oil's Impact].

D. The Moratorium will Cause the Loss of Millions of Dollars in Taxes and Other Public Revenues to Local, State, and Federal Governments

Decreased output, fewer jobs, and lost wages translate into lower tax collections and decreases in public revenues. The present analysis applies a broad measure of the total tax revenues (from all sources) that federal, state, and local governments will lose from the moratorium on deepwater drilling. The analysis, again using production loss, estimates that $97 million will be lost in state and local taxes[73] This will translate into reduced investment in the local economy, schools, hospitals, and other necessary public services. Again, even absent current economic conditions, cash-strapped communities benefit significantly from the income that oil and natural gas production brings to the table. Taking away this income source could potentially deny communities access to resources necessary to provide important community projects.

In order to estimate the decrease in state and local tax revenue attributable to a moratorium on deepwater oil drilling, the analysis follows the approach outlined by the Federal Reserve Bank of Boston to determine annual state and local tax burdens as a share of GSP (see Table A4).[74] For each state and the District of Columbia, the state and local tax burden can be calculated by dividing annual state and local tax revenue by annual GSP. Data for state and local tax revenues are released by the U.S. Census Bureau annually with a two year lag. As such, the state and local tax burden calculations are based on the most recent available fiscal year, 2008.[75] Those data produce the average state and local tax burden in 2008 in each state. The effective tax burdens are applied to the production estimates. Table 7 presents the estimated losses in tax revenues. As before, the losses in tax revenues presented have the same caveats regarding "spill-over" revenues.[76] The estimates thus represent a lower bound on potential state and local tax revenues lost from a moratorium on deepwater oil drilling.

TABLE 7
Decrease in State and Local Tax Revenues from the Six–Month Moratorium on Deepwater Drilling

State	Decrease in State and Local Tax Revenues
Texas	-$22,843,972
Alabama	-$7,247,044
Mississippi	-$8,418,401
Louisiana	-$59,356,236
Total GOM	**-$97,865,652**

Sources: U.S. Census Bureau; Bureau of Economic Analysis; Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department; Production estimates from Table 2; Navigant Economics Calculations

The decrease in economic activity resulting from a moratorium on deepwater oil drilling will also produce significant losses in federal tax revenues. According to the IRS, the average effective tax rate in the United States in FY2008 was 18.98 percent of GSP.[77] Applying this rate to the total oil and natural gas production loss ($1.16 billion) suggests that U.S. federal tax receipts would decrease by $219 million.[78]

In total, therefore, the moratorium can result in a loss of nearly $317 million. Dividing the loss equally among all U.S. taxpayers[79] yields an immediate cost of about $2.35 per taxpayer. These amounts represent net tax effects, and though they may seem modest when viewed on a national basis, they add an unnecessary burden to an already strained tax base, especially when focused on state and community tax revenues that are necessary to pay for local services.

[73] Note that this analysis is conservative because it does not consider the state and local taxes produced from "spill-over" effects. These tax revenues cannot be accurately measured because spill-over output cannot be attributed to particular states. Because spill-over output is significant, however, my estimate significantly understates the total incremental state and local taxes that would be produced annually.

[74] Matthew Nagowski, Measures of State and Local Tax Burden, New England Public Policy Center, Federal Reserve Bank of Boston (Jul. 13, 2006), () (available at: http://www.bos.frb.org/economic/neppc/memos/2006/nagowski071306.pdf).

[75] Data pertain to period July 1, 2005 – June 30, 2006. U.S. Census Bureau, Federal State and Local Governments, State and Local Government Finances, 2005-2006 Estimate, (available at: http://www.census.gov/govs/www/06censustechdoc.html#fiscalyr).

[76] It is impossible to quantify these benefits because state and local taxes differ from state to state and because the BEA does not provide a means to allocate the spill-over revenues to particular states. To be conservative, the analysis estimates only the revenues that can be accurately assigned and measured.

[77] Department of the Treasury, Internal Revenue Service, SOI Tax Stats.- IRS Data Book: 2008, Table 5, (available at http://www.irs.gov/taxstats/article/0,,id=168593,00.html).

[78] GNO Inc. estimated that the moratorium "could cut state and local tax revenue by more $700 million over four years, accruing at a rate of $8 million to $15 million a month." See Groups Struggle to Assess Oil's Impact, supra.

[79] IRS, Tax Stats at a Glance, (available at http://www.irs.gov/taxstats/article/0,,id=102886,00.html).

E. Communities Nationwide will Suffer from Decreased Health, Education, Welfare, and Social Services

Communities around the Gulf and throughout the country will also suffer negative effects associated with decreased economic activity as a result of a moratorium. Those effects flow from the decrease in high-wage, high-skilled employment. For example, a ban on drilling may induce related industries, such as ship builders, to shut down operations. The loss of employees in these industries, in turn, would decrease community demand for health care, education, and other community services that are available to *all* residents (whether they are employed by the drilling facilities or not). Additionally, the resulting loss of tax revenues could cause a reduction in the availability of these services. The oil and gas industry represents a significant portion of the Gulf states' tax revenue. In 2006, "the oil and gas industry paid more than 14 percent of total state taxes, licenses and fees collected by the state of Louisiana…[which represents] a substantial portion of Louisiana's budget."[80]

The estimated decrease in employment in the health and education is but one indicator of the tertiary effects associated with the moratorium. As indicated in Table 5, a stoppage in oil and natural gas production would result in the loss of 974 health care providers and 260 teachers in the GOM states. Nationwide there would be a reduction of 1,270 health care providers and 321 teachers. This indicates that the spill-over effects of employments loss would be 296 health care providers and 60 teachers to states outside of the GOM. While employment and wage losses may seem palatable on a national scale, many of the job losses would be concentrated in small coastal towns like Port Fourchon, Louisiana (which is home to substantial resources serving Gulf of Mexico offshore production).[81] Indeed, in some communities the decrease in demand associated with lost jobs tied to offshore drilling moratorium may mean the difference between having a local hospital and school or not.

Coastal cities like Port Fourchon experienced significant growth in the last three decades tied to their central role in offshore oil and gas production.[82] Port Fourchon alone services half of all drilling rigs presently operating in the Gulf of Mexico.[83] Furthermore, current plans call for more than half of all new deep water drilling platforms in the Eastern and Central Gulf of Mexico to use towns like Port Fourchon as their service base.[84] Given the concentration of the deep water Gulf of Mexico operations at coastal communities, it is reasonable that the loss to this community from the moratorium will be substantial. Similar small communities stand to lose significantly as a result of the moratorium.

F. The Current Analysis is a Conservative Estimate of Loss

The current analysis presents a conservative estimate of economic loss caused by the moratorium. Several scenarios could cause actual losses to substantially exceed those offered here.

First, the current analysis considers the loss to continue only for six months, followed by a return to normal operations. It is possible, however, that the moratorium and/or its effects could last up to a year and half.[85] Until a final decision is made by the administration and the courts, it is hard to predict the scope of the losses for the Gulf region. Thus, the losses could in fact increase by a factor of 2 or 3.

Second, as stated earlier, the initial investment stage in oil and natural gas extraction produces many economic benefits. It is conceivable that some of these benefits will be deferred or simply lost as projects are delayed or moved.[86] As I discussed earlier the effects could be particularly detrimental towards smaller oil

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[80] Just the Facts, supra.

[81] In fact, the town houses one of the rigs that is affected by the moratorium. See Joe Nocera, Moratorium Won't Reduce Drilling Risks, Jun. 25, 2010, *The New York Times*, (available at http://www.nytimes.com/2010/06/26/business/26nocera.html); For a discussion of Port Fourchon, see Loren C. Scott Associates, The Economic Impacts of Port Fourchon on the National and Houma MSA Economies, Apr. 2008, (available at http://www.portfourchon.com/site100-01/1001757/docs/port_fourchon_economic_impact_study.pdf).

[82] The Greater Lafource Port Commission was first organized in 1960 (the surrounding community had a population of 55,381) See Greater Lafourche Port Commission, About Us, (available at http://www.portfourchon.com/overview.cfm); U.S. Census Bureau, Louisiana: Population of Counties by Decennial Census: 1900 to 1990, (available at http://www.census.gov/population/cencounts/la190090.txt) [hereinafter Historical Census Data].

[83] See LA1 Coalition, Facts and Figures: Port Fourchon, (available at http://www.la1coalition.org/facts.html). The executive direct of Port Fourchon estimates that the port "services 90 percent of all the deepwater activity in the Gulf of Mexico, and all 33 of the rigs" that fall under the moratorium. Louisiana Port Operator Pleased With Dismissal of Drilling Moratorium, FOX News, Jun. 23, 2010 (available at http://www.foxnews.com/story/0,2933,595184,00.html).

[84] See id. Port Fourchon has seen an increase of their population to 95,554 in 2006. Overall, between 1960 and 2006, the Lafourche Parrish population grew by 72.5 percent whereas the State of Louisiana population grew 31.6 percent. See U.S. Census Bureau, Quickfacts, Lafourche Parrish, Louisiana, (available at http://quickfacts.census.gov/qfd/states/22/22057.html); Historical Census Data, supra, at note 73.

[85] A study by Morgan Stanley, for example, appears "confident that the ban will meaningfully exceed 6-months" and of the affected floaters, at least "a portion of the 35 floaters will leave the region, as operators declare force majeure." The study continues that "the legislative process could take 9-18 months [and that] it could take even longer for rigs to come back into the region after the ban is lifted." Global Oil Services, Drilling & Equipment, Morgan Stanley, Jun. 1, 2010, 1 (available at http://www.offshoremarine.org/images/stories/GOM_Drilling_Moratorium_06_01_10.pdf).

[86] Morgan Stanley "expect[s] a major supply/demand imbalance as the 35 GOM floaters attempt to relocate internationally, while an additional 30 un-contracted new builds exacerbate the issue. Subsea equipment companies are likely to feel the after-burn, as their orders are a direct function of deepwater drilling." See Id.

companies.[87] ATP Oil and Gas Corp., for example, "expected to see its 2010 production double to at least 12 million barrels of oil and gas but has now dropped its guidance to between 9 million and 10 million."[88] It is challenging, however, to quantify this effect coherently across the whole industry. Thus I have not included investment loss in my analysis. This means that I have under-reported the loss felt by communities in the Gulf and nationwide.

Third, if the end result of the moratorium is to place severe restrictions on offshore drilling operations for the long-term, costs could increase to operators significantly. This could lead to decreased operations, increased oil and natural gas prices, and the movement of operations to cheaper locations. This would again impose significant economic hardship on communities throughout the Gulf.

Last, refining also has significant benefits to the economies of the Gulf and the nation. Again, it is difficult to determine the effect of the moratorium on refining capacity. It is reasonable to assume that some capacity will be reduced as a result of stagnant oil and gas extraction, which would further add to the economic hardship caused by the moratorium.

G. Worst Case Scenario Analysis

One potential outcome of the moratorium is that all production in the Gulf of Mexico stops because offshore drilling is deemed too dangerous. Although unlikely, repeating the analysis with this assumption can be a useful exercise by providing an idea of the total amount of output, employment, wages, and tax revenue at stake.

This analysis uses data from the U.S. Department of the Interior, U.S. Department of Energy, the U.S. Census Bureau, and the U.S. Treasury Department to estimate the total decrease in output, employment, wages, and public revenues to the Gulf States and nationwide.

The relevant offshore oil and gas production data is again the starting point for the analysis. According to the U.S. Department of the Interior Office of Offshore Energy & Minerals Management (MMS).[89] the average monthly OCS offshore production of oil and natural gas in the GOM from January 2001 through November 2009 was over 42 million barrels of oil and 295 million Mcf (Thousand Cubic Feet) of natural gas. According to a recent report, 80 percent of GOM oil production and 45 percent of natural gas production comes from deepwater operations, and is therefore affected by the moratorium.[90] Applying these percentages to the total production figures, 34 million barrels of oil and 133 million Mcf of natural gas a month are at risk from the moratorium in the entire GOM region. Thus the total annual production at risk from the moratorium is around 410 million barrels of oil and 1.6 billion Mcf of natural gas.

These figures are apportioned to the Gulf States in the same manner as before. Dollar values are also calculated similarly, using the EIA's latest inflation-adjusted energy price forecasts from the *Short Term Energy Outlook July 2010*. The report indicates that for the second half of 2010 the average prices of oil will $79.00 per barrel and the average price of natural gas is $4.68 per MMBtu.[91] The value of each state's production is calculated as the sum of (1) its share of available GOM offshore oil production times $79.00 per barrel and (2) its share of available GOM natural gas production times $4.68 per thousand cubic feet.

Table 8 presents the results of the analysis:[92]

Table 8

Worst Case Scenario Losses

	Total GOM	Spillover Effects	Total U.S.
Output ($ Mil)	-$72,595	-$22,718	-$95,313
Employment (Jobs)	-285,378	-129,320	-414,698
Wages ($ Mil)	-$16,794	-$7,530	-$24,324
State & Local Tax Revenues ($ Mil)	-$2,972	N/A	N/A
Federal Tax Revenues ($ Mil)	N/A	N/A	$7,557

Note: Losses are expected to accrue over 12 months following the end of production.

As the results clearly illustrate, the loss would be astounding. Again, such a scenario is highly unlikely, but the analysis demonstrates the value of GOM deepwater drilling to Gulf communities and the nation.

VII. SUMMARY AND CONCLUSIONS

In this paper, I estimate the net local and national economic effects that could result from a six-month moratorium on offshore drilling - which currently is the White House's approach to the BP oil crisis in the Gulf of Mexico. I set out to provide the framework to assess the cost of such an action. The resulting

[87] Stiffer Costs, Rules in Gulf, supra.
[88] Id.
[89] U.S. Department of the Interior, Offshore Energy & Minerals Management OCS Oil and Gas Production, Jan. 22, 2010, (available at http://www.mms.gov/stats/OCSproduction.htm)
[90] Id.
[91] U.S. Energy Information Administration, Short Term Energy Outlook, July 2010.
[92] Florida is included in the GOM in this calculation.

analysis indicates that a six-month moratorium on offshore drilling will greatly restrict economic activity, potentially causing job loss, decreased aggregate wages, and a loss of public revenues for the foreseeable future.

The presidential moratorium will cost approximately $2.1 billion in economic loss to the Gulf states ($2.7 billion nationally), with some $487 millions to be expected in lost wages to employees ($707 million nationally) and in the neighborhood of eight-thousand lost jobs (12 thousand nationally), many in human capital intensive professional career fields. One key finding is the assessment of spill-over effects outside the affected regions in the Gulf of Mexico. I estimate a potential loss of $659 million in output, around four-thousand in jobs, and $219 million in lost wages due to spill-over effects that could permeate outside the affected states. The potential economic hardship will result in the loss of approximately $219 million in federal tax revenues and $98 million in state and local tax revenue. The lost revenues will directly affect the infrastructure of the region, including schools, health centers, and investment projects, substantially reducing the quality of life in local communities and nationwide. This potential loss comes in the wake of the continuing recession and financial crisis.

In summary, the current White House administration should consider a wide range of economic costs before enforcing the six-month moratorium on exploratory drilling. A blanket moratorium on deepwater drilling will cause economic hardship with substantial negative effects on jobs, wages, taxes, and other public revenues, adding to the struggles of local communities mired in recession. Further, the estimates in this paper may vastly underestimate the effects of the policy. For example, it is conceivable that oil rigs that leave the Gulf region because of the moratorium would not return after six months (Morgan Stanley believes the effects could continue for up to 12 to 18 months).

In closing, the present analysis is only meant to be a starting point for discussing the necessity that a cost benefit analysis should have on enacting the current moratorium on offshore drilling specifically, and future policies toward offshore drilling generally. Policy makers must consider unintended consequences before acting on imperfect information. The figures and tables that I produce are in no way an exact estimate of the economic effects of a six-month moratorium. Certain data limitations do not allow for a more refined analysis at this time, but the framework presented here provides the possibility for further study. Although there is likely to be a debate on the parameters and estimates put forth in my analysis, the point remains that economic costs need to be considered and investigated when evaluating the moratorium. Failing to weigh the costs of a policy decision against the potential benefits can cause more damage than the original safety concern itself.

APPENDIX A

Table A1

Distribution of Operating U.S. Oil Refining Capacity by State, 2008

State	Present Refining Capacity	
	Per Calendar Day (BBL)	Per Year (MBBL)
Alabama	124,600	45
Alaska	375,280	137
Arkansas	77500	28
California	2,007,188	733
Colorado	94,000	34
Delaware	182,200	67
Hawaii	147,500	54
Illinois	915,600	334
Indiana	433,000	158
Kansas	305,900	112
Kentucky	226,000	82
Louisiana	2,951,383	1,077
Michigan	102,000	37
Minnesota	362,150	132
Mississippi	364,000	133
Montana	187,100	68
Nevada	2,000	1
New Jersey	623,000	227
New Mexico	121,600	44
North Dakota	58,000	21
Ohio	515,200	188
Oklahoma	520,400	190
Pennsylvania	773,000	282
Tennessee	180,000	66
Texas	4,509,196	1,646
Utah	167,700	61
Virginia	63,650	23
Washington	627,850	229
West Virginia	20,000	7
Wisconsin	34,300	13
Wyoming	154,500	56
U.S. Total	17,225,797	6,287

Source: U.S. Energy Information Administration, Capacity of Operable Petroleum Refineries by State as of January 1, 2008.

APPENDIX A (continued)

Table A2

RIMS II Multipliers: Final Demand (2006)

State	Output	Earning	Employment
Alabama	1.5047	0.3206	5.7384
Louisiana	1.7932	0.4079	6.8625
Mississippi	1.5301	0.3263	5.6673
Texas	2.0721	0.5085	8.2985
United States	2.3938	0.6109	10.4152

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department.

Table A3

RIMS II Multipliers: Employment by Sector (2006)

Sector	Alabama	Mississippi	Louisiana	Texas	United States
Agriculture, forestry, fishing, and hunting	0.0313	0.0435	0.0421	0.0815	0.1599
Mining	1.8284	1.8238	1.7882	1.9869	2.0662
Utilities*	0.0244	0.0285	0.035	0.0344	0.0426
Construction	0.0346	0.0323	0.0412	0.0508	0.0666
Manufacturing	0.2602	0.2494	0.2045	0.3193	0.6117
Wholesale trade	0.1647	0.1359	0.1888	0.2245	0.3051
Retail trade	0.5851	0.6239	0.7415	0.8462	1.0323
Transportation and warehousing*	0.142	0.1487	0.1948	0.2573	0.3694
Information	0.0655	0.0469	0.0847	0.1177	0.1797
Finance and insurance	0.208	0.1857	0.2178	0.4321	0.5521
Real estate and rental and leasing	0.2845	0.2139	0.4616	0.5912	0.7079
Professional, scientific, and technical services	0.2624	0.2134	0.3383	0.4923	0.656
Management of companies and enterprises	0.0591	0.0861	0.1246	0.0777	0.1679
Administrative and waste management services	0.2424	0.1755	0.3006	0.449	0.6104
Educational services	0.202	0.2285	0.2184	0.2469	0.2773
Health care and social assistance	0.6093	0.658	0.8594	0.9212	1.0978
Arts, entertainment, and recreation	0.048	0.0512	0.0992	0.1122	0.2101
Accommodation and food services	0.3936	0.4329	0.5124	0.5629	0.7132
Other services*	0.2601	0.2561	0.3667	0.4139	0.5272
Households	0.0329	0.0334	0.0427	0.0805	0.0617

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department.

Table A4

State Tax Burden, 2008

State	State and Local Taxes	Gross State Product	Tax Burden
Alabama	8,920,105,000	170,014,000,000	5.20%
Louisiana	10,697,358,000	222,218,000,000	4.80%
Mississippi	6,626,204,000	91,782,000,000	7.20%
Texas	44,919,866,000	1,223,511,000,000	3.70%

Source: U.S. Census Bureau, Bureau of Economic Analysis

Joseph R. Mason is Partner at Empiris LLC, Moyse/LBA Chair of Banking at the Ourso School of Business at Louisiana State University, and Senior Fellow at the Wharton School.

Dr. Mason's consulting practice provides firms with advice on financial, political, and legal risks in banking and finance. Dr. Mason has consulted on issues ranging from mortgage, home equity loan, home equity line of credit, auto, and credit card servicing, and securitization, to discrimination and disparate impact in consumer lending and insurance pricing, valuing distressed securities, the investor recoveries and efficient liquidations of bankrupt firms, and economic valuations of complex investment and lending arrangements involving asset-backed securities, collateralized debt obligations, and hedge funds. In litigation, he regularly serves as testifying or non-testifying expert on matters related to a wide variety of financial market-related claims. Dr. Mason has consulted for and advised investment firms, corporations, and research institutions, including The Conference Board, Inc., Coventry First, Deloitte, Fannie Mae, the Federal Deposit Insurance Corporation, the Federal Reserve Bank of Philadelphia, The Group of Thirty, Pricewaterhouse-Coopers, and The World Bank Group.

Dr. Mason's academic research focuses primarily on investigating liquidity in thinly-traded assets and illiquid market conditions. Current academic research projects analyze default risk, including both immediate and cross-default risk, and default resolution costs in the contexts of asset-backed securities, in systemic and non-systemic environments, as well as the efficacy of bailout and resolution policies through the history of financial markets. His research and economic commentary has received hundreds of national and international press citations in publications such as the *Wall Street Journal, New York Times, Washington Times, The Economist, Financial Times, Barrons, Business Week, die Zeit, Neue Zürcher Zeitung, Financial Times-Germany, Los Echos, Forbes, Fortune, Portfolio Magazine, Bloomberg Magazine, American Banker*, and on press syndicates such as Associated Press, Reuters, Bloomberg, KnightRidder, and MarketWatch-Dow Jones Newswire.

Dr. Mason received a B.S. in economics from Arizona State University in 1990 and a Ph.D. from the University of Illinois in 1996.

Chair LANDRIEU. Thank you, Dr. Mason. It occurs to me that the irony of all of this is that the only company drilling in the Gulf of Mexico today in deep water is the company that caused the spill—British Petroleum.

Mr. Briggs.

STATEMENT OF DON BRIGGS, PRESIDENT, LOUISIANA OIL & GAS ASSOCIATION

Mr. BRIGGS. Chair Landrieu, Ranking Member Snowe, and members of the Committee, I am Don Briggs, and I represent the Louisiana Oil & Gas Association that has over 1,100 companies that operate and drill in the Gulf of Mexico and in Louisiana. Thank you for this opportunity.

In Louisiana alone, the deepwater drilling moratorium now in place in the Gulf of Mexico stands to eliminate more than, very quickly 17,500 jobs in the next coming months. Overall, this detrimental policy will threaten the jobs of more than 200,000 hard-working Americans in Texas, Louisiana, Mississippi, and Alabama. In addition, this moratorium threatens the nearly $100 billion impact the offshore oil and gas industry contributes to the Gulf Coast states' gross domestic product.

For over a century, the State of Louisiana has served as an integral part of our nation's energy infrastructure. Over 50 percent of the fuel, diesel and gasoline, that enters into this country runs through the intricate pipeline systems of Louisiana. And you can see by this chart, which is a telling story—I always call it the aorta of the U.S., our pipeline infrastructure.

For decades oil and gas companies have explored and produced natural resources from the deep waters off our state. In total, oil and gas production in the Gulf of Mexico provides the U.S. with one-third of its oil and one-tenth of its natural gas. Nearly 80 percent of the oil produced and 45 percent of the natural gas is produced from the deep water.

The Federal moratorium imposed on deepwater drilling in the Gulf of Mexico is creating a financial disaster for the Gulf Coast states and our nation. Nearly 3 months ago, there were 55 rigs operating in the Gulf of Mexico. There are 13 rigs operating today in the Gulf.

In addition to the drastic decrease we are seeing in deep waters, this moratorium has created a stifling effect on all operations in the Gulf, including the shallow water, that were not supposed to be affected by this policy, as, Senator, you mentioned. In the past 3 months of May, June, and July, a total of four permits have been granted. In comparison, 56 permits were granted in the 3 months of February, March, and April.

When we end the day today, we will have consumed 20 million barrels of oil to run our nation's economy. Today, we will consume 65 billion cubic feet of natural gas. In addition, we will consume 1,200 carloads of coal. On a daily basis, there are approximately 250 million vehicles driving the roads in this country. Around 96 percent of the fuel that runs those vehicles comes from oil. In the U.S., we produce 5 million barrels of oil. Of those 5 million barrels of oil production, 1.8 million come from operations in the Gulf of Mexico.

Prior to the imposition of the Federal drilling moratorium, nearly 85 percent of the U.S. natural resources in the Outer Continental Shelf were off limits. Now, that number is 99.9 percent. If we look at other nations around the world, our country now has the largest prohibition to natural resource exploration in the world. In support of U.S. District Judge Martin Feldman's recent decision to grant a preliminary injunction halting the moratorium, I too believe the moratorium is arbitrary and capricious. In my opinion, this detrimental policy does not reflect our American way of life.

Industry has drilled over 4,500 deepwater wells around the world and 2,500 in the deep waters of the Gulf of Mexico. Yes, we do have the technology to drill safely. The Horizon incident should not have happened. Let us have an open discussion about the specifics of the Deepwater Horizon and find positive solutions to prevent any further disaster like this from happening. I believe industry can effectively work with the Administration to develop sound safety regulations and a long-term vision for America's economic and energy future. We can accomplish safety measures while ensuring we do not endanger the economic welfare of all Americans. It is time that we get back to doing what we do best in Louisiana, and that is, fueling our nation.

I thank you again for this opportunity to testify, and I stand ready to answer any questions you may have. Thank you.

[The prepared statement of Mr. Briggs follows:]

Mr. Don G. Briggs
President
Louisiana Oil and Gas Association (LOGA)

Mr. Don Briggs is a native of Miami, Florida and a 1964 graduate of USL in Lafayette. Don began his career in the oil and gas industry with Owen Drilling Company working for them while attending USL. He has been actively involved in the oil and gas industry ever since – over 45 years. Don is the father of four and has been a resident of Lafayette, Louisiana over 40 years.

In October of 1992, he stepped away from his service company business in Lafayette to organize LOGA (formerly LIOGA). He knew that if the industry was to survive under the onslaught of the many bureaucratic state and Federal agencies, the industry needed to be represented in Baton Rouge. Today, LOGA is an independent oil and gas association representing exploration, producing and service sector companies operating in Louisiana. Striving to make Louisiana a state where the oil and gas industry can prosper and, at the same time, be in harmony with the environment and state government.

INDUSTRY RELATED ACTIVITIES:

- Lafayette Chamber of Commerce - Energy Committee
- Louisiana Association of Business & Industry (LABI) - Energy Council
- Independent Petroleum Association of American (IPAA) - Liaison Committee
- Save Domestic Oil (SDO) - Executive Committee
- Lafayette Petroleum Club – Past President, Board of Directors, Membership Committee, Finance Committee
- Maritime Institute Emergency Monitoring and Response (MIEMAR) Charter Member
- Advisory Council of the Center for Petroleum Development – Shell/LSU
- Lafayette Chamber of Commerce, Board of Directors , 2009

GOVERNOR APPOINTED COMMITTEES:

- Ground Water Management Advisory Task Force
- Governor's Environmental Task Force
- Barataria Estuary Foundation
- Oyster Board Damage Evaluation Board
- Oilfield Site Restoration Committee
- Department of Economic Development Committees:
  Oil & Gas Cluster
  Taxes/Incentives Subcommittee
  Support Subcommittee
  Marketing/Communications Committee
- Senate Select Committee on Oil and Gas Permitting

Testimony of

Don Briggs, President

Louisiana Oil & Gas Association

United States Senate

Committee on Small Business

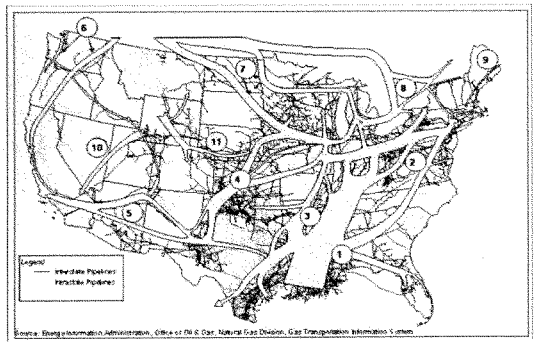
Tuesday, July 27, 2010

Testimony of

Don Briggs, President
Louisiana Oil & Gas Association

Chairman Landrieu, Ranking Member Snowe, Members of the Committee, good morning. My name is Don Briggs. I am President of the Louisiana Oil & Gas Association, a trade association representing over 1,100 oil and gas related companies with operations in the state of Louisiana. I have been actively involved in the oil and gas industry for over 45 years. For nearly 20 years as President of our association, I have worked diligently to ensure that Louisiana remain a place that is open for business and continues to be a state where oil and gas companies can efficiently and economically produce the vital energy needs of our nation.

I thank you for the opportunity to speak about an issue that not only threatens the economic well being of my state, but one that will have a significant negative impact on our entire nation. In Louisiana alone, the deepwater drilling moratorium now in place in the Gulf of Mexico (GOM) stands to eliminate more than 17,500 jobs in the coming 6 months. Overall, this detrimental policy will threaten the jobs of more than 200,000 hardworking Americans in Texas, Louisiana, Mississippi and Alabama. In addition, this moratorium threatens the nearly $100 billion impact the offshore oil and gas industry contributes to Gulf Coast States' GDP.

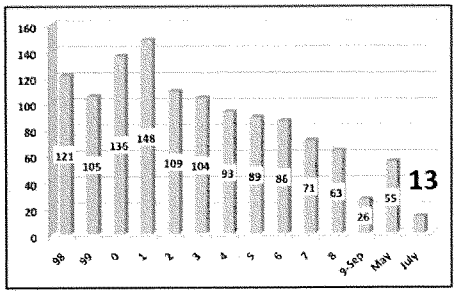


For over a century, the state of Louisiana has served as an integral part of our nation's energy infrastructure. Over 50% of the fuel, diesel & gasoline, that enters into this country runs through the intricate pipeline systems of Louisiana.

For decades oil and gas companies have explored and produced natural resources from the deep waters off of our state's coasts. In total, oil and gas production in the GOM provides the U.S. with one third of its oil and one-tenth of its natural gas. Nearly 80% of the oil produced and 45% of natural gas produced in the GOM is produced from deepwater drilling.

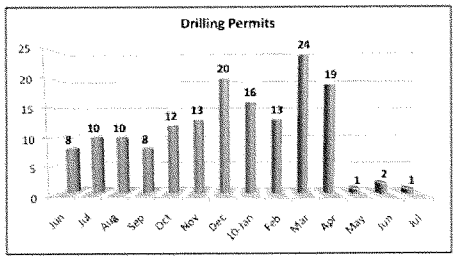
The federal moratorium imposed on deepwater drilling in the GOM is creating a financial disaster for Gulf Coast states and our nation. Nearly three months ago, there were 55 rigs in operation. Today, there are 13 rigs in operation in the GOM.

Gulf of Mexico Rig Activity



In addition to the drastic rig decrease we are seeing in deep waters, this moratorium has created a stifling affect on all operations in the Gulf, including shallow water operations that were not to be affected by this policy. In the past three months of May, Jun, and July, a total of 4 permits have been granted. In comparison, 56 permits were granted in the three months of February, March and April.

Federal OCS Drilling Permit Approved
New Well APDs in Less than 500 feet of Water
Since June 2009



A lack of oil and gas production impacts every sector of the United States – manufacturing, agriculture, service, medical and many other industries. Consumers will bear the brunt of this moratorium, paying more everywhere from the pump to the grocery store. Whether we like it or not, our nation is dependent on fossil fuels, and here's why.

When we end the day today, we will have consumed nearly 20 million barrels of oil to run our nation's economy. Today, we will consume 65 billion cubic feet of natural gas. In addition, we will consume 1,200 carloads of coal. On a daily basis, there are approximately 250 million vehicles driving the roads in this country. Around 96% of the fuel that runs those vehicles comes from oil. In the US we produce 5 million barrels of oil a day. Of those 5 million barrels of oil production, 1.8 million come from operations in the GOM. Seventy Percent of that comes from deepwater.

Prior to the imposition of the federal drilling moratorium, nearly 85% of the US natural resources in the Outer Continental Shelf were off-limits. Now, that number is 99.9%. If we look at other nations around the world, our country now has the largest prohibition to natural resource exploration in the world. In support of U.S. District Judge Martin Feldman's recent decision to grant a preliminary injunction halting the moratorium, I too believe the moratorium is arbitrary and capricious. In my opinion, this detrimental policy does not reflect our American way of life.

Industry has drilled over 4,500 deepwater wells around the world and 2,500 in the deep waters of the Gulf of Mexico. Yes, we do have the technology to drill safely.

The Horizon incident should not have happened. Let us have an open discussion about the specifics of the Deepwater Horizon and find positive solutions to prevent any future disaster like this from happening again. I believe industry can effectively work with the Administration to develop sound safety regulations & a long-term vision for America's economic & energy future. We can accomplish increasing safety measures while ensuring we do not endanger the economic welfare of all American citizens.

Now, I would like to show you some real and personal examples of how the impact of the moratorium is affecting our citizens. (Video)

The moratorium in the Gulf of Mexico will in no doubt curtail future production and increase our importation of foreign sources of oil. Oil and natural gas are finite resources. Simply put, if we do not replenish the resources that we consume, we then put ourselves in a position to depend on other oil producing countries, many of which take an adversarial position against our way of life here in America. If we do not act now to remove the moratorium in the GOM, we will risk the jobs of thousands of hardworking Americans and limit our position in an ever-increasing competitive global economy. It's time that we get back to doing what we do best in Louisiana, and that's fueling our nation. I thank you again for this opportunity to testify, and I stand ready to answer any questions you may have.

Chair LANDRIEU. Thank you very much.

I am going to recognize Senator Vitter at this time. I have received a letter from Senator Snowe designating him as her designee, so he will be allowed to make an opening statement, and then we will go into a line of questioning. We have been joined by Senator Thune, and we appreciate him joining us this morning as well.

Senator Vitter.

OPENING STATEMENT OF HON. DAVID VITTER, A U.S. SENATOR FROM LOUISIANA

Senator VITTER. Thanks, Madam Chair. Thanks to all of you and the other panelists for being here. This is a very, very important topic.

I am going to be very brief. I really want to underscore something the Chair noted. We appreciate your being here, but really the most important witness we should have before us is some significant representative of the Administration, of the President, that imposed this moratorium. Like Senator Landrieu, I invited the President to send any responsible witness to lay out the rationale for the moratorium, whether it be from the White House, the Interior Department, the Energy Department, NOAA, EPA, anywhere. Unfortunately, they were unable to produce a single witness, and I think that is very, very telling and really a shame. So I will submit for the record the letter I also sent requesting that witness.

[The letter follows:]

July 22, 2010

President Barack Obama
The White House
1600 Pennsylvania Ave. NW
Washington, D.C. 20500

Dear Mr. President:

As you are aware, the Senate Small Business Committee is holding a hearing on the economic impacts of the ongoing federal moratorium on drilling in the Gulf of Mexico next Tuesday, July 27th. This would be an excellent opportunity for your administration to participate in a discussion to better understand the crippling economic effects of the moratorium.

I am confident Chairman Landrieu would make room for an official to testify on either of the two panels. The moratorium that is putting tens of thousands of Gulf Coast citizens out of work is wholly a decision that rests on your shoulders. Accordingly, it would be appropriate for the Secretary of Interior, or one of the other senior officials copied on this letter, to testify as to why the ongoing moratorium is justified considering the severe economic impacts it is causing Gulf Coast small business owners and employees and their families.

At minimum, this hearing would be a superb opportunity for senior advisors within your administration to attend and hear first-hand the actual "on-the-ground" effects your moratorium is having on local economies and Louisiana families. Several excellent witnesses have also been invited to speak about the broader economic impacts of the moratorium to all the Gulf Coast states and our nation as a whole.

This may also be an excellent opportunity for someone in your administration to explain how cutting off access to resources lowers unemployment, as well as elaborate on how a nation generates wealth and creates jobs under a policy that forces companies to seek resource opportunities overseas.

Again, I sincerely ask that you make a proactive attempt to find someone in your administration to contribute to the hearing next Tuesday in the Senate Small Business Committee, so we may have the benefit of better understanding what merits the moratorium has that outweigh the severe economic damage it is causing the already economically embattled state of Louisiana and the other Gulf Coast states.

Sincerely,

David Vitter
United States Senator

Cc: Secretary of the Interior Ken Salazar
NOAA Administrator Jane Lubchenco
EPA Administrator Lisa Jackson
OSTP Director John Holdren
Carol Browner

Senator VITTER. I look forward to hearing from the Administration what we have not heard since the beginning of this moratorium and the beginning of this discussion, which is a clear economic rationale for the moratorium. Instead, what we have heard, whether it is from Secretary Salazar or Director Bromwich or the President himself, are excuses. The first excuse pointed to their 30-day commission, and then the Commission members immediately piped up and said, no, we did not recommend and we do not support this moratorium. Now the Administration is pointing to their Oil Spill Commission, the longer-term Commission. I talked to Bill Reilly, a co-chair, yesterday and he did not defend the moratorium in any way. And, in fact, he said he was very concerned about the economic impact of the moratorium, particularly based on the testimony they heard from many folks in Louisiana.

So, again, I hope we can continue this discussion and hear directly from the President, from the Administration that imposed this moratorium, about what rationale, what grounds there are for it.

Chair LANDRIEU. Thank you very much.

Let us get right into our first round of questions. Let me begin with you, Mr. Treese. For the Committee record, was your report commissioned or funded by any outside group?

Mr. TREESE. No, Senator. We conducted this analysis on our own, without being requested—without a request from anyone.

Chair LANDRIEU. Okay. And, Dr. Mason, I understand that you are funded or have been before by the American Energy Alliance, which is a nonprofit advocacy group for the industry. Could you elaborate so that we can understand, people watching today, if your testimony was in any way influenced by that? Or do you want to comment on that situation?

Mr. MASON. The study was financially sponsored by the American Energy Alliance. They played no part in directing any of the conclusions that were reached in the study or directing any of the analysis.

Chair LANDRIEU. And both of you, where did you access some of your base information? Was it accessed through the portals of the Federal Government for your assessments? Starting with you, Mr. Treese.

Mr. TREESE. We maintain a database of 169 million businesses. We used the information that we have.

Chair LANDRIEU. Is this data available to the Federal Government?

Mr. TREESE. Yes, ma'am. We work with Federal, State, and local agencies and provide this content in a variety of different ways based on their needs.

Chair LANDRIEU. So if the Federal Government was interested in getting this data, they could access the same information that you received to make an analysis of this economic impact if they wanted to.

Mr. TREESE. Yes, ma'am.

Chair LANDRIEU. And, Dr. Mason, is the information that you are using available to the Federal Government?

Mr. MASON. Purposefully, I ran essentially the study that the Federal Government would have run. I relied upon multipliers

from the Bureau of Economic Analysis that are published by them and sold by them. I followed methodologies that would routinely be followed by GAO and other Government research arms that would——

Chair LANDRIEU. And how long did that take you, basically, to conduct that kind of analysis?

Mr. MASON. I believe it was 2 weeks.

Chair LANDRIEU. Mr. Briggs, many Members of Congress, we believe, have a wrong view that this moratorium is affecting big oil, the big oil companies. Could you comment based on your representation of the independent companies along the Gulf really what you see are the effects of this moratorium relative to the smaller companies? That is really the focus of this hearing.

Mr. BRIGGS. Yes, I would be glad to, and it is a common misconception that it is big oil in the deepwater Gulf of Mexico. In fact, 70 percent of all the leases in the deepwater Gulf of Mexico are leases owned by independent oil and gas producers. The independents represent about 45 percent of the total activity in the deep water, and they represent 80 percent of the activities on the shelf, which is the shallow-water Gulf of Mexico.

Chair LANDRIEU. Thank you.

Mr. Treese—is it "Treese" or "Tracy"?

Mr. TREESE. "Treese." Thank you.

Chair LANDRIEU. "Treese." I am sorry.

Mr. TREESE. Quite all right.

Chair LANDRIEU. Mr. Treese, another misconception—and this is going to help us to get this message out—is that there are only a few counties or parishes being directly affected by oil, either coming up on the marshes or washing onto the beaches. You know, you have seen the Pensacola view, the Venice view from Plaquemines Parish. We have seen shots of Port Fourchon and Lafourche. We have the President testifying, but your testimony was in stark contrast. You said it is not just the coastal counties and parishes that are going to be affected economically. You said many inland parishes are going to be affected as well. Could you elaborate on that data? Because I found that to be very, very interesting, not only the effects nationally but also inland in other counties and parishes in the Gulf Coast states that are not actually on the coast.

Mr. TREESE. Yes, I would be happy to. I believe the point you are referring to is that when we looked specifically at the drilling moratorium data, we found that only about a quarter of the businesses or the small businesses we looked at are located in coastal counties or parishes. Three-quarters of them or roughly three-quarters of them are actually located inland, which speaks to your point that the moratorium will not just have economic impact on the coast alone but, rather, will reach farther inland.

Bear in mind as well, for the purposes of the drilling moratorium analysis, we looked just at four or five industries. It is our belief, as we indicated prior, that there is a level of contagious risk that will extend out into many other industries, some of which you noted before. Whether they are catering services or uniform providers, it will indeed have an impact throughout the Gulf Coast and more broadly, we believe, in businesses, small businesses

throughout the country that are trading partners of companies in the Gulf Coast.

Chair LANDRIEU. Thank you.

Senator Vitter.

Senator VITTER. Thank you all again for your testimony.

Mr. Treese, can you broaden your discussion a little bit and talk about the impact of the moratorium on minority- and women-owned businesses?

Mr. TREESE. Yes, sir, I would be happy to. In the analysis we did on just the five counties alone, as referenced in the record, we found that 667 of the small businesses are classified as women-owned, minority-owned, or veteran-owned. So we have not broken it down farther than that. However, if you so desire, certainly we can do some additional analysis and submit it to the Committee for the record.

Senator VITTER. Okay, thank you.

Mr. Treese and Dr. Mason, if you consider the spectrum of business from very large to very small, from a multinational major oil company to a Mom-and-Pop coastal shop, where will the impact of this moratorium be felt the most?

Mr. TREESE. Based on our analysis, and given the fact that roughly, I believe, 85 to 90 percent of the businesses that we have analyzed are small businesses which employ thousands of people, by simple numbers alone there will be more small businesses impacted by this than larger businesses. And the numbers that we have for small businesses in these industries in the Gulf states mirror really what we see across the nation in that 90 percent of the companies that we have in our database, roughly 90 percent of the companies do indeed meet the definition of a small business as laid out by the Small Business Administration.

Senator VITTER. Dr. Mason.

Mr. MASON. The small businesses, too, operate with lower levels of reserves, are far less flexible than larger businesses. Larger businesses can move their operations elsewhere in the world. Smaller businesses are primarily local and stuck. They are the ones who will most likely fail, have to go through a bankruptcy process, and hopefully be able to re-emerge into a resuscitated economy, which is in doubt.

Senator VITTER. Right. And, Mr. Briggs, one misperception up here I am very concerned about is that for this moratorium these rigs, these businesses are just going to sort of sit back and wait and then 6 months and a day will turn the light switch back on and go back into activity. I do not think that is the case at all. Can you describe what is beginning to happen in the industry in terms of moving assets and capability out of the Gulf? And how do you see that progressing over 6 months to a year?

Mr. BRIGGS. Well, many of the companies are laying off people today. There is no way the smaller businesses that we have can withstand a 6-month moratorium. One of the big problems they are all faced with is that certainty or that trust that at the end of November this will be over. And that is something that, you know, when you think about it, they really are having difficulty doing. So they are laying a lot of people off.

Companies like Schlumberger, some of the larger firms, they are deploying their people to different parts of the world, and you will probably hear testimony to some of that. But many of the companies, the small ones throughout the Gulf Coast, some of them have given their people vacation time, temporarily laid off. But the jobs are going down, literally thousands of them as we speak, and that will be happening in the next several months. And, yes, there are three rigs that are already gone. Each one of those rigs, you know, employ about—direct and indirect, about 1,400 to 1,500 people, according to two different studies. So you are talking about, of the 33 rigs, 50,000 jobs. And a lot of those——

Senator VITTER. Direct.

Mr. BRIGGS. Direct. Direct jobs. You have got 250 for each rig, and then you have got about an eight-person-per-rig individual ancillary type jobs—your boat captains, your metal tool companies, your mud companies. And a lot of these companies are on hold. A lot of them are fortunate that they have had a good year. You know, business started getting back so they are holding onto people. They do not want to turn loose their people because it takes so much to train them. But many of them are having—we cannot really quantify today at this very moment exactly how many people have been laid off, but many have.

Senator VITTER. Right. And, Mr. Briggs, you mention in your testimony a startling figure, if you could repeat it, the percentage of our area in the United States that we have now moved off the table in terms of natural resource production. What is that again? And how does that compare to any other industrialized or resource-rich nations in the world?

Mr. BRIGGS. We are the only nation in the world that, prior to this moratorium, had 85 percent of natural resources on the coastal areas off limits for exploration. We are off limits on the east coast, the west coast, Alaska now, and the only place we were really about to drill and explore in the OCS was in the central and western regions of the Gulf of Mexico. We are talking about the eastern Gulf, but now that that is shut down and we know we have moratorium—and there is not a moratorium on the shelf, and I understand that. But, Senator Landrieu, as you well said, the permits coming out of there, as you saw, are just—you know, our companies are not able to get permits today. And the independents are the ones—the small businesses are 80 percent of that shelf activity.

Senator VITTER. So that 85-percent figure pre-moratorium is now about what?

Mr. BRIGGS. Well, if you calculate it, probably 99.9 percent. I mean, for all practical purposes, we feel in the Gulf of Mexico that we are shut out.

Senator VITTER. Thank you.

Chair LANDRIEU. Senator Thune.

Senator THUNE. Thank you, Madam Chair, and I want to thank you and the Ranking Member for holding today's hearing on a topic that I think has been largely overlooked in the reaction to the Gulf oil spill, and that is the economic damages that are caused by the Administration's offshore moratorium on oil and gas exploration.

Congress and the Administration should be focused on permanently fixing the leak, on cleaning up the gulf, and restoring the

gulf coast economy. Unfortunately, I think some of the actions that have been taken by the Administration proposed by some Members of Congress would actually have a damaging impact on the Gulf Coast economy, which is already devastated by the effects of the oil spill. And I appreciate the testimony that you have offered this morning that I think illustrates the impact on the way of life for thousands of families that depend on good-paying jobs related to the oil and gas industry along the Gulf Coast. You have already referenced the idle oil rigs that are being moved to other areas of the globe while workers wonder if their jobs are ever going to come back. We still have Members of Congress calling for a total repeal of liability limits for offshore energy production. While we all know that a major international oil company was responsible for this spill, such proposals also punish smaller independently owned oil and gas companies and leave the United States even more dependent upon foreign national oil companies to produce our oil and gas resources. So I see this as just a major issue that impacts, of course, directly people in the Gulf, but also has profound implications for energy in this country and the dangerous dependence that we already have on foreign supplies of energy.

Mr. Briggs, could you tell me just how the moratorium is affecting not only the deepwater but also the shallow-water rigs, those that are in 500 feet of water? Is that still going on or is that——

Mr. BRIGGS. Yes, that is correct. What happened, you know, when the President and MMS or BOM or whatever it is called now, they immediately put in some new regulations to tighten up the safety operations in the Gulf of Mexico. So all those new regulations went into place. The problem is nobody knows what they are, and so when you apply for a permit, you do not know what you want to change; and if you want to ask a question, then nobody in the Administration can answer the question. And, consequently, that is why we have had this tremendous decline in the permits. There is no moratorium.

Lieutenant Governor Angelle has been up here quite a bit working on these issues directly with the Administration or the MMS, but still it has been—the recent one permit that came out, that was for Apache Corporation and for a natural gas well. The new guidelines and new rules are very, very vague, and so nobody can get the information out of the Administration.

Senator THUNE. And do you know how many rigs have left or are leaving already the Gulf area?

Mr. BRIGGS. I can say this, and from very good sources, you know, we know three have left, and two have gone to Congo, one to Angola. There are some contracts being negotiated for Brazil. But, you know, it is really a horrible thing to believe that it is politically safer to drill in Angola than it is here in the Gulf of Mexico.

The other countries around the world are very happy about this, and the reason they are is simply that the demand for these type of drilling vessels are very high. There are not that many of them. And, consequently, they will take—some of these vessels will stay for a while, no question about it. But they are not fully manned, and so they are not operational. They are just sitting out there.

Senator THUNE. Have any of you looked at, had an opportunity yet—there is a piece of legislation that Senator Vitter and others are putting forward that would mandate that the moratorium not apply to rigs that have met new inspection safety requirements that are required by the Department of Interior, and additionally it requires Interior to make a decision on these permits within 30 days of compliance. I am just wondering if anybody has had an opportunity to take a look at that legislation and whether or not that might be a better approach than what is being put forward by the Administration in the form of this moratorium.

Mr. MASON. I have looked at that. That is a standard crisis approach policy that makes perfect sense, because we need to get the industry back running again. Think of it this way: What if in response to the financial crisis we would just say, "Let's put a moratorium on all investment banking activity until we kind of figure it out, and we will form a committee" and that is where it stopped? Well, that is what we have today in the Gulf. We need to get these inspected, again, reward the safe operations, shut down the unsafe ones or remediate the unsafe ones and get the business operating again.

Senator THUNE. Mr. Treese, would you be willing to provide the Committee with the same analysis that you provided in your testimony for the five Gulf States but on a nationwide basis? Is that possible to provide that analysis, the impact, the ripple effect, so to speak, that that would have?

Mr. TREESE. Thanks for the question, Senator. I think we can—yes, we are happy to do additional analysis as requested.

Senator THUNE. Okay. I see my time has expired. Thank you, Madam Chair.

Chair LANDRIEU. Thank you.

If you would, Dr. Mason, I was particularly intrigued with the middle paragraph on page 21 of your testimony, and I would like you just to either read it into the record or just summarize it. It starts, as you try to get to it, that your research says that the current moratorium in the Gulf Coast will lose more than 8,000 jobs, $500 million in wages. Can you just repeat that for the record? Because I think I might have cut you off before you got to that point.

Mr. MASON. Indeed, my study that I released last week, again, just the minimum effects of the 6-month moratorium, assuming business comes back immediately when that moratorium expires, is reasonably expected, based on Government estimation methods, to be 8,000 jobs, about $500 million in wages, $2.1 billion in economic activity, and about $100 million in state and local tax revenue just for the Gulf states alone.

Chair LANDRIEU. And that is assuming the best-case scenario, and we are not on a glide path to that right now, in my view.

Continue to go on, on the spillover effect of that.

Mr. MASON. The spillover effect to the entire nation would be a total cost of 12,000 jobs, about $3 billion in economic activity nationwide, another $200 million in Federal tax revenues.

Chair LANDRIEU. And if it lasts longer, what did your analysis show?

Mr. MASON. Well, I looked at a worst-case scenario where the rhetoric escalates to the point of kind of a precautionary principle

application throughout the Gulf of Mexico. We could very easily go to 25,000 jobs in the intermediate scenario. These loss estimates can double and triple very quickly. If we go up to really shutting down the entire Gulf, we get to about 420,000 jobs and about $95 billion in economic activity.

Chair LANDRIEU. Okay. Well, I would strongly suggest with numbers like this overlaying a fragile economic recovery that the Administration get very busy with its own economic analysis, because this must inform, in my view and in the view of Senator Vitter and many others, the decisions that move us forward.

In addition, there is a question that this panel cannot answer, but my question would be: Who is going to pay the businesses that go out of business for this action? Who is going to reimburse the workers that have lost this job because of this Government action? And where will that money come from?

We will hold the answer to that question to potentially our next panel. Thank you very much, and if the second panel would come forward, we appreciate it. For time purposes, I am going to start introducing you all now.

Mrs. Charlotte Randolph has served as Lafourche Parish President since 2003. Mrs. Randolph represents a community greatly impacted by the Deepwater Horizon disaster and the current drilling moratorium. She is past editor of Lafourche Gazette and is here to represent many businesses in the Lafourche Parish and region.

Leslie Bertucci is a lifelong resident of New Orleans. With her husband, Dan, she owns R and D Enterprises, a specialty oil field equipment company that leases tanks and racks used for offshore rigs, including she was servicing the Deepwater Horizon. Mrs. Bertucci has firsthand knowledge of the economic stress caused by this moratorium, not just on her family but on the 14 full-time employees that work for them.

Troy Lillie is a former offshore platform worker. He spent 29 years working in an Exxon refinery, is now in retirement. He does some freelance work for small businesses in which he writes safety training manuals for the industry. We look forward, Mr. Lillie, to your testimony today.

And, finally, we have Kimberly Nastasi who is CEO of the Mississippi Gulf Coast Chamber of Commerce. She was former Executive Director of the Biloxi Chamber of Commerce, and we are pleased to have someone of that stature representing Mississippi with us today.

Ms. Randolph, why don't we start with you?

STATEMENT OF CHARLOTTE A. RANDOLPH, PRESIDENT, LAFOURCHE PARISH, LOUISIANA

Ms. RANDOLPH. Good morning, Madam Chair and members of the Committee. I very much appreciate the opportunity to testify today.

On May 8th, oil first appeared on the shores of Lafourche Parish from the Deepwater Horizon blowout. We have now endured 70 days of relentless effort to protect our valuable wetlands and our wildlife, and fishermen cannot make a living.

Then came the moratorium on deepwater drilling, literally adding insult to injury. Nine of the top ten taxpayers in Lafourche Par-

ish are located at Port Fourchon, which services all 33 rigs singled out in the moratorium. The spill has decimated the fishing industry. The moratorium will essentially end life as we know it in our parish.

Up to 40 percent of our tax base could be lost by 2012 as a result of the drilling ban. At other hearings, testimony by rig owners indicates that they intend to leave the Gulf for other opportunities. Some employees have been offered transfers to other locations. Families are now making decisions as to whether the husband and father will live elsewhere, with the rest of the family staying behind to finish schooling. These are the lucky ones; the rest will be terminated.

In April 2010, unemployment in the Lafourche Parish was 4.4 percent, the lowest in the nation. By November 30th, the so-called end of the moratorium, the number of unemployed will increase dramatically. In his State of the Union address, the President said, "Jobs will be our number one priority in 2010." People in Lafourche Parish and those associated with the oil and gas industry and its support services are not expendable Americans. We fuel this country.

Now, Madam Chair, I have letters from other companies from our area. One of them is a trucking business with 20 people. At the beginning of June, they looked at what was happening in the industry. They haul offshore oil equipment to Port Fourchon and other areas. According to this, they anticipate that by the end of that moratorium, 20 employees will have lost their jobs.

A riser company in the Gulf is now employing 23 indirect and 89 direct labor employees. In June, they anticipated reducing their workforce by 20 percent. If the moratorium continues, they anticipate losing 60 percent and losing $16 million in revenue.

Another company, an insurance company, has 30 employees. They anticipate laying off 50 percent of their staff because most of their insurance coverage and risk management is tied to the oil and gas industry.

A communications company has 116 employees. Naturally, this is an issue and an industry that depends on disposable income. But the continuance of the moratorium, there will be no disposable income.

Finally, a Gulf towing company with two boats, they have 12 highly trained and qualified personnel. They anticipate having to let those people go at the end of the 6 months, as well as potentially two shore personnel as well. Their annual payroll is about $6 million.

I had the opportunity to personally ask President Obama to reconsider his decision, but he declined. He did send out an economic team to assess the impact on our parish, and they are studying it now.

We are very, very concerned about the fact that the shallow-water drilling, as Mr. Briggs mentioned earlier, is also impacted by this.

Based upon the rationale behind the new moratorium, we are very concerned that Secretary Salazar is saying that there are no assets or very little assets to protect the Gulf Coast in the event

of another spill, and they are citing that as one reason for the moratorium.

We are very concerned about the tanker traffic that is in the Gulf of Mexico right now. We have about 11,000 tankers that traverse the Gulf annually, about 3,000 a month—I am sorry, about 300 a month. And, quite frankly, the tankers have a four times greater chance of spilling into the Gulf of Mexico than an oil rig does. So we implore the Administration to consider that.

Finally, I have a message from a woman whose husband left to go to work in the oil fields of China. He worked 33 years in the Gulf of Mexico, and his choice was either transfer to China or to actually lose his job. He chose China. She says her family is familiar with the sacrifice of sending him away from home to work, but this time it was very different. No longer does he have a short boat ride to reach his rig in the Gulf of Mexico. He now faces a complete day of flying across the world to China so that he can provide for his family.

The Gulf of Mexico oil field can be a dangerous place to work, but that risk is one that my husband can train for in the many safety trainings he attends. This new journey risks: the risk of flying across the world, the risk of going to a country that does not have a strong democracy and liberties that we have here, the risk of working in an environment where the English language is not primary. Communication is paramount to have a safe work environment. Being so far away from home, my family loses the comfort that if an emergency takes place, my husband cannot just come home. His 86-year-old mother, who relies on Ed for everything she needs due to her age and a stroke, is unable to have the comfort of her son available to handle her health care decisions and basic needs.

Our jobs are in jeopardy. Bring back our experienced workers to home soil with domestic jobs. I beg for the President and the Secretary to stop killing our economy and livelihoods. Repeal the moratorium so that we can earn a living. Bring my husband home.

Thank you, Madam Chair.

[The prepared statement of Ms. Randolph follows:]

Charlotte Angelette Randolph

Experience:

- Elected as Parish President of Lafourche in November 2003
- Randolph Publications
  - Owner, 1996 – present
  - Public relations and advertising company.

- The Lafourche Gazette
  - Editor, 1985 - 1996
  - Began working with the publication in 1972 as a layout artist. Appointed editor in 1985. Duties included covering parish news events, photography and layout of newspaper.

Education:

- Attended Nicholls State University, English Major

Community Involvement, Recognition"

- Chairman of the Board, The Chamber of Lafourche and the Bayou Region, (2001)
- Charter member, Leadership Lafourche Board of Directors
- Charter member, CrimeStoppers Board of Directors
- Charter member, Harvest of Thanks Board of Directors
- Charter member, Lafourche Safe Kids
- Member, Lafourche Parish Republican Executive Committee
- Government Committee Member, South Central Industrial Association
- Member, Bayou Industrial Group Board of Directors (2000)(2002)
- President, Lafourche Parish Library Board (2000)
- President, South Lafourche Chamber of Commerce (1989) (1990)
- Outstanding Young Woman of Louisiana, Louisiana Jaycees (1990)
- Business Person of the Year, The Chamber of Lafourche (2001)

Organizations:

- President of Parishes Against Coastal Erosion (PACE) 2006- present
- Chairman of the Board, South Central Planning and Development Commission, 2005-06, 2006-2008
- Appointed to the National Association of Counties' Environment, Energy and Land Use Steering Committee, 2009-2011

P.O. Drawer 5548 • Thibodaux, LA 70302 • Telephone 985.446.8427
Thibodaux 800 834 8832 Fax 985 446 8459 • Raceland 800.794.3160 Fax 985.537.7707
www.lafourcheg

Charlotte A. Randolph, *Parish President*

Office of Emergency Preparedness

Senate Hearing Written Testimony – US Department of the Interior
Moratorium on Oil and Gas Drilling in the Gulf of Mexico
Presented by
Charlotte Randolph
Lafourche Parish, Louisiana

Chair Landrieu, Ranking Member Snowe, Members of the Senate Committee on Small Business and Entrepreneurship, I am Lafourche Parish President Charlotte Randolph. I very much appreciate the opportunity to tell you of the detrimental impacts a sustained oil drill moratorium is and will have on our parish.

On May 8, oil first appeared on the shores of Lafourche Parish from the Deepwater Horizon blow out. We have now endured 70 days of relentless effort to protect our valuable wetlands and our wildlife. Birds don't fly. Fish don't swim. And fishermen can't make a living.

Then came the moratorium on deepwater drilling. Literally insult to injury.

9 of the top 10 taxpayers in Lafourche Parish are located at Port Fourchon, which services all 33 rigs singled out in the moratorium. The spill has decimated the fishing industry, the moratorium will essentially end life as we know it in our parish.

Up to 40% of our tax base could be lost by 2012 as a result of the drilling ban. At other hearings, testimony by rig owners indicates that they intend to leave the Gulf for other opportunities elsewhere in the world. Some employees have been offered transfers to locations in other states. Families are now making decisions as to whether the husband and father will live elsewhere, with the rest of the family staying behind to finish schooling. These are the lucky ones; the rest will be terminated.

Charlotte A. Randolph	Parish President	Matt Matherne	District 5
Jerry Jones	District 1	Lindel Toups	District 6
Michael Delatte	District 2	Phillip Gouaux	District 7
Louis Richard	District 3	Rodney Doucet	District 8
Joseph "Joe" Fertitta	District 4	Daniel Lorraine	District 9

A mixed message: In April 2010, the unemployment rate in the Lafourche – Terrebonne area was 4.4%, the lowest in the nation. By November 30, the number of unemployed will increase dramatically. In this country, a whole lot of money has been borrowed to create jobs to stimulate the economy. And in his State of the Union address, President said "Jobs will be our #1 priority in 2010". People in Lafourche Parish and those associated with the oil and gas industry and its support services are not expendable Americans. We fuel this country.

On May 28 I had the opportunity to personally ask President Obama to reconsider his decision based on the devastating economic blow we would suffer. He declined. But he did offer to send down an economic team to assess the moratorium's impact on our parish. Again, that was May 28; the team arrived Sunday, two months later. Where's the urgency?

President Obama in early May: "We've announced that no permits for drilling new wells will go forward until the 30-day safety and environmental review I requested is complete." That was the first intense scrutiny of the industry. Some of those commissioners disagreed with the moratorium decision, yet it was established anyway. The President formed another commission, asked to restudy this for at least 6 months. We will die a slow death.

DNR released U.S. Department of the Interior records that show that since the BP well explosion in May and Interior Secretary Ken Salazar issued his first moratorium, only four shallow-water wells (less than 500 feet) have received federal permits — one in May, two in June and one, so far, as of July 22.
Gov. Bobby Jindal and other state and industry officials have repeatedly complained about a "de facto moratorium" on shallow-water wells.

Governor Jindal has also said, "New requirements for shallow-water drilling are causing permitting delays that could lead to significant additional economic impacts on top of those caused by the deepwater drilling moratorium. Shallow-water OCS drilling activities support thousands of Louisiana jobs in addition to those related to deepwater activity."

The DNR records show that in the 11 months before the moratorium, the federal government approved an average of 14 shallow-water drilling permits per month.
In the first four months of 2010, permits were approved for 72 shallow-water wells — 16 in January, 13 in February, 24 in March and 19 in April.

Based upon the rationale behind the new moratorium on deepwater drilling issued earlier this month by the Secretary of the Interior Ken Salazar, I am today asking you to join with me in challenging the President, Secretary Salazar and the federal government to protect all Gulf States from another spill as completely as possible: Stop all oil tanker traffic in the Gulf of Mexico.

Statistics indicate that an oil tanker has a four times greater chance of spilling its cargo than an oil well has of blowing out. 3000 tankers a month from around the world carrying up to 3 million barrels of travel the Gulf all the way to the Port of Houston daily. The moratorium's own language emphasizes the shortage of resources available to respond to another spill in the Gulf as a reason for pause. In order to resume activities, operators must submit evidence demonstrating that they have the ability to respond effectively to a potential

oil spill in the gulf, given the unprecedented commitment of available oil spill response resources that are now being dedicated to the BP oil spill.

In closing, I thank you for the opportunity to testify today. Let me give you some individual examples of businesses impacted by the moratorium. These are businesses that have contacted my office and I include their stories in their own words:

KIRK TRUCKS

My name is Shelia Rousse and I am writing to you on behalf of my husband's business. He has been in business with the oil field for 20 years. His name is Kirk J. Rousse, Sr. He is an owner/operator truck driver and terminal manager. He hauls offshore oil field equipment. He gets paid by the number of loads he hauls and by the commission he makes on the trucks leased to our terminal. With this ban in affect, we will have no income coming in. Even after the ban is lifted in six months, most of the oil companies will have left and we will still have no work. This will lead to financial disaster for myself plus the men who work for me.
My company directly works with the oil industry by hauling offshore equipment. We have 20 employees at our terminal. With the ban in affect now, we are just about out of work at our terminal. Our office will be closing its doors soon, putting myself and 20 people out of a job. A six month ban on offshore drilling will destroy the offshore trucking industry. By the end of the six months, I probably will have lost my home, my trucks, my vehicles, etc. I will struggle to feed my large family of eight. I think that the ban should be lifted immediately so we can try and salvage our industry as well as our parish of Lafourche and its wonderful people in it. Once the ban is lifted, inspections on each rig should be done regularly and if any violations, each should be dealt with individually.

EXPERT RISER

Thank you for this opportunity to provide data and facts concerning the loss of business due to the recent moratorium placed on deep water drilling. Expert Riser Solutions is a direct service provider to almost every deep water MODU operating in the Gulf. Inspection and repair services located at a port facility provide quick repairs for critical drilling equipment and reduces transportation cost for large oilfield equipment. Our expertise for critical inspection and repair for risers is a mandatory requirement for critical drilling equipment.

Expert Riser Solutions directly provides inspection and repair services for Marine Drilling Risers. Customer base: Transocean, Noble, Diamond, Sea Drill, Ensco, Shell, BP, Chevron and Exxon.

We currently employ 23 indirect and 89 direct labor employees.

Within two weeks we have plans to reduce our work force by 20%. If the moratorium continues full term we could lose 60% of our work force.

Long term (six months) with no Drilling in the Gulf will cost ERS approximately $16M in lost revenue which in turn reduces Lafourche Parishes' tax revenues.

Americans cannot afford dependence on foreign Oil. Extending the moratorium on deepwater drilling will force the Oil Companies to systematically pull the deepwater drilling units from the Gulf and send them overseas for exploration. Africa, Brazil and Malaysia are hungry for these rigs. I seriously doubt the Oil companies will ever bring them all back to the Gulf. The US Gulf of Mexico has untold amounts of oil

beneath its waters most of it untapped in water depths below five thousand feet. Continuing to explore and produce Gas and Oil from the GOM will provide Americans a cheap source of energy for decades to come. The current moratorium banning exploration in the Gulf's ultra deep waters will certainly cost US taxpayer jobs. The backbone of the America work force depends on cheap energy to support this country. The loss of exploration and eventually production of hydrocarbons from the GOM will continue to reduce the level of living for all middle class Americans.

LARIS INSURANCE AGENCY

We provide insurance coverage and risk management to companies directly in the oil and gas industry.

Total staff of 30, all affected greatly. 50% of our staff would have to be let go, at least 15 employees.

Our revenue would be reduced by at least 50%, which would be detrimental!

People will not be able to pay their premiums.

VISION COMMUNICATIONS

Currently 116 employees. The moratorium will result in less disposable income, therefore reducing the number of subscribers and customers. This downturn will also reduce funding for maintenance of infrastructure.

CENTRAL GULF TOWING

My business will be affected by the shut down of deep water drilling. I have two boats that work with dive boats and also in the construction of offshore facilities and pipelines. If I have to tie up these two vessels that would be 12 highly trained and qualified personnel that I would have to let go. It would mean that I would have to let one or two shore personnel go also.

Although I would be affected by the shut down, the greater affect would be the trickle down effect across the United States. The United States still runs on oil.

I am a small company, but consider these facts. Let's say that I had an annual payroll of $6 million and I had to tie up 2/3 of my equipment due to lack of work, which means that my payroll would now be $2 million per year. You take my $4 million annual salary lost and than multiply it by all the other lost salaries and see where that number goes too.

This lost salary starts to affect government (local, state, & federal), the food store, service stations, box stores, drug stores, doctors, hospital, car dealers, banks, restaurants, insurance, and so on down the line.

If South Louisiana has to suffer through a shut down off deep water drilling, than I think that we should look at shutting down LOOP. The super tankers and the LOOP pipeline could have problems also. This way the whole country would feel the pinch with Louisiana.

LISA NEAL

Today is a very, very sad day for my family. After working in the Gulf of Mexico oilfield for 33 years, I hugged my husband as he departed to begin working in the oilfields of CHINA!

(Just as all of our manufacturing jobs have gone to the other side of the world, now our experienced oilfield workers are going there too!!!)

Our family is familiar with the sacrifice of sending Ed away from home to work but this time it was very different. No longer does he have a short boat ride to reach his rig in the Gulf of Mexico, he now faces a complete day of flying across the world to Shekou, China so that he can provide for his family.

The GOM oilfield can be a dangerous place to work but that risk is one that my husband can train for in the many safety trainings that he attends. This new journey risks -- the risk of flying across the world – the risk of going to a country that does not have a strong democracy and liberties as we have here - the risk of working in an environment where the English language is not primary. Communication is paramount to have a safe work environment!

Being so far away from home, my family loses the comfort that if an emergency takes place, my husband cannot just come home! His 86-year-old mother, who relies on Ed for everything she needs due to her age and a stroke, is unable to have the comfort of her son available to handle her health care decisions and basic needs.

All of this is happening because President Obama and Secretary Salazar have no compassion for the people of South Louisiana. The human toll is inhumane.

Tonight, Secretary Salazar will sleep in his bed at home and President Obama will sleep in OUR HOUSE; yet, my husband will still be on a plane flying halfway across the world just so that he can earn a living.

Our jobs are in jeopardy! Bring back our experienced workers to home soil with domestic jobs. I beg for the President and Secretary to stop killing our economy and livelihoods. Repeal the moratorium so that we can earn a living! Bring my husband home!

Chair LANDRIEU. Thank you.
Mrs. Bertucci.

STATEMENT OF LESLIE BERTUCCI, OWNER, R AND D ENTERPRISES OF LA, LLC

Mrs. BERTUCCI. Chair Landrieu, Senator Vitter, members of the Senate Committee on Small Business and Entrepreneurship, first I would like to personally thank you for giving me this opportunity to tell you a little bit about my experience as a small business owner in Louisiana.

I was born and raised in New Orleans, and my husband and I have raised six children there. Together we own R and D Enterprises of Louisiana.

We are a small family-owned and -operated business in New Orleans since 1983. At R and D we rent to the drilling companies very specialized tanks and racks that we designed and patented that are used specifically to safely transport and store drilling chemicals to only deepwater rigs. Our customers are the drilling companies. We employ 14 people, and these 14 people have families to take care of. Forty-two spouses and children, to be exact, rely on our 14 employees for their financial support. In addition, we have more than 40 vendors that we order supplies and services from every single month that rely on us and other companies like us for their sustenance.

We are all very sickened by the loss of life and the ecological devastation that has taken place in the Gulf due to the BP Horizon explosion and subsequent oil spill, and we do not wish to minimize that.

My company had equipment on the BP Horizon rig, and at the time of the explosion we also had equipment on 23 of the 33 rigs in the deep water in the Gulf. Much of my equipment is still out on those rigs. If these rigs are not allowed to drill, our equipment sits idle and produces no revenue. With no revenue, we will not be able to order from or pay our vendors. If we have no revenue, we will not be able to pay our business loans. If we have no revenue, we will have to lay off our employees, all of which were affected in some way or another by the devastation of Hurricane Katrina just a few years ago. One of my employees was actually unemployed for 2–1/2 years after Katrina, prior to working for us.

Some of my employees' spouses have already had their jobs affected by the moratorium. My office manager has three children. Her husband is a territory sales manager in southeastern Louisiana for a flooring manufacturer, and in the last 6 weeks alone, specifically because of the moratorium, his sales are 50 percent off. He reported yesterday that 10 percent of his customers have had to actually close their businesses in the last 2 months, and they attribute that directly to the moratorium on drilling in the Gulf, because of the other people who were affected and losing their jobs being unable to purchase flooring. So it is not just the people in the oil field that are affected.

Since the ban on drilling in the Gulf, my husband and I have decreased our own personal salaries by 75 percent in one of my many efforts to slash our operating costs, in an effort to keep our employees on the payroll and off of the unemployment rolls. Unemploy-

ment benefits are not a viable or desirable option for any of the hard-working people that I know in the Gulf Coast region. We do not want to file claims. We want to work. We want to be able to do our jobs, support our families, and support our local economies. We really want to remain self-sufficient.

This blanket moratorium on drilling in the Gulf is not and will not resolve the damage that has already occurred to the families that lost their loved ones, our precious ecosystem, or our seafood industry. The moratorium simply adds insult to injury, and I personally think it is very irresponsible. The people of Louisiana and the Gulf Coast region need to know that the rest of our country does care about us and will be willing to consider the long-term effects that this moratorium is causing. The economic ripple effect is now and will continue to be catastrophic to our entire region.

We do agree that that safety should be number one; however, we also know that banning all drilling in the Gulf does not solve that at all.

On behalf of my company, my employees, the thousands of others companies and employees, and our entire community, we implore the Administration and Congress to please take into consideration the big picture and try to understand that this moratorium has already caused much more damage than good and it needs to be lifted as soon as possible.

Thank you.

[The prepared statement of Mrs. Bertucci follows:]

Biography of Leslie Bertucci

Leslie Bertucci was born and raised in New Orleans. Leslie and her husband, Dan Ness, have raised 6 children in New Orleans. Along with her husband, she owns R and D Enterprises of LA, LLC. a specialty oil field equipment company. It is a small family owned and operated business in New Orleans since 1983. R and D Enterprises leases tanks and racks used on offshore rigs, including Deepwater Horizon. In particular, they rent specialized tanks and racks that are used to safely transport and store drilling fluids to the deepwater rigs in the Gulf of Mexico. Since the moratorium, the company's equipment has laid idle on 23 offshore rigs creating zero revenue while still supporting its fourteen full-time employees.

Senate Hearing Written Testimony- U.S. Senate Committee on Small Business and Entrepreneurship
The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses?

Tuesday, July 27, 2010

Presented by Leslie Bertucci, Owner, R and D Enterprises of LA, LLC

Chair Landrieu, Ranking Member Snowe, Members of the Senate Committee on Small Business and Entrepreneurship,

First, I would like to personally thank Senator Landrieu and the committee for giving me this opportunity to tell you about my experience as a small business owner in Louisiana, most particularly in the last few years.

I am Leslie Bertucci. I was born and raised in New Orleans. My husband and I have raised 6 children in New Orleans. Along with my husband, Dan Ness, I own R and D Enterprises of LA, LLC.

We are a small family owned and operated business in New Orleans since 1983. At R and D we rent very specialized tanks and racks that are used to safely transport and store drilling fluids to the deepwater rigs in the Gulf of Mexico. Our customers are drilling companies. We employ 14 people. These 14 people have families to take care of. Forty two spouses and children rely on these 14 people for their financial support. In addition, we have more than 40 vendors that we order supplies and services from every month. These companies rely on our company and other companies like us for their sustenance.

We are all sickened by the loss of life and ecological devastation that has taken place in the Gulf due to the BP Horizon explosion and subsequent oil spill.

Our company had equipment on the BP Horizon rig, and at the time of the explosion we also had equipment on 23 other rigs in the Gulf. Much of that equipment is still out on those rigs. If these rigs are not allowed to drill, our equipment sits idle and produces no revenue. With no revenue, we will not be able to order from or pay our vendors. If we have no revenue, we will not be able to pay our business loan notes or the mortgage on our warehouse. If we have no revenue, we will have to lay off our employees, all of which were affected just a few short years ago by the devastation that we were dealt after Hurricane Katrina. One of my employees was unemployed for 2 and a half years after Katrina, prior to working with us. Some of my employees' spouses have jobs that have been affected by the moratorium on drilling. My office manager has 3 children. Her husband is a territory sales manager in south eastern Louisiana for a flooring manufacturer and has had a 50% decrease in sales in the last 6 weeks. He reports that 10% of his customers have already gone out of business in the last two months.

Since the ban on drilling in the Gulf, my husband and I have decreased our personal salaries by 75% in just one of our many efforts to slash our operating costs, in an effort to keep our employees on the payroll and off of the unemployment rolls. Unemployment benefits are not a viable or desirable option for any of the hardworking people of the Gulf Coast Region. We don't want to file claims. We want to work. We want to do our jobs, support our families and our local economies. We want to remain self-sufficient.

P. O. Box 9098 • Metairie, Louisiana 70055-9098 • USA • Phone: 504.828.6377 • Fax: 504.834.7023

R AND D
ENTERPRISES

The blanket moratorium on drilling in the Gulf is not and will not resolve the damage that has already occurred to the families that lost their loved ones, our ecosystem or our seafood industry. The moratorium adds insult to injury. The people of Louisiana and the Gulf Coast region need to know that the rest of our country does care about us and will consider the long term effects that this moratorium is causing. The economic ripple effect is and will be catastrophic to our entire region.

We do agree that that safety should be the #1 priority; however we also know that banning all drilling in the Gulf is not the solution.

On behalf of our company, our employees, the thousands of others like us and our entire community, we implore you to take into consideration the big picture and try to understand that this moratorium has already caused much more damage than good and it needs to be lifted as soon as possible.

Thank you

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Chair LANDRIEU. Thank you, Mrs. Bertucci.

Mr. Lillie, speak into your microphone and press your "Talk" button, please.

Mr. LILLIE. Senator, if possible, I may have 30 seconds or so over.

Chair LANDRIEU. Go ahead.

STATEMENT OF TROY LILLIE, FORMER REFINERY EMPLOYEE, EXXONMOBIL

Mr. LILLIE. Honorable Member of the U.S. Senate, thank you for allowing me to speak to you today about the deepwater drilling moratorium. I am Troy Lillie and my wife, Melanie, and I live in Maurice, Louisiana. For 29 years I worked in the ExxonMobil Refinery in Baton Rouge and since have worked part-time writing refinery manuals. Last summer, I was blessed to work with a great bunch of people on an offshore oil platform. I am a very concerned citizen about what this moratorium is doing to the lives of our Louisiana people. My daughter and her husband work for oil field companies in our area. As Mr. Briggs said, my son-in-law is being transferred overseas as soon as he can get a visa. My daughter must remain behind with their two young daughters. They are lucky. They still have jobs. Many of the Louisiana people are losing their jobs and fear the worst. There were 33 deepwater rigs operating in the Gulf with approximately 200 personnel onboard. And I believe you all have better information from the first panel, but this was my guesstimate, that 6,600 jobs would be lost immediately, and I think have, and probably for each one of those, ten more, so that is up to the 66,000 range. And God only knows how many small businesses will fail.

We live in the oil field corridor from Lafayette to New Iberia, Morgan City, Houma, Grand Isle, and New Orleans that is the location for countless small businesses that support the offshore industry. They are a family, and word spreads fast of layoffs and failing businesses. One can already observe in the shops and malls that there are fewer people shopping. Smaller businesses are losing customers because people are scared of the uncertainty. If the deepwater rigs leave the Gulf, their fears will be realized, I promise you. The tens of thousands of jobs and many, many small businesses may be lost while we are told that we are creating. People in our area have a hard time believing the sincerity of job creation by the President.

Having been in the oil industry for three decades, I can tell you without a doubt that the culture of the oil field puts safe operations first, offshore and onshore.

The Horizon accident is truly a tragedy and the loss of the 11 men onboard is something none of us want. All who work in the oil field know the dangers and accept them. It is no different than working as a fireman, a policeman, serving in the military, working in a coal mine, or any other occupation that has inherent dangers. We had a coal mine accident or two in the last year, and that did not justify a moratorium, so we wonder why does the Horizon accident justify a moratorium.

Most in my state do not accept it is because of the possibility of another blowout. Using this excuse to do far more damage to Lou-

isiana, the Gulf Coast, and the nation than the spill has done is motivated, we believe, more by politics than sound reasoning. Supertankers offload millions of barrels of crude oil offshore of Louisiana each day. Odds are probably better—and I think we have already heard that—that something will happen with one of these tankers than it would with a deepwater drilling rig on the magnitude that Horizon did.

Also, why does the executive branch of Government ignore the two rulings of the judicial branch and continue to ruin our economy, our small businesses, and our way of life with this unwarranted and we believe now unlawful moratorium. It also goes against the spirit of the law. This should not and must not be a political game. Tens of thousands of hard-working American lives hang in the balance, the economy of Louisiana, and serious damage to the Nation in higher fuel prices and operating costs for businesses.

This can be prevented today with the President lifting moratorium. Just as he recently apologized for a knee-jerk reaction in the story about the USDA employee, he needs to do the same thing in this moratorium. This was one life that was affected; this moratorium is tens of thousands of lives that are being affected.

Louisiana has been through several disasters since 2005, including Hurricanes Katrina, Rita, Ike, and Gustav, the Stanford fraud costing thousands of retirees their life savings, and now the Deepwater Horizon accident. Louisiana will work hard and recover from the disasters, but many in my state now believe that we may have difficulty recovering from this moratorium and may not be able to. It is our prayers and our hopes that the President will do the right thing and lift this moratorium before it is too late. There is a phrase in Cajun French called "Joie de vivre," which means joy of life. Lifting this moratorium can give us back its "Joie de vivre."

[The prepared statement of Mr. Lillie follows:]

Biographical Brief of

Troy L. Lillie

- Born in Baton Rouge, Louisiana
- Retired to live in Maurice, Louisiana in March 2005
- 60 years old
- Married to Melanie A. Lillie, 41 years
- Raised three children and now have 3 grandchildren (girls)
- Graduated L. S. U. with B. S. degree in 1971
- Received commission in USAR in 1971 and honorably discharged in 1979, rank of Captain
- Worked for City of Baton Rouge for 4 years
- Started career at ExxonMobil Baton Rouge in 1976 and retired as first line supervisor/operations controller in 2005
- Worked part-time as technical writer for EcoScience Resource Group, writing operations/training manuals for two years since retiring
- Worked three months on Shell offshore oil production platform during summer, 2009
- Wife and I were victims of the Stanford Financial fraud in 2009 to present
- Have had some health problems since 2004, including cancer, pacemaker and diabetes and my wife has severe back problems

Honorable Members of the U. S. Senate:

Thank you very much for allowing me to speak to you today about the deepwater drilling moratorium and its economic impact on Louisiana and the nation! My name is Troy Lillie and my wife Melanie and I live in the town of Maurice, Louisiana. Most of my life I have worked in the oil industry. For 29 years I worked in the ExxonMobil Refinery in Baton Rouge and since retiring in March 2005, I have worked part-time for a couple of years writing Operations and Training manuals for a small business in Baton Rouge. Last summer, I was blessed to work with a great bunch of people on an offshore oil platform in the Gulf of Mexico. Let me say up front that I am no economist or expert on the oil spill or the drilling moratorium. What I am is a semi-retired person with a lot of experience in the oil industry and a very concerned citizen about what I am seeing and hearing from folks in my area about the impact this moratorium is already having on their lives and their fears of what is to come. My daughter and her husband both work for "oil field" companies in our immediate area. They are already being impacted in that he is being transferred overseas to work in order to keep his job. He is not a professional engineer or corporate executive, but rather an everyday blue collar worker making a living for his family. My daughter will have to remain here, along with their two daughters. However, they are one of the lucky families that still have jobs. Many, many of our friends, neighbors and relatives are losing their jobs. Layoffs are happening everyday in our area. Most people here believe that there will be tens of thousands of jobs lost, directly and indirectly. If you just consider there were 33 deepwater rigs operating in the gulf with approximately 200 personnel onboard that is 6600 direct jobs. It is my opinion, for each of those rig jobs; there are probably 10 onshore jobs that are going to be lost. That would be 66,000 jobs lost and God only knows how many small businesses will fail in the process.

The reason this is so evident to us after these past 3 months is we happen to live in the "oil field". The "oil field" is the corridor from Lafayette down Highway 90 to New Iberia, Morgan City, Houma, Grand Isle and New Orleans that is the location for countless small businesses that support the offshore industry in the gulf. It is a close knit industry (a family) and word spreads fast of layoffs and who may lose their business. In the past three months, you can observe in the shops and malls that there are not as many people out shopping. The smaller businesses are losing customers because so many people are scared to death to make even small purchases due to the uncertainty that has been created by the President's drilling moratorium. If the deepwater rigs are allowed to leave the gulf, then these fears will be realized. The tens of thousands of jobs and many, many small businesses will be lost in a time when we are being told that jobs are being created. The people in my area have a hard time believing the sincerity of job creation efforts by the President's administration.

After having been in the oil industry for over three decades, doing everything from turning valves by hand to supervising part of the operation of one of the largest refineries in the country, I can tell you first hand and without a doubt that the culture of the "oil field" is one that puts safe operations number one, both onshore and on the offshore rigs and platforms. The Deepwater

Horizon accident is truly a tragedy and the loss of the eleven men onboard is something none of us want! However, all of us who work in the "oil field" know the dangers going in and accept them. It is no different than working as a fireman, policeman, serving in the military, working in a coal mine or any other occupation that has inherent dangers. There have been terrible accidents and some intentional acts such as "911" that have taken many lives over the years. The coal mine accidents that have occurred recently did not justify a 6 month moratorium, so why does the Horizon accident?

Most in my state have a real problem with this moratorium and simply do not accept that it is because of the possibility of another blowout in the gulf, while we are dealing with the current crisis! There has been only one in 50 years of gulf drilling, so we believe that using such an excuse to do far more damage to Louisiana, the gulf coast and the nation than even the spill has done is motivated more by politics than sound reasoning. After all, supertankers offload millions of barrels of crude oil offshore that comes through south Louisiana each day! It is probably better odds that an accident with one of these ships could happen than another Deepwater Horizon accident.

We also have a problem with why the executive branch of government has chosen to ignore the two rulings of the judicial branch and continue to ruin our economy, our small businesses and our way of life with this unwarranted and now unlawful drilling moratorium. The persistence of the President's administration to force this moratorium on us also goes against the "spirit of the law". This should not and must not be a political game. This is the very lives of tens of thousands of hardworking Americans that hang in the balance, the economy of Louisiana and serious damage to the nation in higher fuel prices and operating costs for businesses.

This can be changed and prevented today, with the lifting of the moratorium by the President. Just as he recently apologized for a "knee jerk" reaction in the story of the USDA employee that was fired and admitted it was a mistake, he needs to do the same thing in this moratorium. That was one life that was affected; the moratorium already has and will continue to destroy tens of thousands of lives. Louisiana has been through several disasters since 2005, including Hurricanes Katrina, Rita, Ike and Gustav, the Stanford fraud which costs thousands their life savings and the Deepwater Horizon accident. Louisiana will work hard and recover from these disasters, but many, many in my state are not sure we will recover from this moratorium. We believe this may be the final straw in destroying our individual lives and our way of life. It is our prayers and our hopes that the President will do the right thing and lift this moratorium before it is too late! There is a phrase in Cajun French, "Joie de vivre", which means spirit or joy of life. Lifting this moratorium can give us back our "Joie de vivre".

Thank you and God bless,

Troy Lillie

Chair LANDRIEU. Thank you, Mr. Lillie.

Ms. Nastasi from Biloxi, Mississippi.

STATEMENT OF KIMBERLY NASTASI, CHIEF EXECUTIVE OFFICER, MISSISSIPPI GULF COAST CHAMBER OF COMMERCE

Ms. NASTASI. Good morning, Chairwoman Landrieu, Senator Wicker, and the distinguished members of the Senate Committee on Small Business and Entrepreneurship. My name is Kimberly Nastasi, and I am the CEO of the Mississippi Gulf Coast Chamber of Commerce, and I would like to thank you for the opportunity to testify today on the economic damage that the deepwater drilling moratorium is causing to the region that my chamber represents.

The Mississippi Gulf Coast Chamber of Commerce fosters leadership and the advancement of the community vision and interests of its members. Coast Chamber strives to improve the business climate through facilitating, advocating, and providing information on behalf of the region. Mississippi Gulf Coast Chamber of Commerce is a membership organization comprised of businesses in Harrison County and throughout South Mississippi.

I am here today to speak against the drilling moratorium which suspended all current and pending deepwater drilling operations in the Gulf of Mexico, placing 33 oil rigs temporarily out of service.

In a Bloomberg national poll released last week, 85 percent of Republican respondents, 73 percent of independents, and 65 percent of Democrats said they opposed the Administration's drilling ban. It was reported that the wide-ranging moratorium is punishing an entire industry and region for BP's catastrophe.

People in Mississippi, especially along the Mississippi Gulf Coast, are resilient as proven by their recent experience and survival of Hurricane Katrina. Next month marks the 5-year anniversary of the worst natural disaster in American history. The Gulf Coast was devastated by Katrina and has attempted in the last 5 years to come back smarter and stronger. And then the recession began in the midst of the recovery. Isolated to an extent because of the widespread rebuilding, the Mississippi Gulf Coast saw the loss of numerous new projects and investors. 2011 was to be our year, a year that we expected to be back to pre-Katrina levels in jobs, tourism-connected industries, and our way of life was on the upswing—until April 21st, when the Deepwater Horizon oil rig explosion and consequently the oil spill occurred. To this day we still do not have a defined end; therefore, we truly do not know what to expect.

Mayor Holloway of Biloxi said that we have been through everything—hurricanes, tropical storms, tornadoes, recessions, depressions, everything—and we have survived it all. But the common denominator in those events is that they had a beginning, a middle, and an end.

In Louisiana and Mississippi, the oil industry and the seafood industry is a way of life and a part of our fiber, our very being. Our neighbors in Louisiana certainly have fared far worse, and our hearts go out to our friends and our neighbors.

Mississippi too has been significantly impacted. According to the American Petroleum Institute, what happens in the oil and natural gas industry reverberates throughout the economy. That is because the industry is connected to a wide variety of industries that use

oil and natural gas products either directly or indirectly. About 23 percent of businesses and 35 percent of employees in Mississippi are heavily affected by policies imposed on the oil and natural gas industry.

According to Dun & Bradstreet's preliminary Business Impact Analysis of Drilling Moratorium on Mississippi, a total of 379 Mississippi businesses and nearly 3,000 employees will be impacted negatively. And I agree with Senator Landrieu when she said this was "unnecessary, ill-conceived, and a second economic disaster for the Gulf Coast. The BP oil spill was the exception rather than the rule."

In mid-July Senator Wicker said that there is no doubt that the Federal Government needs to review thoroughly the Deepwater Horizon explosion so we can prevent a disaster like this from happening in the future, but this should not be done at the expense of the Gulf Coast economy. Now is the time to foster economic development in the Gulf rather than to stifle it with more bureaucratic red tape. The oil spill threatens the jobs and livelihoods of Mississippians. The Administration should not add to this threat with policies that send American jobs overseas.

The U.S. Chamber of Commerce urged Congress to reject hastily prepared legislation "that would keep American energy resources offline and thus drive energy producers overseas, along with their infrastructure and expertise, and hundreds of thousands of well-paying U.S. jobs." And almost 3,000 of these are filled by Mississippians.

The U.S. Chamber continued by adding that many of the legislative proposals under consideration could have serious consequences, such as increased dependence on foreign oil at higher costs in the short- and the long-term, growing energy security risks, and a less competitive and potentially crippled gulf coast economy. The impact of legislation could be severe considering that the oil and natural gas industry employs more than 9 million Americans, including 46,000 in our region.

Once again I greatly appreciate the opportunity to testify today, and I look forward to addressing any questions that you have.

[The prepared statement of Ms. Nastasi follows:]

Kimberly Nastasi
CEO, Mississippi Gulf Coast Chamber of Commerce

Kimberly Nastasi was instrumental in helping rebuild Mississippi Gulf Coast businesses in the wake of hurricane Katrina. Four months after the disaster, Ms. Nastasi was asked to step in as interim CEO of the Mississippi Gulf Coast Chamber of Commerce. She was named the chamber's permanent CEO just two months later.

Born in Utah, Ms. Nastasi earned a speech communications degree from the University of Southern Mississippi in 1999, followed by a Master's Degree in communications in 2000. After graduating she began teaching public speaking at Mississippi Gulf Coast Community College after which she moved on to handle public relations for the Mississippi Sea Wolves professional hockey team in Biloxi, Mississippi. From the Sea Wolves, she joined the Biloxi Chamber of Commerce where she served for five years and left as Executive Director to take her current job at the Gulf Coast Chamber.

Ms. Nastasi graduated from the Chamber's Leadership Gulf Coast Class of 2003, and the Leadership Mississippi Class of 2004. She has been recognized by multiple organizations, including the Lighthouse Business & Professional Women as an Outstanding Career Woman, and The Sun Herald as one of the Mississippi Gulf Coasts' Top 10 under 40.

Good morning Chairwoman Landrieu, Ranking Member Snowe, Senator Wicker and the distinguished members of the Senate Committee on Small Business and Entrepreneurship. My name is Kimberly Nastasi, and I am the CEO of the Mississippi Gulf Coast Chamber of Commerce. I would like to thank you for the opportunity to testify today on the economic damage that the deepwater drilling moratorium is causing to the region that my chamber represents.

The Mississippi Gulf Coast Chamber of Commerce fosters leadership and the advancement of the community vision and interests of its members. Coast Chamber strives to improve the business climate through facilitating, advocating and providing information on behalf of the region. Mississippi Gulf Coast Chamber of Commerce is a membership organization compromised of businesses in Harrison County and throughout South Mississippi. Through a partnership among the Biloxi, Gulfport, Long Beach and Pass Christian Chambers of Commerce, Coast Chamber promotes community and economic development on the Mississippi Gulf Coast. Additional organizations of the Coast Chamber include Coast Young Professionals, Leadership Gulf Coast, Centurions and Mississippi Gulf Coast Chamber of Commerce Foundation.

I am here today to speak against the drilling moratorium which suspended all current and pending deepwater drilling operations in the Gulf of Mexico placing 33 oil rigs temporarily out of service.

In a Bloomberg national poll released last week, 85 percent of Republican respondents, 73 percent of independents and 65 percent of Democrats said they opposed the administration's drilling ban. It was reported that the wide-ranging moratorium is punishing an entire industry and region for BP's catastrophe.

http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/07/post_23.html

People in Mississippi, especially along the Mississippi Gulf Coast, are resilient as proven by their recent experience and survival of Hurricane Katrina. Next month marks the five year anniversary of the worst natural disaster in American History. The Gulf Coast was devastated by Katrina and has attempted in the last five years to come back smarter and stronger. Then the

recession began in the midst of recovery. Isolated to an extent because of the widespread rebuilding, the Mississippi Gulf Coast saw the loss of numerous new projects and investors. 2011 was to be our year; a year that we expected to be back to pre Katrina levels in jobs, tourism connected industries and our way of life was again on the upswing; the data reported positive finds until April 21, 2010 when the Deepwater Horizon oil rig explosion and consequently the largest oil spill ever occurred. To this day we still do not have a defined end; therefore we truly do not know what to expect.

As Mayor Holloway of Biloxi said, We've been through everything -- hurricanes, tropical storms, tornadoes, recessions, depressions, everything -- and we've survived it all. The common denominator in those events were that each had a beginning, middle and an end. We can deal with that. What we have trouble dealing with, is something that will not end. It's a new oil spill everyday. Every single day. Day after day after day.

http://www.biloxi.ms.us/mayor/speeches/speechdetail.asp?log=108

The most tragic part of the explosion is the 11 people who lost their lives. Their families have been altered in ways no one else can relate to and we send them our sincere condolences.

In Louisiana and Mississippi, the oil industry and the seafood industry is a way of life and a part of our fiber, our very being. Our neighbors in Louisiana certainly have faired far worse and our hearts go out to our friends and neighbors.

Mississippi too has been significantly impacted. According to American Petroleum Institute "What happens in the oil and natural gas industry reverberates throughout the economy. That's because the industry is connected to a wide variety of industries that use oil and natural gas products either directly or indirectly. About 23% of businesses and 35% of the employees in Mississippi are heavily affected by policies imposed on the oil and natural gas industry. "

http://www.api.org/aboutoilgas/upload/MISSISSIPPI.pdf

According to Dun and Bradstreet's preliminary Business Impact Analysis of Drilling Moratorium on Mississippi, a total of 379 Mississippi Businesses and nearly 3000 employees will be impacted negatively.

Senator Landrieu has repeatedly spoke against the moratorium stating that its, "unnecessary, ill-conceived and a second economic disaster for the Gulf Coast. The BP Oil spill is the exception rather than the rule."

In mid-July Senator Wicker stated: "There is no doubt that the federal government needs to review thoroughly the Deepwater Horizon explosion so we can prevent a disaster like this from happening in the future, but this should not be done at the expense of the Gulf Coast economy. Now is the time to foster economic development in the Gulf rather than stifle it with more bureaucratic red tape. The oil spill threatens the jobs and livelihoods of Mississippians. The administration should not add to this threat with policies that send American jobs overseas.

http://wicker.senate.gov/public/index.cfm?FuseAction=NewsRoom.PressReleases&ContentRecord_id=c8a619b2-97e0-b1c3-42d5-aa2d6ca40ce5

The United States Chamber of Commerce, on July 21, urged Congress to reject hastily prepared legislation "that would keep American energy resources offline and thus drive energy producers overseas, along with their infrastructure and expertise, and hundreds of thousands of well paying US job." Almost 3000 of these jobs are filled by Mississippians.

The US Chamber of Commerce continues by adding that "many of the legislative proposals under consideration could have serious consequences, such as increased dependence on foreign oil at higher costs in the short- and the long- term, growing energy security risks, and a less competitive and potentially crippled Gulf Coast economy. The impact of legislation could be severe considering that the oil and natural gas industry employs more than nine million Americans, including 46,000 in the region.

The loss of jobs from the seafood industry, tourism, and fishing is extraordinary and real. Until the oil spill is stopped and the oil cleaned up, we have little control over the catastrophe

unfolding before us daily. You have the power to prevent additional lost jobs. The moratorium on drilling should be lifted before this industry disappears.

I would also like you to consider a tax incentive program for the Gulf Coast Region to attract potential investors so our economies can thrive with economic development. Escalating insurance prices due to Katrina and the negative perception of the Gulf Coast due to the oil spill, the Gulf Coast Region's small business community would indeed benefit to a package similar to the Go Zone post Katrina.

Once again I greatly appreciate the opportunity to testify today and I look forward to addressing any questions you have.

Thank you very much.

Chair LANDRIEU. Thank you. I sincerely appreciate that, all of you, and for your very personal testimony and reflections on the current situation, which is extremely serious.

We have been joined by Senator Wicker. We will go through just a few questions. I want to make a statement, though, before I go into my round of questions.

I started this hearing knowing that this decision was heavy-handed and ill-conceived. But after listening to this testimony, I want to add just a few thoughts to that.

This decision was made by this Administration in disregard to their own committee of professionals that they assembled to advise them as to a path forward. This decision was wrong-headed, it is irresponsible, and it is reckless. It has increased our risk to the environment. It has increased our national security risk. It has increased our risk for job security for thousands of hard-working Americans in my state, in Mississippi, in Texas and Alabama, and throughout the Gulf Coast. And it must be reversed now.

We are going to continue to have hearing after hearing in this committee, if necessary, until this issue is brought squarely before the American public. This is unacceptable—unacceptable—on the part of the Federal Government.

I want to state for the record again, from 1947 until 2009, there were 42,645 wells drilled in State and Federal water in the Gulf of Mexico. And 99 days ago, one of them blew up. Eleven men lost their lives. But an entire industry has virtually been shut down.

My question to President Obama and to his Administration after they scrambled to put an economic analysis together that they should have put together before they made this decision is: Who is going to pick up the cost of this? And what taxes are you going to raise or what revenues are you going to put forward to do so? Because someone has to pay for the recklessness of this decision.

Ms. Randolph, would you say again for the record that nine of the ten taxpayers in Lafourche Parish are located in Port Fourchon? This is because Port Fourchon is our small port, but it is the number one port that services the deep water. Could you just give another minute or so of testimony about how this moratorium is affecting the small businesses in Lafourche, not just the rather large or medium-size businesses that service the Gulf, although Mrs. Bertucci most certainly represents the small businesses with 14 employees that we are—but something about what you are hearing as parish President in the last 30 days or 60 days in your parish from small business owners that work indirectly, how is this moratorium affecting them? And in your view, is it worse than the spill itself or about the same?

Ms. RANDOLPH. First, Madam Chair, I would like to say "Amen" to your statement. I did not think applause was appropriate, but I thought I would say "Amen."

Secondly, in Lafourche Parish, the uncertainty of this is what is causing so much of the decrease in employment. It is causing people to fear spending money. They do not know what tomorrow is going to bring. People who have had jobs for many years, Mom-and-Pop businesses, men and women who have worked side by side now for 40 years are talking about either retiring or perhaps following their children to where they are elsewhere.

The uncertainty of this is what is causing everyone to fear any type of large spending. Mrs. Bertucci mentioned the tile company. I talked to our permits department, and our permits are down. People are not applying for loans to build houses. It is impacting every level in the parish right now just because of the uncertainty.

Chair LANDRIEU. Now, I understand you met with the President personally about probably 3 or 4 weeks ago, as I recall, you had the opportunity to walk with him on the beaches of Grand Isle. When you brought this issue to him, did he give you any indication that he was going to try to make it clear in the near future if he supports oil and gas drilling going forward in the Gulf? Or did he make any definitive statement to you at the time or show any understanding of the situation as it affects the economy in your parish?

Ms. RANDOLPH. The short answer is no. His response to my request was that the mood of the nation was such that he had to take this action. If I could expand on that, we just recently returned from the National Association of Counties' annual conference which represents 77 percent of the counties in the United States. We put forth a resolution to ask the President to lift the moratorium in 30 days. It passed the National Association of Counties. So the mood of the nation is such that they do not agree with this shutdown. It was a test, and it indicated to me and to all others there that it was not just Louisiana who is concerned about this. The entire nation is concerned about this impact to us.

Chair LANDRIEU. Thank you.

Mrs. Bertucci, let me just ask you, you talked at great length and beautifully about your own company. You talked about one of the companies associated with one of your workers, I think the flooring company. But I understand, as Mr. Lillie said, this really is a family; it is a very large family along the Gulf. Is there any one or two other short stories in a minute or less that you would like to share about any other companies that you know that are experiencing hardship or just any other comments you would like to add in closing?

Mrs. BERTUCCI. Sure. I believe there are many, many companies that are experiencing hardships right now. There is one particular company in Harvey, Louisiana, that we purchase our industrial hoses from, for example, and this particular company also supplies the ice houses that supply the fishing industry. And it was very normal for me, my company, my little tiny company, to order $30,000 a month in industrial hoses from him. We have not been able to order any hoses from him since this has happened. I am not sure exactly how many other companies like myself have all of a sudden not been able to order anything from him. I know that he is struggling. Everyone I know is struggling.

There is a very well-known restaurateur in New Orleans that owns multiple, very successful restaurants that I know for a fact just borrowed $3 million to open a restaurant in Lafayette, Louisiana, right before the moratorium and the spill happened. And I know for a fact that they are devastated and not knowing what is going to happen because Lafayette, as we all know, is also very much impacted. So it is a restaurateur. Everyone I know is impacted, and people are afraid to spend money. People are holding

onto money. People are not going out to eat. They are not spending money on anything that they do not absolutely have to, and that is affecting every other business in our area.

Chair LANDRIEU. Mr. Lillie, let me ask you one question, and then I am going to turn it over to Senator Wicker, and then we are going to probably have to wrap up. You have spent 29 or 30 years in the safety aspect of this industry. Without going into the details of the Horizon, could you just give a minute or two to help Americans understand? I think some people might have an idea that despite the fact that we have drilled 42,000 wells and we have had one—we have had other accidents. I mean, I am not going to indicate we have not, and those are public and for the record. But this sort of extraordinary explosion we have not seen in quite some time. Even after major hurricanes come through, we have not seen this amount of oil released in our Gulf.

In fact, just for the record, Mrs. Randolph was correct. Tankers have four times, according to the National Academy of Sciences—this is not from Exxon. This is not from Shell. This is not from BP. According to the National Academy of Sciences, tankers are accountable for 4 percent of all spills globally. Offshore drilling, prior to the Horizon, was 1 percent. Runoff and small spills from cars, boats, and other sources is 32 percent, which is the second highest percentage. And natural seepage itself is 63 percent.

So with 1 percent of the risk, this action was taken, without economic data supporting it, without an understanding, in my view, of the extraordinarily damaging effects, and still to date, 60 days or so into this moratorium, we still do not have any clear answers or expectations as to why or when this could be changed.

So, Mr. Lillie, what would you like to add to the record for a minute or so about your experience about how maybe safety has either improved or not improved on the rigs, in personal safety, in your length of experience? Because my understanding is—and if I am wrong, go ahead and correct me—that 20 years ago and 30 years ago there were lots of things that were not done appropriately because we were just learning how to do this. I have been feeling more comfortable myself in the last 10 or 15 years. That is why this accident is so shocking to so many of us, because we observe that things are getting so much better and safer. Is that your view or is it just the whole industry gone run amuck?

Mr. LILLIE. Let me say that my career was at Exxon refinery in Baton Rouge, and during my career, when I first started, safety was not as paramount to them as it is now. Now, within probably 5 years after I went to work, safety is everything. You go in there, and they spend a large part of their budget on safety. And these folks are the same ones that have the offshore platform.

Now, I can tell you firsthand that, you know, last year, last summer, I went out on an offshore platform working as a clerk for a while, and it is the same thing out there, maybe even more. Folks out there are so worried and so conscious of the environment and of safety that you just do not see people—I mean, you get beat up. When I was on the rig, we would start out—we would wake up at 5:00; 6 o'clock we had a safety meeting of the—it happened to be a Shell rig, and the Shell folks and the construction folks that I was working for would have a safety meeting together with the su-

pervisors. Then we would go up there, and every man on that platform that was working in the construction crew, we had a safety meeting. And I can promise you, the inspectors demand safety out there from the time I was out there.

Now, I did not serve, you know, the majority—I was out there for a summer trying to make a living. But I can tell you the industry—because I worked in that refinery, and, I mean, it is just a culture now. Everything has to be done safely. That is paramount. And if you do not do that, you do not do it.

Now, I cannot explain what happened with the Horizon. I would suspect that there will probably be findings that folks broke the rules. But, I mean, you cannot legislate breaking the rules. We can put all kinds of rules in effect, and if someone or some individual or some company chooses to break that rules, there is not much you can do about that other than what will be done, I am sure, with BP when this happens. But that is all I can say.

Chair LANDRIEU. And that is the irony—and you are right. That is the irony of the situation, as I have said, and I going to turn it over to Senator Wicker for his line of questioning and then we will end. But the company that broke the rules, that obviously just did not follow some procedures—we have read a lot of the testimony in the press that has done a very good job of covering the fact the alarm system was turned off, the fact that there were not proper certifications of BP supervisors. The irony of this decision is that they are the only ones drilling right now in the Gulf.

Mr. LILLIE. Exactly.

Chair LANDRIEU. And everybody else who has a much better safety record, everybody else that had nothing to do with this, is sitting on the sidelines quickly going broke or contemplating bankruptcy in some cases.

Senator Wicker.

Senator WICKER. Thank you very much, and I appreciate the bipartisan spirit of this hearing today, and I certainly appreciate the words of the Chair of this Committee. Madam Chair, you are absolutely right. Runoff puts more oil pollution in our waters. Tankers put more oil pollution in our waters. Seepage is responsible for more.

One company takes shortcuts, engages in what I believe will be proved to be gross negligence, and causes this one in 42,000 event, and if it is not enough that the residents of the Gulf states and the citizens of our nation have to experience the consequences of this explosion, the families, of course, the loss of life and the economic devastation that has been caused by this—if that is not enough, then here comes the Government, our own Government that we pay taxes to that is supposed to be encouraging job creation, and in defiance of their own panel, in defiance of two decisions by a Federal court, does an end run, in effect, around the considered opinions not only of a Federal district judge but also a Fifth Circuit Court of Appeals panel, and says we are just going to do it anyway, and we can do it by taking another run at it and changing our pleadings. And apparently they are able to get away with it.

You know, back when I was a very young man, we had the Three Mile Island incident in Pennsylvania, and an overreaction to that cut off nuclear power development in the United States. It allowed

the rest of the world to get ahead of the United States in that regard, and we are just now coming back to the point where we could be realistic in the United States about joining France and other Western European countries in using nuclear power for part of our energy. It is the same overreaction by the Federal Government. And I would say to the Administration, listen to your own experts. Listen to the facts, as the Chair of this Committee has so articulately pronounced them today, and let us have our jobs back.

It is very conceivable that this action by our own Government will turn out to have more economic devastation than the spill itself. Wouldn't that be adding insult after insult after insult to injury for our own Government to take this action against the families, the workers, and the economy of our region?

I appreciate all the panelists. I realize we had a panel before us that testified also. I particularly appreciate Ms. Nastasi coming on behalf of the Gulf Coast Chamber of Commerce today. This is really the third major hit that our economy has had in 5 years. Isn't that a fact, Ms. Nastasi?

Ms. NASTASI. Absolutely, and Katrina, which—as I stated, we were looking forward to being back this year. This was going to be our year, 2011. We really thought we would be in pre-Katrina jobs, the tourism-related industry, and then the recession hit and the oil spill hit. But the moratorium is man-made, and the moratorium, our industries are tourism, gaming, all small business-related, seafood industry, and oil and gas. So these industries were directly affected by Katrina, by the recession, and now when things are on the upswing, the oil spill and all of those—the tourism, the fishing, the recreation—are affected by it—the seafood industry. And the moratorium is so much more than the oil and gas industry because our neighbors in Louisiana frequently visit our area for tourism. And if they are not working, then that leads into another indirect industry that is impacted by the moratorium.

So it is just the multiplier effect of who is being affected, and it is not just the coastline. Mississippi has nearly 400 businesses in the states, over 3,000 employees that will be affected, and the majority are small businesses.

Senator WICKER. You are right; it is not just the coastline. I would have to say to small businesses in Mississippi—and it is true all throughout the Gulf—the resilience shown after Katrina by the local folks, not necessarily the politicians but the local people and local governments stepping forward, is just amazing. It is a wonderful testimony in determination and resilience and recovery.

Senator Landrieu and I were candidates for election in 2008, in September, when that economic crisis hit, and it seemed like the stock market was coming down, and everybody was losing their pensions. And I was getting myself acquainted politically on the coast there as a statewide candidate for the first time, and we had to face that devastation and try to wrestle with what the real causes were. And hopefully we have gotten the right answers—I am not so sure about that—in terms of our response.

And then here comes this disaster, and you are right. It is not just the Gulf Coast counties; it is not just the Gulf Coast states. It is everybody. It is Americans from Maine and South Dakota; we all rely on this energy.

Let me ask you this: I was on a panel the other day where a representative from another state talked about how they have more tourism than we might have in Louisiana and Mississippi, more beaches in some states than in Mississippi and Louisiana. Talk to us, if you will, any of you, about how we co-exist. Tourism is a major industry in the three Gulf Coast counties of Mississippi. Is that correct, Ms. Nastasi.

Ms. NASTASI. That is absolutely correct.

Senator WICKER. And also the seafood industry, and also the oil and gas and petroleum industry, and I think it would be fair to say that people of the Gulf Coast are among the most environmentally sensitive and aware of anybody in the United States of America. Would you say that is a good characterization?

Ms. NASTASI. I would agree.

Senator WICKER. We have to co-exist with all of those, don't we?

Ms. NASTASI. We do.

Senator WICKER. Would anybody else like to comment about that?

Chair LANDRIEU. Senator, I would, if I could.

Senator WICKER. Yes.

Chair LANDRIEU. I would, if I could, while they are thinking about that, because you brought up an excellent point, and this record would be incomplete without it, and it is an extremely important point. This Gulf Coast that we are proud to represent is home to many industries that use this water and have used it safely and carefully and respectfully for many years.

This action sends such a wrong message to places in the world. The message is: We are not sure if you can fish in the same waters that you can drill oil and gas. We are not sure that you can operate your boats safely and your fishing trawlers. We are not sure if your oystermen and your crabbers—and so we are just—the greatest country on Earth is saying to the rest of the world, "We are not sure."

It is a really troubling message, and I want to say as a Senator, the senior Senator from my state, and one of the senior members from the Gulf Coast, this is a point of extreme pride to our region. We are proud. We make no apologies. And we believe that we can have a vibrant tourism industry. We believe and know we can have a vibrant manufacturing and fabrication industry. We believe we can have high-tech science and engineering jobs on our coast. We believe we can have some of the finest restaurants in the world. And we believe that we can have an extraordinary quality of life—not maybe represented by the per capita income, but not everything great in the world is actually measured by wealth. Let me say that to the people of Washington, D.C. And all of this has been put in jeopardy.

So if anyone wants to answer that question, then we are going to have to wrap up this hearing.

Ms. RANDOLPH. Real quickly, Senator, you know as well as we do how much money the oil and gas industry contributes to the national treasury. Just off our coast is $6 billion a year. We are significant. And in order for any other industry to operate, they need oil and gas. And that has to be an accepted fact, and it has to be something that we react to now and that we lift this moratorium

and say let us resume tourism, let us resume fishing, let us resume everything else. But we can only do that if we lift this moratorium.

Thank you, Senator.

Chair LANDRIEU. Mrs. Bertucci.

Mrs. BERTUCCI. What comes to my mind right now is I feel like our Government and our Administration, the job should be to protect and to serve the people. And in this particular instance, I do not feel like we are being protected or served at all. I feel like we are being devastated, and I think that is the opposite effect of what should be happening. And there is no real rationale for it. It does not accomplish anything positive for anyone or any industry. It just simply exacerbates the devastation.

Chair LANDRIEU. Mr. Lillie.

Mr. LILLIE. Yes, Senator, just to reinforce what you said, I believe the people in this area and along the Gulf Coast have known for years and decades that our great steel reef—barrier, reef, whatever—offshore, the oil rigs themselves are one of the reasons that we have such a fine fishing industry and such a fine—a lot of divers. It is a mecca for scuba divers, and that brings in a lot of tourism, a lot of sport fishing. And you cannot go to a single rig that there are not boats out there fishing. And I can tell you from working on the platform, you cannot go to Sea World and see as good a show as you can see by looking down through the grate of that rig.

Chair LANDRIEU. It is quite amazing, the sight.

Mr. LILLIE. It is unbelievable, and, yes, it does co-exist very well. It fits very well together. Thank you.

Chair LANDRIEU. If it is managed appropriately.

Ms. Nastasi.

Ms. NASTASI. I would just once again like to thank you for allowing me this opportunity to represent my region and Mississippi specifically. I do think that all of the industries on the Gulf Coast are very interconnected, and they are impacting each other. And right now because of the moratorium, we are crippled with fear, and that is paralyzing the Gulf Coast. And I appreciate you listening to our testimony today and certainly hope that the outcome will be beneficial for our areas.

Senator WICKER. Madam Chair, I do not know of a single visitor to Sea World that does not want to fill up their car with gasoline and have their home air-conditioned and heated, and all of that takes energy. We are talking about jobs for Americans today. We are talking about energy for the entire country of the United States of America, not just for one region.

Thank you. Thank you for this hearing.

Chair LANDRIEU. Thank you. Thank you, Senator, and we are talking about trying to use our intellect and our rationale to move forward, and that should be paramount. And it is absent, in my view.

I want to submit to the record two letters—one that I wrote to Dr. Romer, and she has assured me that she will be here and someone else is—well, she assured me she will be here in September for the next hearing that we are going to hold, and that letter will be entered into the record.

[The letter follows:]

MARY L. LANDRIEU, LOUISIANA, CHAIR
OLYMPIA J. SNOWE, MAINE, RANKING MEMBER

JOHN F. KERRY, MASSACHUSETTS
CARL LEVIN, MICHIGAN
TOM HARKIN, IOWA
JOSEPH I. LIEBERMAN, CONNECTICUT
MARIA CANTWELL, WASHINGTON
EVAN BAYH, INDIANA
MARK PRYOR, ARKANSAS
BENJAMIN L. CARDIN, MARYLAND
JEANNE SHAHEEN, NEW HAMPSHIRE
KAY HAGAN, NORTH CAROLINA

CHRISTOPHER S. BOND, MISSOURI
DAVID VITTER, LOUISIANA
JOHN THUNE, SOUTH DAKOTA
MICHAEL B. ENZI, WYOMING
JOHNNY ISAKSON, GEORGIA
ROGER F. WICKER, MISSISSIPPI
JAMES E. RISCH, IDAHO

DONALD R. CRAVINS, DEMOCRATIC STAFF DIRECTOR AND CHIEF COUNSEL
WALLACE K. HSUEH, REPUBLICAN STAFF DIRECTOR

United States Senate
COMMITTEE ON SMALL BUSINESS & ENTREPRENEURSHIP
WASHINGTON, DC 20510-6350
TELEPHONE: (202) 224-5175 FAX: (202) 224-5619

July 21, 2010

The Honorable Christina Romer
Chair, Council of Economic Advisers
The White House
1600 Pennsylvania Avenue, NW
Washington, DC 20500

Dear Dr. Romer:

The Senate Committee on Small Business and Entrepreneurship invites you to testify at an upcoming hearing entitled *"The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses?"* This hearing will focus on how the recent, six-month deepwater drilling moratorium will economically impact small businesses across the nation. Your participation in this hearing would be important as you can provide the Administration's economic analysis in support of maintaining the moratorium. With that in mind, in preparation for the hearing I respectfully request any relevant data that your office may have available on this topic.

The hearing will be held on Tuesday, July 27, 2010 at 10:00 a.m. in room 106 of the Dirksen Senate Office Building in Washington, D.C.

The Committee requests that your oral presentation be limited to five minutes, although longer written statements may be submitted for the official record. Committee rules require written statements be submitted by noon on Friday, July 23, 2010. Please send a copy of your testimony and a short biography via E-Mail to the Committee's Hearing Clerk Monisha Smith, at monisha_smith@sbc.senate.gov. You should bring 50 copies of your testimony to the hearing. If you will be using a shorter written testimony to give your oral testimony, please supply a copy of that statement to the Committee before the hearing as well.

I look forward to your participation in this hearing. Should you have any questions, please contact Monisha Smith at (202) 224-5175.

With warm regards, I am

Sincerely,

Mary L. Landrieu
Chair

MLL:brv

Chair LANDRIEU. And this is a letter I sent to President Obama on July 26th, and that should be reflected in the record.

[The letter follows:]

MARY L. LANDRIEU, LOUISIANA, CHAIR
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WALLACE K. HSUSH, REPUBLICAN STAFF DIRECTOR

United States Senate

COMMITTEE ON SMALL BUSINESS & ENTREPRENEURSHIP
WASHINGTON, DC 20510-6350
TELEPHONE: (202) 224-5175 FAX: (202) 224-5619

July 26, 2010

The Honorable Barack Obama
President of the United States
The White House
1600 Pennsylvania Avenue, NW
Washington, DC 20500

Dear President Obama:

It has now been 98 days since the tragic explosion of the *Deepwater Horizon* killed 11 men, injured 17 others, and set into motion a great ecological and economic crisis along the Gulf Coast. As I write to you, this physical disaster threatens not just the regional Gulf Coast economy but our national economy as well. This is because Louisiana's coast produces 90 percent of America's offshore energy and 40 percent of the seafood harvested in the lower 48 states. In addition, as the strategic hub and entry point to our nation's navigation network, Louisiana ports and waterways carry over a billion tons of cargo each year, which is worth $10 billion to the economy annually.

For these reasons, many people in Louisiana, including me, believe that the Administration's blanket six-month moratorium on deepwater drilling was unnecessary, ill-conceived and has actually created a second economic disaster for the Gulf Coast that has the potential to become greater than the first. With this in mind, tomorrow the Senate Committee on Small Business and Entrepreneurship is holding a hearing entitled, "*The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses?*" This hearing focuses on how the six-month deepwater drilling moratorium is economically impacting small businesses across the nation.

On July 21, 2010, I invited Dr. Christina Romer, Chair of the White House Council of Economic Advisers, to testify at tomorrow's hearing. The Council of Economic Advisers is charged with offering you objective economic advice on the formulation of domestic policy and bases its recommendations on economic research/empirical evidence. I believe that her participation would provide important testimony on the Administration's economic analysis in support of maintaining the moratorium.

Today, Dr. Romer informed me that the Administration is unable to provide testimony at tomorrow's hearing. I am extremely disappointed by this development. It is my understanding, however, that my invitation to testify has spurred the Administration to conduct its own economic impact review of the moratorium. This economic impact review is expected to be ready for committee discussion by September. With that in mind, I request that Dr. Romer or her

designee provide testimony to my committee the week of September 13th. By this date, it is my hope that the Administration will lift its moratorium. Otherwise, I expect the Administration to appear before my committee to provide economic data to justify its position for maintaining the moratorium.

Whether it is called a moratorium or a suspension, the result of this Administration's decision will still be a substantial loss of jobs – jobs that may not return to the Gulf for years. Even the revised moratorium will force thousands of hard-working Louisianans and others along the Gulf Coast into the unemployment lines. The moratorium is also significantly impacting economic activity by small business owners which rely on deepwater drilling. These businesses, either directly or indirectly, are seeing their supply chains and customer bases severely disrupted by the moratorium. For this reason, I reiterate my call for you to take the quick and decisive action to immediately lift the moratorium to save our small businesses, our economy and our way of life.

Sincerely,

Mary L. Landrieu
Chair

MLL:rac

Chair LANDRIEU. I would also, Ms. Randolph, like to ask you to submit for the Congressional Record the resolution from the National Association of Counties.

[The resolution follows:]

Resolution Urging President Obama to Reduce the Six-Month Moratorium on Deep-Water Drilling in the Gulf to No More than Thirty Days

Issue: Deep-water drilling in the Gulf.

Adopted Policy: NACo urges President Obama to lift the six-month moratorium on deep-water drilling, and instead conduct a thorough review of all deep-water drilling facilities, implement and enforce strict safety measures to ensure compliance with safety mandates.

Background: In the aftermath of the British Petroleum (BP) Oil Spill, on May 27,2010, the Obama Administration ordered a six month moratorium on existing Gulf of Mexico deep-water drilling, which will result in the immediate suspension of operations at thirty-three (33) rigs in the Gulf of Mexico. The moratorium on offshore deep-water drilling will cause significant harm to the gulf-coast energy service industry as well as to the many coastal communities already suffering tremendously from the environmental and economic impacts of the BP oil spill.

An estimated thirty-three per cent (33%) of the nation's domestic oil comes from the Gulf of Mexico. Eighty percent (80%) of the oil and fort-five per cent (45%) of the natural gas coming out of the Gulf of Mexico is from deep-water drilling operations in more than 1,000 feet of water.

Southern coastal communities are home to businesses, from welders and divers to caterers and drivers that support the offshore oil and gas industry, with 1 in 3 jobs being related to the industry. It is estimated that each exploration and production job represents four supporting jobs in and around the region, thus a six-month moratorium will result in the loss of thousands of jobs and millions of dollars in wages.

Coastal communities will begin experiencing severe and irreversible economic impacts within thirty (30) days of the moratorium. Idle drilling rigs in the Gulf will likely be contracted overseas for work in other locations such as Africa and Brazil, and may not return to the Gulf of Mexico for several years, greatly extending the BP Oil Spill induced economic crisis for our state.

Several of the safety recommendations set forth in the Department of Interior's May 27,2010 Increased Safety Measures for Energy Development on the Outer Continental Shelf can be implemented immediately within the next thirty (30) days including MMS verification of the safety of the (1) MMS certification of the safety

of the BOP stacks, (2) MMS verification of BOP equipment compatibility (3) development and implementation of new inspection procedures and reporting requirements, (4) establishment of new fluid displacement procedures, and (5) verification of compliance with existing regulations and National Safety Alert requirements.

Other measures set forth in the Department of Interior's May 27,2010 Increased Safety Measures for Energy Development on the Outer Continental Shelf such as those requiring emergency rule making along with the National Commission on the BP Deep-water Horizon Spill and Offshore Drilling investigation can be conducted simultaneously with the continued operations of offshore deep-water drilling. MMS could, and should, maintain a full-time presence on all ongoing deep-water drilling locations, with a 7-10 day rotation schedule and enforce that strict compliance with API standards be maintained on all equipment used in well construction.

Any failure in compliance should mandate immediate closure of the offending rig, rather a complete shut down of all deep-water drilling operations which would unjustly punish those companies that have provided this country's energy needs while operating safely and in compliance with all regulations, as well as those coastal communities already facing an economic crisis as a result of this being the most challenging economic periods in decades coupled with the devastating economic impacts of the BP oil spill on the fishing, tourism and ancillary industries.

Fiscal/Urban/Rural Impact: Suspension of deep-water drilling operations will result in at least 33 deepwater drilling rigs being idled for six months or longer. An average of two (2) supply boats works each rig per day with rates of$15,000 - $30,000/boat. Suspension of drilling activity will result in a nearly $1 million loss per day in just supply boat rental income. Each drilling rig averages 180-280 employees for each two-week shift, and each job supports four other jobs in our local communities. Thus, the suspension of drilling activity will result in a loss of tens of thousands of American jobs over the next 18 months.

Adopted July 20, 2010

Chair LANDRIEU. And if any of you have accessed any other official resolutions from your specific areas, if you would submit that for the record. And we are going to build this record. It will be open for 2 weeks, the record of this Committee. But I can say in conclusion I intend to hold hearing after hearing about the effects of small businesses affected along the gulf coast and the Nation until this moratorium is lifted.

Thank you. The meeting is adjourned.

[Whereupon, at 11:58 a.m., the Committee was adjourned.]

APPENDIX MATERIAL SUBMITTED

Chair Mary L. Landrieu
Small Business Committee Hearing: "The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses"

Questions for Dr. Joseph Mason, Louisiana State University

Question #1 – Sponsor of Economic Report

- For the committee record, was your report commissioned or funded by any outside group? (Yes/No)

Yes

  - If so, can you explain if the group had any input on findings/research?

My report was commissioned by the American Energy Alliance, a nonprofit organization. The Alliance played no part in guiding the research or influencing the findings. I, alone, am responsible for the analysis and conclusions.

Question #2—Small Business Impact:
Based upon your testimony and those of other witnesses on the panel, it appeared there is agreement that small businesses are bearing the brunt of the drilling moratorium.

- Is it your testimony that Gulf Coast small businesses are being especially hard hit by the drilling moratorium – more so than larger businesses? (Yes/No)

Yes

  - Was the data you used to compile this data readily available from the Federal government? (Yes/No)

Yes

  - Based upon your research, do you have any additional insight into why this impact is so severe for these businesses?

There are two reasons the impact is more severe for small than large businesses. First, it is well-known that a substantial number of support services firms to the Gulf oil industry are small businesses. Those small businesses are often nimble enough to take advantage of opportunities in the fast-growing industry more effectively than large corporations. Second, however, those same businesses do not have the vast financial buffers that help large businesses withstand periodic downturns. Moreover, those small businesses are fundamentally undiversified and therefore even less able to withstand the effect of the decreased business activity that is the main purpose of the drilling moratorium.

Question #3 – Oil Spill Cleanup Jobs:
Some have countered that the jobs related to the current oil spill cleanup/mitigation efforts offset any possible jobs lost as a result of the Administration's drilling moratorium. I am concerned about this argument as it seems to miss the point. If you are employed in these industries and or have met with these impacted businesses, it is clear this is not an 'apples to apples' comparison. A boat captain skimming oil for BP makes significantly less than they would catching seafood.

- Can you comment on whether oil spill cleanup jobs are offsetting jobs lost as a result of the moratorium?

The jobs issue has been confused in a number of ways.

First, for the most part it is fishing job losses that have been ameliorated by the cleanup, not oil job losses. Of course, to a large extent those temporary fishing job losses were a direct and unavoidable result of the disaster. Nonetheless, those cleanup jobs have already ended, for the most part, while the fishing restrictions and moratorium continue.

Second, therefore, it is already becoming apparent that the Gulf fishing industry is suffering setbacks because of public concerns over seafood quality raised by the spill. Moreover, many in the region are concerned that, lacking oil jobs, oil workers will turn to fishing and supply even more seafood to a market facing decreased demand because of safety.

Third, there has been an attempt in the media recently – at both National Public Radio and the New York Times – to obfuscate the jobs issue by pointing to stable job claims data and cite that as evidence that the analytical techniques used to estimate economic impact on both the oil and fishing industries are flawed. That attempt, however, has been based on fostering a misunderstanding of a well-established and accepted method for assessing and summarizing economic impacts. The input-output method does not only measure singular jobs, but partial jobs as well, aggregating the total effect in to "job-year" equivalents. Hence, two workers cut back to half-time for a year counts as a single job-year lost, yet neither of those workers has a basis for a jobless claim. Such misrepresentations do a disservice to the public and the region.

Question #4 – Inland vs. Coastal Impact:
Dun & Bradstreet's testimony notes that only 27 percent of small businesses impacted by the moratorium are located in coastal counties. 73 percent are located inland "suggesting that a moratorium could be felt more broadly throughout the Gulf Coast states." An example is that in Lafayette Parish alone, 780 businesses with 10,500 employees are potentially impacted.

- Can you describe in greater detail this possible upstream/downstream impact of the moratorium?

In my opinion, Lafayette Parish is still on the margin of the coast. Many Gulf oil businesses locate their operations this far inland merely to decrease the impact of potential hurricane damage. Nonetheless, we live in an integrated economy. Businesses even further inland, extending to the Midwest and across the nation are impacted by the moratorium when, for instance, less steel is bought from mills in Gary, IN, for use in drilling and construction. It is disingenuous in our vast interconnected economy to allege otherwise.

Question #5 – Indirect Impact of Moratorium:
In your testimony, you mention that the drilling moratorium has a broader impact on industries not directly involved in the oil/gas sector. For example, you estimate that the moratorium could result in the loss of 974 health care providers and 260 teachers in the Gulf region. Nationwide there would be a reduction of 1,270 health care providers and 321 teachers. That may be a drop in the bucket nationally but, as you note, in Port Fourchon, LA losing a school or hospital could be catastrophic to the local community.

- Can you describe how these indirect industries are impacted by the moratorium?

The demand for teachers and health care providers, as well as other professions, is driven by supply and demand. When oil industry activity decreases in the Gulf region, fewer employees with health benefits remain. Moreover, fewer jobs and lower incomes mean lower sales and property taxes to fund education.

While the effect is expected to be most pronounced in the Gulf region, similar effects will manifest on a smaller scale throughout the nation as areas that produce inputs to the oil and gas industry are affected. The spillover effects radiate out from the oil and gas industry, nationwide.

Question #6 – Environmental Impact/National Security Impact of Moratorium:
Two of the reasons cited by the Administration for its moratorium are: 1) environmental concerns and 2) public safety. In my view, the moratorium is not the answer to addressing these valid concerns. For example, the effect of the moratorium could send these U.S. rigs to foreign waters. These countries often have looser environmental regulations than the U.S. This also makes the U.S. further dependent on foreign oil – often from countries that are not our friends.

- Can you comment, outside of the economic impacts which have been well documented, on the environmental/national security impacts of the moratorium?

While we may bemoan the single failure of a drilling platform in the Gulf of Mexico, unfortunately such events are commonplace in many areas of the world. Even counting the present disaster, the US imposes some of the strictest safety standards on producers of any country worldwide. Pushing production out of the Gulf, therefore, will inexorably result in more economic resources for dirtier projects elsewhere in the world. We can have the safest production in the world, but if no one produces here the environmental impact of those regulations will probably be negative for the world as a whole.

Moreover, it does not appear that the administration is, as yet, working to establish a benchmark of best practices in the industry and still cannot admit that evidence, to date, suggests that the cause of the disaster was a single "bad platform" rather than systematic regulatory deficiencies. Hence, the administration has yet to advance even a broad set of regulatory principals that could be the basis for future regulation, holding the industry and the local economies hostage for no obvious fundamental reason.

The alleged national security concerns are even more confounding. Increasing US energy reliance from foreign sources from the approximate seventy percent reliance to eighty percent only makes us marginally worse off, though only because US supply of its own energy needs is so woefully inadequate to begin with. As admitted by the Obama administration in Spring 2010, before the Gulf disaster, the US should begin taking advantage of its offshore reserves outside the Gulf instead of threatening to shut down the Gulf. I see current policy moving the exact opposite direction of that which could be considered constructive for economic growth and energy security.

Question #7 – Small Business Recovery:
In your testimony, you note that the SBA is offering disaster loans and deferring existing loan payments for businesses impacted by the oil spill. Rightly, I think, you note that withdrawing the moratorium is a far simpler solution than giving businesses additional debt.

As you may know, I have put forward a bipartisan proposal to provide interest relief on impacted small businesses with disaster loans from the 2005/2008 hurricanes. Unfortunately, this proposal has run into resistance from members of this committee.

- Can you comment on how this proposal may benefit business impacted by the oil spill and/or the moratorium?

Loans are good for business expansion, but not for helping business weather exogenous natural or man-made disasters. My extensive economic research on Great Depression business and bank assistance programs clearly demonstrates that principal.

The reason is simple. Business insolvency is a condition wherein the business has more liabilities than assets. Adding more liabilities to a business that is rendered insolvent or nearly so by a hurricane or similar disaster, therefore, does not help that business avoid insolvency – it only prolongs the agony of debilitating performance and the false hope of revitalization.

No-interest loans are marginally better than interest-paying loans. But capital is the thing that will best help business still struggling from Katrina, as well as those damaged by the Gulf disaster and policy response.

It is time for government (not just this administration is to blame) to take responsibility for precautionary principal environmental policies by making firms whole while they are required to wait for all-or-nothing policy decisions. Telling companies and workers to "just keep those plants on hold while we make up our minds" and then dragging the decisions out for years or even decades constitutes an economic "taking" that requires compensation. We should not wait for a constitutional ruling from the courts on this matter, but do the right thing to help business and the economy during our existing recession.

Chair Mary L. Landrieu

Small Business Committee Hearing: "The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses"

Questions for Ms. Charlotte Randolph, President, Lafourche Parish

Question #1 – President Obama Meeting:

It is not often that we have witnesses before our committee that have discussed the hearing topic with the President of the United States. With that in mind, on May 28th you had the opportunity to personally ask the President to reconsider his decision on the moratorium.

- Can you tell us a little more about this discussion with the President and the follow up from his visit?

The President's response to my request that he reconsider his decision on the moratorium was that he felt that the mood of the nation was such that he was compelled to take this action. He cited the 24/7 news media coverage of oiled birds and beaches influencing public opinion. I reminded him that unemployment and energy costs would rise as a result of his action, but he was unswayed. He did offer to send an economic team to study the ban's impacts, but the team did not arrive until late July, and the members were initially directed to focus on the effects of the oil spill. I also mentioned the amount of royalty revenue derived from the Gulf waters and he conceded that potential loss.
The topic then turned to coastal restoration projects. Mr. Obama said that this was an opportunity to address some of the projects, with BP assisting in funding.
On the beach, I pointed to the visible near shore platforms and reminded him of the safety record of the industry, noting that some 50,000 rigs had been drilled in 60 years in the Gulf. Dolphins were playing as we talked and I told him of the happy coexistence of commercial fishing with the energy industry.

In your testimony, you mention that 9 of the top 10 taxpayers in Lafourche Parish are located in Port Fourchon. This is because Port Fourchon services all 33 rigs impacted by the moratorium. How are small businesses faring in Port Fourchon under the moratorium?

Barely eking by. September is a pivotal time for them, for they have just about exhausted any excess resources. The owners are being very tight-lipped about their current status in the event a rare job is offered.
An example: Schlumberger consolidated its Venice office with Larose (in Lafourche Parish), building a $3 million building to house hundreds of workers. Now most of those workers have been transferred throughout the country and the world, with a staff of 10-20 people at most. The restaurant next door to Schlumberger has experienced a 30-40% reduction in business.
Independent mechanics and welders who would normally service both the commercial fishing and marine support vessels have not worked in two months. The claims process is thus muddled because BP will only pay for their fishing clients, not work on the tugboats that are affected by the moratorium.
Trucks are idle at the trucking companies, reducing the local gas stations' normal sales.

Question #2—Importance of Energy Industry to Coastal Communities:

In his testimony, Dr. Mason from LSU discussed how important the energy industry is to local communities such as those in your parish. Not only are there the direct jobs created by those working on

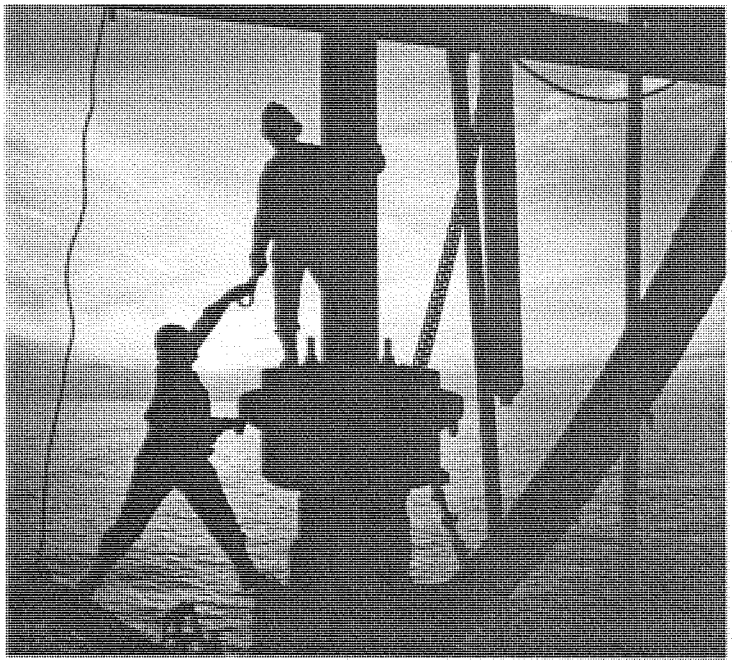
the rigs, but entire communities also are tied to this industry through local economic activity generated by rigs, their workers, and related businesses.

- For the record, can you outline how important the energy sector is to communities such as Port Fourchon in your parish?
- **With deepwater drilling, the oil and gas industry has experienced a sharp increase in business, and thus needed additional employees to man the vessels, to work at the Port, in general to service the industry. Aside from excellent pay, the service industry competed for workers by offering superior benefits. This resulted in a huge majority of the parish residents seeking medical care to be insured. There are three hospital in the parish, as well as perhaps two hundred physicians who benefited from this situation, for we all know how little the government pays on its own programs. Of course this meant additional office personnel and health care professionals. Now the medical sector is suffering.**
- **The parish school board planned a new career school, aimed at the students who are not destined for college. Because the state had begun to experience some of the national economy's problems, some parish teachers were laid off prior to the spill, for this new school year. With the uncertainty surrounding the moratorium, and the potential for a reduction in ad valorem taxes, the career school project has been postponed indefinitely.**
- **The Greater Lafourche Port Commission, which governs Port Fourchon, has reduced the rent it charges its tenants by 30%. This decrease in revenue will postpone indefinitely any expansion projects planned for the future, and affect the commission's ability to match state and federal grants. The toll road leading to Port Fourchon, which was built with borrowed money, can only be timely repaid with a steady stream of vehicles traversing it. Those numbers have declined.**
- **The parish had planned to seek voter approval in October to redirect some taxes to fund a new jail to replace our antiquated, overcrowded detention center. We must delay any action on improving our current jail until we can assess the impact of the ban on funding sources.**
- **A reduction in taxes will alter public works projects, including roads and pumping stations, and could change garbage service, depending on the impact. Quality of life issues will suffer.**

AEA AMERICAN ENERGY ALLIANCE

The Economic Contribution of Increased Offshore Oil Exploration and Production to Regional and National Economies

by Joseph R. Mason | February 2009



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Appendix 26

The Economic Contribution of Increased Offshore Oil Exploration and Production to Regional and National Economies

by Joseph R. Mason*

I. Introduction

Until recently, Congressional and Presidential leasing moratoria have withdrawn from production oil and natural gas resources lying between 3 and 200 miles off the coast of 20 U.S. states.[1] These moratoria have recently expired, however, and several policymakers have argued that the federal moratoria should be renewed. Before renewing those restrictions, however, it makes sense to take a hard look at not only the resources that are held back, but also at the total potential economic growth that will be foregone.

The present study therefore estimates the *total* economic benefits associated with allowing natural resource production in previously unavailable Outer Continental Shelf ("OCS") Planning Areas. The study uses data from the U.S. Commerce Department, the U.S. Department of the Interior, and the U.S. Treasury Department to estimate the *total* increase in output, employment, and wages in both coastal states and the entire U.S. that can be expected to result from increased OCS production.

The estimates suggest that permanently lifting the OCS moratoria would produce broad economic benefits. Those benefits are analyzed on both short- and long-term bases. Short-run effects are represented as expected annual effects during the first years of the investment (pre-production) phase; Long-run effects are represented as expected annual effects during the production phase. A summary of the estimated short- and long-run effects is presented in Table 1.

Summarizing the results, increased offshore investment and production would support hundreds of thousands of new careers and provide billions of dollars in new wages and tax revenues. By the present estimates, increased production is likely to contribute an additional 0.5 percent of GDP in immediate new economic activity each year and will ultimately contribute more than 2 percent of GDP each year for thirty or more years of production. That magnitude of economic growth is expected to contribute federal and state and local tax revenue from production equivalent to approximately $350 per person over the age of eighteen per year over a similar time horizon. The total incremental contribution of increased OCS Planning Area production to GDP is more than $8 trillion (in current dollars), and total tax benefits amount to some $2.2 trillion. Total royalty revenues amount to over $400 billion.

Importantly, those benefits would be realized without any increase in direct government spending. Rather, increased OCS output would refill national, state, and local government coffers — currently depleted by the real estate and credit crises — without additional government outlays. The effects of such a stimulus are particularly attractive in the face of a severe economic downturn.

Table 1: Summary of Estimated Annual Effects

	Short-Run	Long-Run
Output (GDP)	$73 billion	$273 billion
Employment	0.27 million	1.2 million
Wages	$15.7 billion	$70 billion
Federal Tax Revenue	$11.1 billion	$54.7 billion
State and Local Tax Revenue	$4.8 billion	$18.7 billion
Royalty Revenue	-	$14.3 billion

Note: Short-run effects are provided annually during the first years of the investment (pre-production) phase; Long-run effects are provided annually during the production phase.

* Hermann Moyse Jr./Louisiana Bankers Association Endowed Chair of Banking, Louisiana State University, E. J. Ourso College of Business.

1. U.S. Department of the Interior, Minerals Management Service, Report to Congress: Comprehensive Inventory of U.S. OCS Oil and Natural Gas Reserves, Feb. 2006 [hereinafter *MMS Report to Congress*], at xii ("Part or all of nine OCS planning areas, which include waters off 20 coastal states, have been subject to longstanding leasing moratoria enacted annually as part of the Interior and related agencies appropriations legislation, or are withdrawn from leasing until June 30, 2012, as the result of presidential withdrawal (under section 12 of the OCSLA). Some of these areas contain large amounts of technically recoverable oil and natural gas resources."). *See also id.* at 3 ("The Federal OCS generally extends from 3 to 200 miles offshore and covers an area of about 1.76 billion acres.").

II. The Impetus for Increasing U.S. Offshore Oil Production

Maintaining energy independence by increasing U.S. offshore oil and natural gas production has long been recognized as a national imperative. In 2006, the U.S. Minerals Management Service (MMS) reported to Congress that "much of the growth in the Nation's energy demand will have to be met by OCS...if further increases of imported supplies are to be avoided."[2] MMS also estimated that "OCS oil production could account for as much as 40 percent of domestic oil production by 2010."[3] Furthermore, the MMS indicated that the OCS natural gas resources would become an essential source of energy as imports from other countries — particularly Canada—decline.[4]

Apart from national energy concerns, however, economic considerations also favor increased development of OCS energy resources. Specifically, the boost provided to local onshore economies by offshore production would be particularly welcome in the present economic climate. Similar to fiscal alternatives currently being pursued, OCS development would provide a *long-run* economic stimulus to the U.S. economy because the incremental output, employment, and wages provided by OCS development would be spread over many years. Unlike those policies, however, this stimulus would not require government expenditures to support that long-term growth.

A. The Current State of Offshore U.S. Oil and Gas Production

Despite its importance, U.S. oil and natural gas production in offshore areas is currently limited to only a few regions. At the present time, oil and gas is only actively produced off the coast of six U.S. states: Alabama, Louisiana, Mississippi, Texas, California, and Alaska.[5] The Energy Information Administration (EIA) reports that Alabama, Louisiana, Mississippi, and Texas are the only coastal states that provide access to all or almost all of their offshore energy resources. Only two additional states — Alaska and California — are producing any offshore energy supplies. All California OCS Planning Areas and most Alaska OCS Planning Areas, however, were not open to any new facilities until the recent end of the Congressional and Presidential moratoria.[6] The remaining 16 coastal states are not open to new production and are not currently extracting any offshore energy resources.[7]

Even without those remaining sixteen states, plus California and Alaska, the OCS is already the most important source of U.S. energy supplies. According to the MMS, "the Federal OCS is a major supplier of oil and natural gas for the domestic market, *contributing more energy (oil and natural gas) for U.S. consumption than any single U.S. state or country in the world.*"[8] That is, OCS production currently meets more U.S. energy demand than any other single source, including Saudi Arabia.

B. Offshore Oil Production Stimulates Onshore Economies

Offshore oil and gas production has a significant effect on local onshore economies as well as the national economy. There are broadly three "phases" of development that contribute to state economic growth: (1) the initial exploration and development of offshore facilities; (2) the extraction of oil and gas resources; and (3) refining crude oil into finished petroleum products. Industries supporting those phases are most evident in

2. *Id.* at 5 ("Much of the growth of the Nation's energy demand will have to be met by OCS production, especially from new frontier areas in the GOM [Gulf of Mexico], if further increases of imported supplies are to be avoided."). Note that the Congressional and Presidential moratoria were still in effect at this time, precluding the MMS from discussing new OCS production in OCS areas other than the Gulf of Mexico.

3. *Id.* at 6 ("The OCS oil production could account for as much as 40 percent of domestic oil production by 2010.").

4. *Id.* at 5 ("In the past, any difference between the growth in demand and the growth in domestic production was predominately met by imports of natural gas from Canada. However, Canada's future production will likely not support increased U.S. import requirements. Most additional supplies will need to come from Alaskan natural gas (if a pipeline is built), coalbed methane, the OCS, or from imports of LNG. Much of the growth in the Nation's energy demand will have to be met by OCS production, especially in new frontier areas in the GOM [Gulf of Mexico], if further increases of imported supplies are to be avoided."). As noted above, the Congressional and Presidential moratoria were still in effect at this time, precluding the MMS from discussing new OCS production in OCS areas other than the Gulf of Mexico.

5. *See, e.g.*, U.S. Department of Energy, Energy Information Administration, Top 100 US Oil & Gas Fields By 2006 Proved Reserves.

6. *MMS Report to Congress, supra* note 1, at 5 ("Offshore California, a small amount of production continues from 43 active OCS leases issued many years ago. It is estimated that about 315 million barrels of oil (MMbo) and over 1 Tcfg remain to be recovered from these 43 producing leases.").

7. *See* Figure 1, *infra*, for more information.

8. *MMS Report to Congress, supra* note 1, at 4 (The Federal OCS is a major supplier of oil and natural gas for the domestic market, contributing more energy (oil and natural gas) for U.S. consumption than any single U.S. state or country in the world.") (italics added for emphasis).

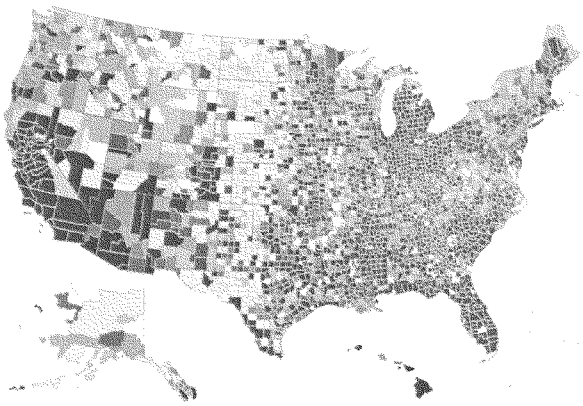
the sections of the Gulf of Mexico that are currently open to offshore drilling.

For example, the U.S. shipbuilding industry — based largely in the Gulf region – benefits significantly from initial offshore oil exploration efforts.[9] Exploration and development also requires specialized exploration and drilling vessels, floating drilling rigs, and miles and miles of steel pipe, as well as highly educated and specialized labor to staff the efforts.

The onshore support does not end with production. A recent report prepared for the U.S. Department of Energy indicates that the Louisiana economy is "highly dependent on a wide variety of industries that depend on offshore oil and gas production"[10] and that offshore production supports onshore production in the chemicals, platform fabrication, drilling services, transportation, and gas processing.[11] Fleets of helicopters and U.S.-built vessels also supply offshore facilities with a wide range of industrial and consumer goods, from industrial spare parts to groceries. As explained in Section IV.G, however, the distance between offshore facilities and onshore communities can affect the relative intensity of the local economic effects.

The economic effects in the refining phase are even more diffuse than the effects for the two preceding phases. Although significant capacity is located in California, Illinois, New Jersey, Louisiana, Pennsylvania, Texas, and Washington, additional U.S. refining capacity is spread widely around the country.[12] As a result, refinery jobs, wages, and tax revenues are even more

Figure 1: Percent of Mortgages 90+ days Delinquent, by County, 2008Q2



Source: Federal Reserve Bank of New York at http://data.newyorkfed.org/creditconditionsmap/

Note: Percentage of mortgage loans delinquent for 90+ days where mortgage debt is defined as debt on credit secured by residential real estate. Dark blue indicates a mortgage delinquency rate above 2%; lighter shades of blue indicate lower delinquency rates, and white indicates a delinquency rate of 0.00%. Grey shaded areas, which represent the least populous 10 percent of U.S. counties, are removed from this analysis due to the small sample size in these areas.

9. U.S. Department of Commerce, Bureau of Export Administration, U.S. Shipbuilding and Repair, National Security Assessment (003-009-00719-4), at 9 ("In some niches, however, the United States currently has a significant world market share based mostly on domestic sales. These niches include offshore oil platforms, yachts, fast patrol boats, and recreational vessels," a preponderance of which are produced in the Gulf Coast region).

10. Advanced Resources International, Inc., Basin Oriented Strategies for CO2 Enhanced Oil Recovery: Offshore Louisiana, Prepared for the U.S. Department of Energy, Mar. 2005, at EX-1.

11. *Id.* ("For example, Louisiana is the third largest consumer of natural gas in the U.S., and a large number of chemical industry jobs in Louisiana are highly dependent on the continued availability of adequate volumes of moderately priced natural gas. Moreover, offshore oil and gas production operations support a vast spectrum of other activities in the state, including platform fabrication, drilling and related services, offshore transport and helicopter operations, and gas processing.").

12. *See* Table 5, *infra*.

likely to extend into other areas of the country, including non-coastal states like Illinois.

C. Economic Stimulus from OCS Drilling Can Significantly Benefit Coastal Economies Stressed by the Mortgage Crisis and Recession

Figure 1 illustrates the percent of mortgages ninety or more days delinquent by county in the third quarter 2008. It is easy to see that most of the hard-hit regions are in the coastal states, including especially those close to restricted OCS resources. States like California and Florida, especially hard hit with mortgage foreclosures and facing fiscal crises resulting from decreased property, sales, and income taxes, could benefit dramatically from OCS development.

Even interior states like Illinois, Pennsylvania, and Indiana stand to benefit, however, as those are home to many refining and chemical industries that ride the economic coattails of oil exploration and extraction. In summary, the benefits of OCS development, while particularly focused on coastal states, are to be found nationwide. The rest of this paper is devoted to estimating the magnitude of those benefits to provide valuable economic estimates to be used in rational decision making on the costs and benefits of OCS development.

III. Present Offshore Oil and Gas Resource Estimates

To determine the economic effect of increased offshore oil and gas production on each state, it is first necessary to determine each state's recoverable resources. The most reliable estimates of total offshore recoverable resources are provided by Energy Information Administration (EIA). The EIA estimates these data for each Outer Continental Shelf Planning Area. Because several OCS Planning Areas adjoin more than one state, the EIA does not provide state-by-state resource estimates.

This paper takes a two-step approach to estimating state-by-state resources. First, OCS Planning Areas are apportioned to the adjoining states by assuming that a state's share of oil and gas resources (and hence the benefits of utilizing those resources) is proportional to its share of the U.S. coastline that adjoins an OCS Planning Area. Then, the value of the state resources are estimated by applying the long-run average price of oil and gas to each resource state's share.

A. Estimating State Offshore Oil and Gas Resources

Significant oil and gas resources lie under the U.S. Outer Continental Shelf. According to the EIA, the OCS (including Alaskan OCS Planning Areas) contains approximately 86 billion barrels of recoverable oil and approximately 420 trillion cubic feet of recoverable natural gas.[13] As noted by the White House, however, the OCS estimates are conservative.[14] Of the total OCS resources, a significant portion was unavailable to exploration until recently. Specifically, Presidential and Congressional mandates banned production from OCS Planning Areas covering approximately 18 billion barrels of recoverable oil and 77.61 trillion cubic feet of recoverable natural gas.[15] These bans covered approximately 31 percent of the total recoverable OCS oil resources and 25 percent of the total recoverable OCS natural gas resources. Figure 2, which was originally produced by the EIA, visually demonstrates the areas (in blue) that were previously unavailable. As noted previously, the estimated resources illustrated in Figure 2 should be considered very conservative lower bounds of recoverable energy resources.

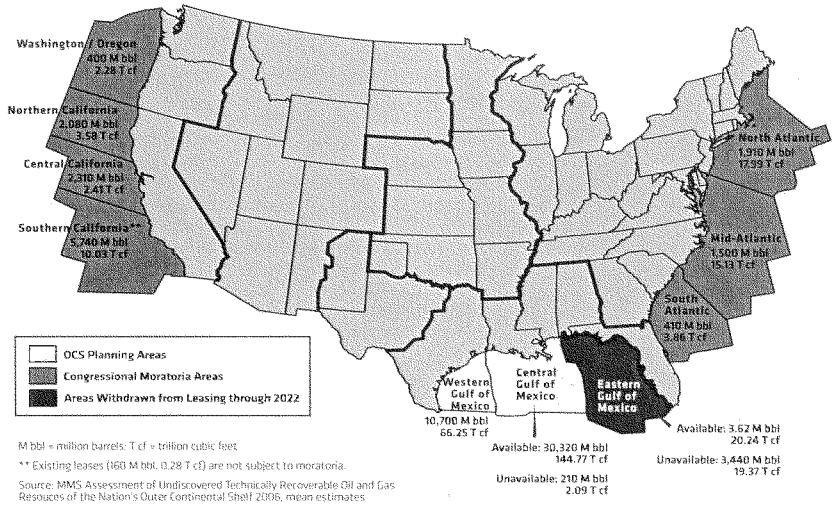
To estimate the state-by-state impact of increased oil and gas production in the OCS, the OCS Planning Area resources are apportioned to each coastal state based on the local communities that provide labor, materials, and support services for offshore production. The analysis of economic impact therefore hypothesizes that the economic benefits associated with offshore oil and gas production accrue onshore firstly in the local communities that provide the most convenient labor, materials, and support services for offshore production. In other words, if distance is important, communities closer to the oil or gas field are more

13. *See* MMS, "Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2006", MMS Fact Sheet RED-2006-01b, Feb. 2006, Table 1.

14. *See* White House Policy Memorandum, American Made Energy, June 18, 2008, at 2 ("About 18 billion barrels of oil and 77 trillion cubic feet of natural gas exist in OCS areas now under moratoria –absolute bans on exploration and development. These estimates are likely conservative, due to the age of the data (1970s). Actual resources may be significantly greater but we won't know until exploration is allowed."). OCS estimates do not include the resources that lie under fisheries or other areas that are still closed to exploration or production, and that these resources would be omitted from any revised numbers.

15. *Id.*

Figure 2: OCS Planning Areas and Estimated Resources, 2006



Source: Phyllis Martin, Unpublished U.S. Energy Information Administration memorandum (based on MMS Assessment of Undiscovered Technically Recoverable Oil and Gas Resources Of the Nation's Outer Continental Shelf, 2006), on file with the author.

Note: Alaska OCS Planning Areas not shown here. Only one Alaska OCS Planning Area (Northern Aleutians) was subject to an exploration and production moratorium.

likely to provide goods and services than are communities further away. Thus, OCS Planning Area resources — and the local economic benefits associated with exploiting those resources — are apportioned by each state's share of the ocean coastline bordering an OCS Planning Area.

State coastline data is available from the Congressional Research Service (CRS).[16] Based on this apportionment, the available and total offshore resources associated with each state are illustrated in Table 2. As previously noted, a large portion of currently unavailable resources in Figure 2 lie off the coast of states — such as California and Florida — that have been hard hit by the recent real estate crisis.

B. Estimating the Value of State Offshore Oil and Gas Resources

An economic analysis of increased offshore oil and gas production also requires estimates of the *value* of likely resources. As noted above, economic benefits of utilizing OCS resources accrue from three primary sources: (1) exploration/platform investments; (2) production; and (3) refining. Sources (1) and (3) produce initial effects — that is, new industry expenditures — *today*; in contrast, source (2) produces economic effects only once production begins. The analysis therefore considers "initial" economic effects as those that flow from exploration or investments in new refining capacity and long-term economic effects as those that flow from production and ongoing refining.

16. *See* Janice Sheryl Beaver, *U.S. International Borders: Brief Facts*, CRS Report for Congress, Nov. 9, 2006, at Table 3.

Table 2: Estimated Available and Total Technically Recoverable Offshore Oil and Gas Resources, by State

Area	State	Oil Resources (Mbbl):		Gas Resources (Tcf):	
		Available	Total	Available	Total
North Atlantic	Maine	0	527	0	4.97
	New Hampshire	0	30	0	0.28
	Massachusetts	0	444	0	4.18
	Rhode Island	0	92	0	0.87
	Connecticut	0	222	0	2.09
	New York	0	294	0	2.77
	New Jersey	0	301	0	2.83
Mid Atlantic	Delaware	0	89	0	0.9
	Maryland	0	99	0	0.99
	Virginia	0	356	0	3.59
	North Carolina	0	957	0	9.65
South Atlantic	South Carolina	0	157	0	1.48
	Georgia	0	84	0	0.79
	Florida (Atlantic Area)	0	168	0	1.59
Eastern Gulf	Florida (Gulf Area)	4	3,444	19.37	39.61
Central Gulf	Alabama	3,252	3,275	15.54	15.76
	Mississippi	2,700	2,719	12.89	13.08
	Louisiana	24,366	24,535	116.34	118.02
Western Gulf	Texas	10,700	10,700	66.25	66.25
California	California	0	10,130	0	16.02
Washington/Oregon	Oregon	0	261	0	1.49
	Washington	0	139	0	0.79
Alaskan Areas*	Alaska	19,110	26,610	123.44	132.06
Total		60,132	85,634	353.83	440.06

Sources: Phyllis Martin, Unpublished U.S. Energy Information Administration memorandum (based on MMS Assessment of Undiscovered Technically Recoverable Oil and Gas Resources Of the Nation's Outer Continental Shelf, 2006), on file with the author; MMS Assessment of Undiscovered Technically Recoverable Oil and Gas Resources Of the Nation's Outer Continental Shelf, 2006 (both used to compute Area Resources). Apportioned using data from Janice Sheryl Beaver, U.S. International Borders: Brief Facts, CRS Report for Congress, Nov. 9, 2006.

Note: The internal EIA data differs from the MMS data to the extent that it estimates slightly larger resources in the Eastern and Central Gulf of Mexico. This difference appears related to the fact that these two Planning Areas both are only partially open to exploration and development (the Central Area is primarily open to such development; the Eastern Area is primarily closed). Because the MMS does not differentiate between available and unavailable resources in those areas. Researchers adopted the EIA estimates for those two areas. The EIA estimates are lower for oil resources than MMS calculates and higher for natural gas resources. See Figure 2.

(*) Includes all Alaska OCS Planning Areas evaluated by MMS: Chukchi Sea, Beaufort Sea, Hope Basin, Navarin Basin, North Aleutian Basin, St. George Basin, Norton Basin, Cook Inlet, Gulf of Alaska, Shumagin, and Kodiak. It does not include the following Alaska OCS Planning Areas: Aleutian Arc, Aleutian Basin, Bowers Basin, and St. Matthew-Hall, which MMS judges to have negligible petroleum potential.

1. Exploration and Offshore Facility Development

In contrast to other industries, the high fixed investment costs associated with offshore oil and gas production produce large initial investments that reverberate throughout the economy. Once oil or gas resources are located, billions of additional dollars must be spent before the well produces even $1 of revenue. For example, oil exploration costs can amount to between $200,000 and $759,000 *per day per site*.[17] Additional production in the U.S. will also require a costly expansion in refining capacity as well. Taken together, the fixed expenditures that precede actual offshore oil and gas production can amount to billions of dollars.

For example, Chevron's "Tahiti" project in the Gulf of Mexico is representative of the large investments that firms must make before production is achieved. In 2002, Chevron explored the Tahiti lease — which lies

17. *See* Statement of John Hofmeister, President, Shell Oil Company, Before the U.S. House Select Committee on Energy Independence and Global Warming, Apr. 1, 2008 [hereinafter *Shell Testimony*], at 7-8 (discussing the run-up in Gulf of Mexico exploration costs).

100 miles off the U.S. coast at a depth of 4,000 feet — and found "an estimated 400 million to 500 million barrels of recoverable resources."[18] Chevron estimates that it will take seven years to build the necessary infrastructure required to begin production at Tahiti.[19] The firm estimates that its total development costs will amount to "$4.7 billion — before realizing $1 of return on our investment."[20]

As a typical U.S. offshore project, the Tahiti project provides a wealth of information regarding the up-front investment costs, length of investment, and lifespan of future OCS fields. As noted above, the Tahiti field is estimated to hold between 400 million and 500 million barrels of oil and oil equivalents (primarily natural gas) and is expected to require an initial fixed investment of $4.7 billion. Using the mid-point resource estimate of 450 million barrels of oil equivalent, up-front development costs amount to approximately $10.44 per barrel of oil resources or $1.86 per 1,000 cubic feet of natural gas resources.[21] These costs will be spread over 7 years, resulting in average up-front development expenditures equal to $1.49 per barrel of oil and $0.27 per 1,000 cubic feet of natural gas.[22] Chevron also estimates that the Tahiti project will produce for "up to 30 years".[23] Although investment and production times vary widely,[24] the analysis that follows uses the Tahiti project numbers — an average initial investment period of seven years followed by an average production period of 30 years — as indicative of the "typical" offshore project. I will thus assume an average initial investment period of seven years followed by an average production period of 30 years.

The speed of OCS development also factors into the analysis. Because most areas of the U.S. OCS have been closed to new exploration and production for almost forty years, it is unclear how quickly firms would move to develop new offshore fields. Given its large potential resources, however, the OCS is sure to attract significant investment. Without the benefit of government data, a rough estimate suggests that annual total investment in OCS fields would be $9.09 billion per year.[25]

Assuming a constant investment flow, the annual investment costs in each state's OCS planning area share are illustrated in Table 3. Recall that these annual expenditures are expected to last, on average, the full seven years of the development phase. Notice in Table 2 that additional investment in states that already support significant production — Alabama, Louisiana, Mississippi, and Texas — are limited. Some of the greatest benefits accrue to areas that are home to enormous — but unavailable — total resources: California and Florida. While other states' benefits appear small in comparison, that is only because of the sheer magnitude of the benefits available to California and Florida. North Carolina would be associated with some half-billion dollars of development expenditures per year for seven years, and Virginia some quarter-billion dollars of development expenditures. In aggregate, the annual expenditures

18. Statement of Peter J. Robertson, Vice Chairman, Chevron Corp., Prepared for the House Select Committee on Energy Independence and Global Warming, Apr. 1, 2008 [hereinafter *Chevron Testimony*], at 6 ("In 2002, we used leading-edge technology to drill in 4,000 feet of water and found an estimated 400 million to 500 million barrels of recoverable resources. It will take seven years to build the infrastructure required to produce the oil and gas more than a 100 miles offshore.").

19. *Id.*

20. *Id.* ("When Tahiti finally comes on line, we will have invested $4.7 billion—before realizing $1 of return on our investment.").

21. The natural gas investment price is based on the conversion of 5,620 cubic feet of natural gas per 1 barrel of oil equivalent. One barrel of oil is equal to one barrel of oil equivalent. *See* MMS, Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, Feb. 2006, at 1 (Oil-equivalent gas is a volume of gas (associated and/or nonassociated) expressed in terms of its energy equivalence to oil (i.e. 5,620 cubic feet of gas per barrel of oil) and is reported in barrels."). Thus if the cost is $10.44 per barrel of oil equivalent, the calculation is $10.44 / 5,620 cubic feet per barrel of oil equivalent * 1,000 cubic feet = $1.86 per 1,000 cubic feet of natural gas.

22. $10.44 per barrel of oil / 7 years = $1.49 per barrel of oil per year, and $1.86 per 1,000 cf / 7 years = $0.27 per 1,000 cf per year.

23. *Chevron Testimony, supra* note 18, at 6 ("Once in production, Tahiti is expected to produce for up to 30 years.").

24. *See* Minerals Management Service, Deepwater Gulf of Mexico 2008: America's Offshore Energy Future, OCS Report MMS 2008-13, May 2008 [hereinafter *MMS Deep Water 2008*], at 77 (showing that the lag between lease acquisition and production ranges between 2.9 years for the most recent leases presently in production to a high of 14.7 years for leases acquired in 1986-87). The lag between lease acquisition and production is negatively correlated with the size of the field and is positively correlated with the complexity of each field. This implies that larger fields are developed sooner and more complex fields are developed later, *ceteris paribus*.

25. The amount is estimated using data on the U.S. overall production and detailed data from one particular U.S. oil producer, ConocoPhillips. In 2008, ConocoPhillips spent approximately $4 billion investing in new oil and gas resources in the United States. *See* Testimony of John E. Lowe, ConocoPhillips, Before the Select Committee on Energy Independence and Global Warming, Apr. 1, 2008 [hereinafter *ConocoPhillips Testimony*], at 14 ("ConocoPhillips has significant investments planned to develop oil and natural gas resources in North America. In 2008, we will spend more than $6 billion in North America, with two-thirds of that amount in the United States."). Given the relatively large potential rewards associated with new offshore investment, the analysis assumes that 50 percent of that investment ($2 billion) would be made in OCS production if such fields were available. ConocoPhillips presently produces 22 percent of U.S. production of barrels of oil equivalent (e.g. oil and natural gas). *See* U.S. Energy Information Administration, U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2006 Annual Report, Appendix A: Operator Level Data, at Tables A2, A4, A6. Thus, assuming that other producers invest at the same rate as ConocoPhillips, total annual investment comes to $2 billion / 0.22 = $9.09 billion per year.

Table 3: Annual Investment Costs and New Capacity in New OCS Resources

State	Annual Field Investment	New Production	
		Oil (Mbbl)	Natural Gas (Tcf)
Alabama*	$13,872,147	3	0.03
Alaska	$1,990,247,555	1,105	1.27
California	$2,862,366,416	1,493	2.36
Connecticut	$138,680,689	34	0.32
Delaware	$55,263,211	13	0.13
Florida	$1,661,088,340	532	3.22
Georgia	$50,034,123	12	0.12
Louisiana*	$103,910,231	25	0.25
Maine	$329,366,636	82	0.77
Maryland	$61,184,269	15	0.15
Massachusetts	$277,361,378	69	0.65
Mississippi*	$11,516,499	3	0.03
New Hampshire	$18,779,677	5	0.04
New Jersey	$187,796,766	47	0.44
New York	$183,462,995	45	0.43
North Carolina	$594,079,514	141	1.42
Oregon	$116,694,101	39	0.22
Rhode Island	$57,783,620	14	0.13
South Carolina	$93,563,811	23	0.22
Texas*	$0	0	0.00
Virginia	$221,052,842	52	0.53
Washington	$61,895,182	20	0.12
Total	$9,090,000,000	3,773	12.85

Note: (*) Indicates that most of the state's OCS resources are already available; thus the incremental production effect of relaxing recent restrictions is small in these states.

associated with developing new offshore resources in the OCS amount to approximately $9.09 billion per year for a seven-year development horizon.

2. Production

The likely value of state recoverable oil and gas resources is estimated using the likely lifetime revenue that could be generated by the project. In that case, average wholesale energy prices provide the information necessary to translate resources into revenues. Taking the simple average of the EIA's latest inflation-adjusted energy price forecasts through 2030 as provided by its *Annual Energy Outlook 2009*, the average inflation-adjusted price of oil will be $110.64 per barrel and the average inflation-adjusted price of natural gas will be $6.83 per thousand cubic feet.[26] At these prices, the estimated state resources have the potential values indicated in Table 4.

The value of each state's available resources are calculated as the sum of (1) its share of available OCS Planning Area oil resources times $110.64 per barrel and (2) its share of available OCS Planning Area natural gas resources times $6.83 per thousand cubic feet. The same method applies to the valuation of total state OCS resources. At these prices, the OCS resources apportioned to coastal states have the following dollar values reported in Table 3.

As in Table 1, Table 4 is constructed to show both states' available resources and the total resources at their disposal. By the estimates in Table 4, states such

26. *See* Appendix Table A1 for more information.

Table 4: Total Value of All Offshore Oil and Gas Resources, by State		
State	**Available Resources (2007 dollars)**	**Total Resources (2007 dollars)**
Alabama	$466,056,712,224	$470,081,862,061
Alaska	$2,957,934,467,867	$3,846,659,884,706
California	$0	$1,230,284,801,733
Connecticut	$0	$40,826,393,021
Delaware	$0	$15,978,875,324
Florida	$132,770,043,885	$681,157,729,927
Georgia	$0	$14,731,344,457
Louisiana	$3,491,028,580,243	$3,521,179,230,912
Maine	$0	$96,962,683,425
Maryland	$0	$17,690,897,680
Massachusetts	$0	$81,652,786,042
Mississippi	$386,915,006,375	$390,256,640,202
New Hampshire	$0	$5,528,574,055
New Jersey	$0	$55,285,740,549
New York	$0	$54,009,915,768
North Carolina	$0	$171,772,909,730
Oregon	$0	$39,099,388,569
Rhode Island	$0	$17,010,997,092
South Carolina	$0	$27,547,614,134
Texas	$1,636,609,708,118	$1,636,609,708,118
Virginia	$0	$63,915,501,295
Washington	$0	$20,738,527,045
Total	$9,071,314,518,712	$12,498,982,005,847

Source: Empiris LLC calculations

as California, facing a budget crisis in the current recession, have an estimated $1.65 trillion in resources available in nearby OCS planning areas. Florida, while not facing as dire a fiscal crisis, has about $0.55 trillion in resources available in nearby OCS planning areas. Table 4 suggests that a permanent relaxation of all federal OCS production moratoria would unlock more than $3.4 trillion in new production among all the coastal states.

3. Investments in Incremental Refining Capacity

Since U.S. refineries are currently operating near maximum capacity increased offshore oil and gas production would also spur investment in new refineries. The U.S. refining industry is presently operating at 97.9 percent of capacity[27] and can no longer depend on excess foreign refining to meet production shortfalls arising from seasonality or repairs.[28] In response, many large refiners are already considering refinery expansions: ConocoPhillips announced that it planned to spend $6.5 billion to $7 billion on capacity expansion

27. *See* U.S. Energy Information Administration, Refinery Capacity Report, Number and Capacity of Petroleum Refineries, released June 20, 2008 (showing Total Operable Atmospheric Crude Oil Distillation Capacity of 17,593,847 Barrels per Calendar Day of which Operating Atmospheric Crude Oil Distillation Capacity of 17,225,797 is Barrels per Calendar Day and Idle Atmospheric Crude Oil Distillation Capacity is 368,050 Barrels per Calendar Day).

28. *See ConocoPhillips Testimony, supra* note 25, at 23 ("Up until the mid 2000s, substantial excess refinery capacity in other nations enabled the United States to benefit from imports of surplus refined products. However, *strong global demand growth* absorbed that surplus, which led to stronger global refining margins over the last few years.").

at its U.S. facilities; Chevron has also considered a major refinery expansion[29]; and while Shell is completing a $7 billion expansion at its Port Arthur, Texas, refinery it is considering further expansion elsewhere.[30]

Future refinery investments are likely to occur in the few U.S. states that already host significant U.S. refineries. This result is largely due to environmental restrictions that severely limit the placement of new refining capacity.[31] Table 5 presents operating oil refining capacity for each U.S. state and for the U.S. as a whole.[32] Note that capacity is primarily concentrated in California, Louisiana, and Texas.

Table 5 suggests that any substantial increase in U.S. offshore oil production would require a commensurate increase in U.S. refining capacity. The U.S. presently has an operating refining capacity of approximately 6.287 billion barrels of crude oil per year. According to the rough investment figures presented in Table 3, which represent a conservative view of likely new offshore development, new OCS capacity would add approximately 3.773 billion barrels per year. That new OCS production, which represents only a small fraction of the total OCS resources, would amount to about sixty percent of current U.S. operating refinery capacity. Because some OCS refining production would most likely substitute for foreign production, however, the analysis conservatively assumes that only one-quarter of this new OCS production necessitates additional U.S. refinery capacity. That is, I estimate that U.S. refinery demand would increase by 943.25 million barrels per year, or 15 percent of current installed capacity.[33]

Even this modest capacity increase would require substantial new investments. In response to existing capacity constraints, Shell is already increasing the capacity of its Port Arthur, Texas, refinery. This expansion will take approximately two and one-half years to complete and cost $7 billion. The facility will add 325,000 barrels per day (or 118.6 million barrels per year) in new capacity, at a cost of approximately $59.02 per barrel of new annual capacity.[34,35]

As noted above, since tough environmental regulations effectively limit new refinery capacity to a few states, refinery investments are likely to be limited to only a few states with large existing capacity. These states can be reasonably assumed to be the same states the already have large installed refinery capacity. Hence, incremental refinery capacity will be added predominantly in states already home to large refining capacity—those with a present capacity of more than 200 million barrels per year. There are seven such states: California, Illinois, Louisiana, New Jersey, Pennsylvania, Texas, and Washington. Assigning new capacity investments proportionally based on their present capacity, new refining capacity investments and associated investment costs are illustrated in Table 6.

Based on this apportionment, expected increases in offshore oil production will induce approximately $22 billion in refining capacity investments each year for two and one half years. California, Texas, and Louisiana will receive the bulk of this investment, but investments of more than $1 billion annually can be expected in Illinois, New Jersey, Pennsylvania, and Washington.

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29. *See Chevron Testimony, supra* note 18, at 8 ("We have recently canceled work on a major refinery expansion project, due in part to that [demand] uncertainty.").

30. *Id.* at 18 ("We also plan to spend $6.5 - $7.0 billion over the next five years (2008-2012) on strategic investments, which are primarily refinery projects that increase crude capacity, clean product yields, or the ability to utilize low-cost crude supply."). *See also Shell Testimony, supra* note 17, at 8 ("In the U.S., refineries operated by Shell and our joint venture, Motiva, currently have a refining capacity of nearly 1.4 million barrels per day. Motiva is spending around $7 billion to double the capacity of its refinery in Port Arthur, Texas.").

31. *See ConocoPhillips Testimony, supra* note 25, at 32 ("The United States needs more ethanol unloading and blending terminals, more pipelines and power transmission lines, and more refinery expansions. But duplicate and overlapping federal and state laws, and overly long and difficult regulatory processes, discourage or delay such infrastructure additions, particularly for refineries. For example, ConocoPhillips applied in May 2006 for a permit to expand our Wood River refinery in Illinois, and we still do not have a final permit.").

32. I consider present *operating* capacity because some portion of total refinery facilities are offline for maintenance, repairs, construction, and other reasons. Note that I do not include *idle* capacity because these plants may be: (1) uneconomical; (2) mothballed; (3) undergoing a repair, retrofit, or expansion; or (4) simply idle. I cannot differentiate between plants that could be readily brought online and those that cannot. I thus consider all idle capacity to be unavailable for the purposes of this analysis.

33 While the magnitude of additional capacity can be debated, it is hard to argue that current capacity will suffice. Changing the additional refinery capacity, however, has only a marginal affect on the estimates of economic activity that follow.

34. *See Shell Testimony, supra* note 17, at 8 ("In the U.S., refineries operated by Shell and our joint venture, Motiva, currently have a refining capacity of nearly 1.4 million barrels per day. Motiva is spending around $7 billion to double the capacity of its refinery in Port Arthur, Texas....By adding 325,000 barrels-per-day capacity, the expansion is equivalent to building a new refinery.").

35. *See* Motiva Enterprises LLC, Press Release, Motiva Port Arthur Refinery To Become Largest Refinery in United States, Sept. 21, 2007 ("The new production capacity is expected to be online in 2010 and will increase Motiva's supply of Shell-branded fuels to the company's wholesale and direct supply markets."). This schedule—from late 2007 to 2010, implies that the project should take at least two and one-half years. Capacity is reported in barrels per year.

Table 5: Distribution of Operating U.S. Oil Refining Capacity by State, 2008

State	Present Refining Capacity	
	Per Calendar Day (bbl)	Per Year (Mbbl)
Alabama	124,600	45
Alaska	375,280	137
Arkansas	77500	28
California	2,007,188	733
Colorado	94,000	34
Delaware	182,200	67
Hawaii	147,500	54
Illinois	915,600	334
Indiana	433,000	158
Kansas	305,900	112
Kentucky	226,000	82
Louisiana	2,951,383	1,077
Michigan	102,000	37
Minnesota	362,150	132
Mississippi	364,000	133
Montana	187,100	68
Nevada	2,000	1
New Jersey	623,000	227
New Mexico	121,600	44
North Dakota	58,000	21
Ohio	515,200	188
Oklahoma	520,400	190
Pennsylvania	773,000	282
Tennessee	180,000	66
Texas	4,509,196	1,646
Utah	167,700	61
Virginia	63,650	23
Washington	627,850	229
West Virginia	20,000	7
Wisconsin	34,300	13
Wyoming	154,500	56
U.S. Total	17,225,797	6,287

Source: U.S. Energy Information Administration, Capacity of Operable Petroleum Refineries by State as of January 1, 2008.

Table 6: New U.S. Refining Capacity and Investment Cost

State	New Annual Refining Capacity (Mbbl)	Capacity Cost ($ billions)
California	152.60	$3,602.77
Illinois	69.61	$1,643.44
Louisiana	224.38	$5,297.54
New Jersey	47.36	$1,118.24
Pennsylvania	58.77	$1,387.48
Texas	342.81	$8,093.71
Washington	47.73	$1,126.95
U.S. Total	943.25	$22,270.13

IV. Increased Investments in Offshore Oil and Gas Production Will Cause Substantial Increases in Wages, Employment, and Taxes, and Profound Effects on Communities Throughout the Nation

Onshore state and local economies benefit from the development of OCS resources by providing goods and services to offshore oil and gas extraction sites. Onshore communities provide all manner of goods and services required by offshore oil and gas extraction. A variety of industries are involved in this effort: shipbuilders provide exploration vessels, permanent and movable platforms, and resupply vessels; steelworkers fashion the drilling machinery and specialized pipes required for offshore resource extraction; accountants and bankers provide financial services; and other onshore employees provide groceries, transportation, refining, and other duties. These onshore jobs, in turn, support other jobs and other industries (such as retail and hospitality establishments).

The statistical approach known as an "input-output" analysis measures the economic effects associated with a particular project or economic development plan. This approach, which was pioneered by Nobel Prize winner Wassily Leontif, has been refined by the U.S. Department of Commerce. The most recent version of the Commerce Department's analysis is known as the Regional Input-Output Modelling System, or "RIMS II." The RIMS II model provides a variety of multipliers that measure how an economic development project — such as offshore drilling — would "trickle down" through the economy providing new jobs, wages, and government revenues. This analysis can be broken down into two parts: (1) a "direct" analysis measuring the benefits that arise from industries that directly supply offshore oil and gas exploration and (2) the "final" analysis that measures the direct *and* indirect benefits associated with offshore exploration.

The RIMS II model is the standard method governmental authorities use to evaluate the benefits associated with an economic development project. According to the Commerce Department, the RIMS II model has been used to evaluate the economic effects of many projects, including: opening or closing military bases, tourist expenditures, new energy facilities, opening or closing manufacturing plants, shopping malls, sports stadiums, and new airport or port facilities.[36] State and local governments have also used the RIMS II model to perform economic analyses. For example, the Kansas Geological Survey (KGS) used the RIMS II model to evaluate the impact of oil and gas production on the Kansas economy.[37] Using the RIMS II multipliers for Kansas, the KGS estimated that the increased value of oil and gas production between 1998 and 2001 induced $500 million in new output, generated $64.3 million in new earnings, and produced 4,742 new jobs in the state of Kansas.[38]

The following analysis mirrors the KGS study by using Commerce Department multipliers to perform an economic analysis of the benefits associated with increased offshore oil and gas production. Unlike some other studies, the effects estimated here are *net* effects. Specifically, the BEA multipliers used here ensure that the approach provides the total net increase in wages, employment, and government revenues.[39]

A. The Bureau of Economic Analysis Multipliers Allow Researchers to Estimate the Economic Effects of Industry Growth

The Bureau of Economic Analysis RIMS II model provides multipliers that allow researchers to consider two types of effects of any industry or growth: (1) the initial ("direct") effects and (2) the comprehensive ("final-demand") effects. The two types of analysis require different information. For example, the initial effect on

36. *See* U.S. Department of Commerce, Bureau of Economic Analysis, Brief Description: Applications of RIMS II, *available at* http://www.bea.gov/bea/regional/rims/brfdesc.cfm.

37. *See* Timothy R. Carr, *2001 Kansas Oil & Gas Production and Value*, Kansas Geological Survey, Open-File Report 2002-38, Aug. 26, 2002.

38. *Id.* at 8 Table 2a.

39. *See* Correspondence from Rebecca Bess, Bureau of Economic Analysis, to Keith Klovers, Empiris LLC, Jan. 30, 2009, on file with the author (noting that "...additional adjustments are not needed to derive the "net effects of a decrease in foreign oil and gas imports."). Furthermore, the BEA notes that the net effect will be less than the gross effect *only if* a new project "cannibalizes" revenue from an existing facility in the same region. For example, if a city has one shopping mall and wishes to build a second mall, the "net" effect is the benefit from the first mall less the losses suffered at the first mall arising from new competition. *See* U.S. Department of Commerce, *Regional Multipliers: A User Handbook for the Regional Input-Output Modeling System (RIMS II)*, Mar. 1997 (3 ed.) [hereinafter *RIMS II Handbook*], at 9 (discussing shopping malls). In the present analysis, however, increased OCS oil and gas extraction will not adversely affect other oil and gas industries in the U.S. because new OCS production will not displace other U.S. production - it will, if anything, displace imported oil and natural gas from abroad. With regard to the refining process, it is likely that an increase in refining for OCS oil will displace foreign oil that would otherwise be imported and refined in the United States. To account for this possibility, the analysis conservatively assumes that only one-quarter of new OCS production will require new refining capacity (and that the other three-quarters of new OCS production will simply replace foreign oil that would be refined in the U.S.).

income or employment can be measured if the user has information regarding the income or employment that is expected to be created by a given economic development project.[40] In contrast, the comprehensive effect on output, income, or employment can be measured if the user has information on changes in final demand.[41] Because specific extraction projects have not been developed for currently unavailable OCS resources, no data presently exist that can be used to estimate the initial ("direct") effects associated with increased OCS extraction. The straightforward estimates of the total value of the resources, however, can be used as a measure of the increase in final demand that would occur over the lifetime of all currently unavailable OCS oil and gas fields.

Three final demand multipliers are applied to the resource estimates in Table 4. First, BEA output multipliers measure the total increase in economic activity — including the effect on all other industries — resulting from $1 of new industrial activity in a particular geographic region.[42] Next, BEA earnings multipliers measure the increase in wages resulting from $1 of new industrial activity.[43] Finally, BEA employment multipliers measure the increase in employment (in full-time equivalent jobs) associated with a $1,000,000 increase in industrial activity.[44] Important to understanding the results that follow, each BEA multiplier measures the changes that are expected to occur within one year.[45]

The BEA multipliers are based on *actual* changes in output, wages, and employment that result from changes in economic activity.[46] If a state does not have any expenditures for a particular industry — such as oil and gas extraction — the BEA calculates a multiplier of zero.[47] Although the BEA suggests that a "bill-of-goods" approach can be applied instead to accurately predict changes in output,[48] this approach requires very specific data for each and every project in each state. Because specific bill-of-goods data is not available for future OCS oil and gas extraction projects, a bill-of-goods approach cannot be applied here.

To circumvent this limitation, the present analysis estimates a RIMS II multiplier for each state with a BEA value of zero by applying the simple average multiplier for all other coastal states with valid BEA multipliers. This approach is not meant to be definitive; rather, it is an attempt to roughly estimate the effect that new industry would have on states that do not presently have any oil and gas extraction industries. This treatment is applied to five coastal states that adjoin OCS Planning Areas: Georgia, Maine, New Hampshire, Rhode Island, and Washington. The final demand multipliers used for the analysis are presented in Appendix Table A3.

The direct effect associated with additional oil and gas extraction varies by state. For example, in Delaware an extra $1,000,000 of oil and gas extraction translates into $1,437,700 of additional annual output, $339,300

40. *See Id.* at 4 ("The direct-effect multipliers for earnings can be used if data on the initial changes in earnings by industry are available...The direct-effect multipliers for employment can be used if data on the initial changes in employment by industry are available."). The 2006 edition is the most recent available multiplier analysis available from the BEA.

41. *See id.* at 9 ("If the user can estimate the change in final demand in the initially affected industry, the user can estimate the impact on output, earnings, or employment on the basis of final-demand multipliers.").

42. *See id.* at 3 ("In this [final demand output multiplier] table, each column entry indicates the change in output in each row industry that results from a $1 change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.").

43. *See id.* ("In this [final demand earnings multiplier] table, each column entry indicates the change in earnings in each row industry that results from a $1 change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.").

44. *See id.* at 4 ("In the final-demand employment multiplier table, each column entry indicates the change in employment in each row industry that results from a $1 million change in final demand in the column industry. The impact on each row industry is calculated by multiplying the final-demand change in the column industry by the multiplier for each row.").

45. *Id.* at 8 ("RIMS II, like all I-O models, is a 'static equilibrium' model, so impacts calculated with RIMS II have no specific time dimension. However, because the model is based on annual data, it is customary to assume that the impacts occur in 1 year.").

46. *See* U.S Department of Commerce, Bureau of Economic Development, Brief Description: RIMS II Methodology, *available at* http://www.bea.gov/bea/regional/rims/brfdesc.cfm ("RIMS II uses BEA's benchmark and annual I-O tables for the nation. Since a particular region may not contain all the industries found at the national level, some direct input requirements cannot be supplied by that region's industries. Input requirements that are not produced in a study region are identified using BEA's regional economic accounts." Note that in both cases multiplier estimates as based on government-maintained industry data.).

47. *RIMS II Handbook, supra* note 45, at 18 ("The impact estimation is complicated by the treatment of the industry in RIMS II; inasmuch as this industry does not yet exist in the economic area, the column entries in the final-demand multiplier table for the industries from which the glass-container industry purchases inputs are zero." Note that this discussion is limited to an example applying final-demand multipliers to a glass-container plant, but that it clearly applies to both direct and final-demand multipliers for all industries.).

48. *Id.* ("To overcome this limitation, the user must estimate impacts on the basis of bill-of-goods data on the purchases of goods and services by the glass-container industry." Note that the example is again specific to the glass-container industry but applies more broadly.).

Table 7: Increase in Annual Coastal State Output from Initial Investments in Previously Unavailable OCS Planning Areas and Additional Refining Capacity

State	Increased Output (GSP)
Alabama	$20,873,419
Alaska	$3,287,291,886
California	$11,589,928,285
Connecticut	$213,207,691
Delaware	$79,451,918
Florida	$2,522,030,426
Georgia*	$79,429,171
Illinois	$2,612,085,664
Louisiana	$9,858,045,031
Maine*	$522,869,535
Maryland	$94,456,274
Massachusetts	$412,991,091
Mississippi	$17,621,395
New Hampshire*	$29,812,737
New Jersey	$2,008,269,450
New York	$265,892,918
North Carolina	$872,999,845
Oregon	$174,912,788
Pennsylvania	$2,209,429,182
Rhode Island*	$91,731,497
South Carolina	$138,596,073
Texas	$16,300,728,058
Virginia	$334,674,003
Washington*	$1,725,347,789
Total	$55,462,676,125

in additional annual wage income, and approximately 4.5 additional full-time jobs for the year. In Texas, however, the same $1,000,000 translates into $2,072,100 in additional output, $508,500 in additional wage income, and approximately 8.25 additional full-time jobs. To determine the economic effect of providing new refining capacity, I use the BEA multipliers for the seven affected states (see Appendix Table A4). In the following sections, I apply these two multipliers to their respective investment costs to determine the state-by-state and overall effect of increased offshore oil and natural gas production on the U.S. economy.

B. Opening OCS Planning Areas Would Unleash More Than $11 Trillion in Economic Activity

The broadest measure of the incremental effect of increased OCS oil and natural gas extraction is the effect on total economic output. Output is generally expressed as Gross Domestic Product (GDP), which measures the total production of goods and services in a given country. The corollary at the state level is known as Gross State Product (GSP). BEA's final demand output multipliers can be used to perform two analyses. First, the multipliers are applied to initial investment costs in Table 3 to determine the likely annual benefits that would accrue in the first years the OCS is open to development. Then, the multipliers are applied to the resource value estimates in Table 4 to measure the expected total increase in output over the lifetime of the projects. Estimates are provided for both coastal states and the U.S., as a whole. In total, the investment and production phases together can be expected to contribute over $11 trillion in GDP over the project lifespan.

Until OCS production begins, onshore communities will realize only the benefits associated with offshore investment. These benefits take two forms: (1) the development of the offshore facilities themselves and (2) the expansion of onshore refining capacity. These two effects, taken together, provide a rough approximation of the additional output that would be created by allowing greater access to offshore resources. Using the investment estimates from Table 3 and Table 6 and BEA multipliers in Table A3 above, the estimated increase in coastal state economic output is presented in Table 7.

The figures in Table 7 only provide the increase in output that *is generated in the same state as the increase in production.* As an integrated economy, however, output in one state is tied to output in other states. For example, Alabama workers building a facility off the Alabama shore might use steel produced in Illinois and fabricated into pipes in Missouri. These effects may be considered "secondary" effects because they spread from one state to other states. Using the individual multiplier for Alabama would thus under-report the total effect associated with production off the coast of Alabama. Using the total U.S. multipliers (2.2860 for refining and 2.3938 for extraction), the total increase in U.S. output is estimated to be about $0.5 trillion, or approximately $73 billion per year for the first seven years the OCS is open. For comparative purposes, a $73 billion stimulus amounts to approximately 0.5 percent

Table 8: Increase in Annual Coastal State Output from Production in Previously Unavailable OCS Planning Areas and Ongoing Refining

State	Total Value of Additional Output (GSP)
Alabama	$201,888,099
Alaska	$48,930,259,033
California	$76,298,162,454
Connecticut	$2,092,216,554
Delaware	$765,760,968
Florida	$27,753,900,791
Georgia*	$779,533,644
Louisiana	$1,802,204,893
Maine*	$5,130,941,998
Maryland	$910,373,595
Massachusetts	$4,052,699,947
Mississippi	$170,434,464
New Hampshire*	$292,553,710
New Jersey	$3,013,441,432
New York	$2,609,219,031
North Carolina	$8,414,009,695
Oregon	$1,953,535,784
Rhode Island*	$900,165,263
South Carolina	$1,360,209,361
Texas	$0
Virginia	$3,225,602,299
Washington*	$1,097,413,723
Total	$191,754,526,737

Note: (*) Multiplier is unavailable from BEA. Researchers instead estimate the effect by using as the multiplier the simple average of the state multipliers provided by BEA.

Source: Empiris calculations; U.S. Department of Commerce, Bureau of Economic Analysis; Empiris calculations.

Table 9: Direct Increase in Annual State Employment from Initial Investments in Previously Unavailable OCS Planning Areas and Additional Refining Capacity

State	Increase in Employment (for seven years)
Alabama	80
Alaska	11,242
California	37,312
Connecticut	812
Delaware	245
Florida	20,454
Georgia*	375
Illinois	7,251
Louisiana	29,332
Maine*	2,467
Maryland	751
Massachusetts	1,296
Mississippi	65
New Hampshire*	141
New Jersey	5,098
New York	691
North Carolina	3,214
Oregon	1,444
Pennsylvania	6,248
Rhode Island*	433
South Carolina	1,259
Texas	49,152
Virginia	1,582
Washington*	4,596
Total	185,320

Note: (*) Multiplier is unavailable from BEA. Researchers instead estimate the effect by using as the multiplier the simple average of the state multipliers provided by BEA.

of total U.S. output (GDP) per year.[49]

Of course, the investment expenditures and resulting output estimated above is only made to facilitate oil and gas extraction. Once extraction begins, additional economic activity continues for the lifetime of the oil and natural gas resources. Applying the BEA multipliers for "Oil and Gas Extraction" in Table A3 to the estimates of the total value of the oil and gas resources in Table 4 yields the total increases to coastal state output from oil and gas extraction in Table 8.

Table 8 indicates that increased OCS oil and gas extraction would yield approximately $192 billion per year in new coastal state output, or $5.75 trillion over the lifetime of the fields. Because the OCS areas are currently unavailable, the entire amount — $5.75 trillion — is additional output created by a change in policy allowing resource extraction in additional OCS Planning Areas.

To approximate the total increase in output associated with increasing offshore resource production, including the associated secondary effects, the overall United States output multiplier is applied (2.3938) to the total value of the applicable OCS resources ($3,427,667,487,135). Note that the multiplier for the United States captures sec-

49. In 2007, total U.S. was approximately $13.8 trillion. *See* U.S. Department of Commerce, Bureau of Economic Analysis, National Industry Accounts, Current-dollar and "Real" GDP (2007 current-dollar annual series).

ondary effects, being greater than any of the individual state multipliers.[50] As a result, the state-by-state analysis in Table 8 misses approximately $2.45 trillion in secondary output. The total increase in output in the United States is estimated to total approximately $8.2 trillion or about $273 billion per year, which amounts to just over two percent of GDP.

C. Opening OCS Planning Areas Could Create Millions of New Jobs

An economic expansion tied to increased OCS resource production would also create millions of new jobs both in the extraction industry and in other sectors that serve as suppliers or their employees. The analysis below estimates employment increases that can be expected from opening up previously unavailable OCS Planning Areas. As before, effects are estimated for coastal states and the nation using the applicable BEA multipliers. Following that analysis, the paper compares the types of jobs that will be created in terms of the wage structure and seasonality relative to other existing jobs in coastal states.

1. BEA Multiplier Analysis

As above, the analysis estimates both the immediate and the total economic effects associated with increased OCS oil and gas production. Using the investment multipliers (denominated in job-years per $1 million change in final demand) in Table A3 and total investment costs in Table 3, the expected coastal state changes in employment are represented in Table 9.[51] The annual increase in coastal state employment from initial investments in previously unavailable OCS planning areas and additional refining capacity is estimated to be 185,320 full-time jobs per year.

Again, this number does not consider the secondary effects of investment in productive capacity and refining to other U.S. states. To estimate the total increase in employment tied to production in previously unavailable OCS Planning Areas, the BEA's final-demand employment multiplier is applied to the estimated total resource value estimates in Table 4. The total increase in U.S. employment from the investment phase is approximately 271,570 full-time jobs per year.

Applying the BEA multipliers to the estimated production value results in the employment estimates in Table 10.[52] According to Table 10, approximately 870,000

Table 10: Increase in Annual Coastal State Employment from Production in Previously Unavailable OCS Planning Areas and Ongoing Refining

State	Increase in Employment (for thirty years)
Alabama	770
Alaska	167,338
California	293,185
Connecticut	7,970
Delaware	2,357
Florida	225,093
Georgia*	3,678
Illinois	1,053
Louisiana	11,054
Maine*	24,207
Maryland	7,236
Massachusetts	12,715
Mississippi	631
New Hampshire*	1,380
New Jersey	12,204
New York	6,776
North Carolina	30,979
Oregon	16,130
Pennsylvania	908
Rhode Island*	4,247
South Carolina	12,360
Texas	7,140
Virginia	15,244
Washington*	5,778
Total	870,432

Source: U.S. Department of Commerce, Bureau of Economic Analysis; Empiris calculations.

Note: (*) Multiplier is unavailable from BEA. Researchers instead estimate the effect by using as the multiplier the simple average of the state multipliers provided by BEA.

50. Thus, the sum of state output estimates that are based on state multipliers will always be less than the value estimated by applying the United States multiplier. In the instant case, the United States final-demand output multiplier is 2.3938, whereas the state multipliers all range between 1.2013 (South Dakota) and 2.0721 (Texas).

51. The BEA multiplier output is in terms of job-years. Present estimates are obtained assuming a seven-year investment phase, that is, dividing the BEA multiplier output by seven.

52. The BEA multiplier output is in terms of job-years. Present estimates are obtained assuming a thirty-year investment phase, that is, dividing the BEA multiplier output by thirty.

Table 11: Increase in Annual Employment from Initial Investments in Previously Unavailable OCS Planning Areas and Additional Refining Capacity

Industry	Employment Increase
Mining	21,550
Health care and social assistance	20,760
Retail trade	10,343
Accommodation and food services	7,741
Real estate and rental and leasing	39,537
Professional, scientific, and technical services	15,290
Manufacturing	22,920
Administrative and waste management services	12,806
Finance and insurance	8,007
Other services	14,077
Transportation and warehousing	11,918
Wholesale trade	14,238
Educational services	5,149
Arts, entertainment, and recreation	12,045
Information	6,341
Management of companies and enterprises	19,685
Agriculture, forestry, fishing, and hunting	5,046
Construction	12,885
Households	9,823
Utilities	1,409
Total	271,572

Source: *U.S. Department of Commerce, Bureau of Economic Analysis; Empiris calculations.*

Table 12: Changes in Annual Employment from Production in Previously Unavailable OCS Planning Areas and Ongoing Refining

Industry	Employment Increase
Mining	236,075
Health care and social assistance	125,430
Retail trade	117,946
Accommodation and food services	81,487
Real estate and rental and leasing	80,882
Professional, scientific, and technical services	74,952
Manufacturing	69,890
Administrative and waste management services	69,742
Finance and insurance	63,081
Other services	60,236
Transportation and warehousing	42,206
Wholesale trade	34,859
Educational services	31,683
Arts, entertainment, and recreation	24,005
Information	20,532
Management of companies and enterprises	19,184
Agriculture, forestry, fishing, and hunting	18,269
Construction	7,609
Households	7,050
Utilities	4,867
Total	1,189,983

Source: *U.S. Department of Commerce, Bureau of Economic Analysis; Empiris calculations.*

coastal state jobs would be created *in addition to* the jobs created during the initial investment phase.

Again, the state BEA multipliers do not account for increases in employment outside of the target state. As a result, secondary jobs created in one state based on OCS production in another state are omitted from the totals in Table 10. The total increase in U.S. employment in all states that results from increased OCS production is estimated by applying the overall U.S. employment multiplier (10.4152 job-years per $1 million) to the total value of the additional OCS resources ($3,427,667,487,135), suggesting that approximately 35,700,000 total job-years would be created over the course of production in newly opened OCS Planning Areas. If we again assume a 30 year production horizon, approximately 1,190,000 jobs would be sustained for the entire production period, approximately 340,000 of which are secondary jobs outside the coastal regions.

2. Evaluation of the Types of New Employment

The BEA data also allow an analysis of the types of employment that would be supported by increased offshore oil and gas extraction. Increased investment and production in previously unavailable OCS oil and gas extraction and the ancillary industries that support the offshore industry would produce thousands of new jobs in stable and valuable industries. As above, the immediate and the long-run benefits are considered separately. The benefits are broken down using specific BEA multipliers for each industry, which can be used to determine which industries will benefit the most from increased offshore oil and gas production. Table 11 reports the expected total increase in annual employment over the first years of the investment phase using the multipliers in Table A5.

Table 11 gives a sense of the distribution of the 271,572 jobs created in the investment phase and sustained during

Table 13: Increase in Annual Wages from Initial Investments in Previously Unavailable OCS Planning Areas and Additional Refining Capacity

State	Wage Increase (Annual)
Alabama	$4,447,410
Alaska	$747,536,982
California	$2,465,191,125
Connecticut	$52,532,245
Delaware	$18,750,807
Florida	$605,466,700
Georgia*	$18,307,486
Illinois	$429,431,222
Louisiana	$1,701,573,555
Maine*	$120,515,252
Maryland	$22,387,324
Massachusetts	$92,056,241
Mississippi	$3,757,834
New Hampshire*	$6,871,484
New Jersey	$322,787,493
New York	$49,498,316
North Carolina	$198,719,597
Oregon	$40,819,597
Pennsylvania	$350,062,159
Rhode Island*	$21,143,027
South Carolina	$34,730,886
Texas	$3,006,003,178
Virginia	$76,904,284
Washington*	$280,493,413
Total	$10,669,987,617

Note: (*) Multiplier for one of the two multipliers applied ("Oil and Gas Extraction") is unavailable from BEA. Researchrs instead estimate the effect by using as the multiplier the simple average of the relevant state multipliers provided by BEA.

Table 14: Increase in Annual Wages from Production in Previously Unavailable OCS Planning Areas and Additional Refining Capacity

State	Wage Increase (Annual)
Alabama	$43,015,435
Alaska	$11,126,842,219
California	$19,449,312,938
Connecticut	$515,501,256
Delaware	$180,721,080
Florida	$6,662,910,385
Georgia*	$179,673,298
Illinois	$62,378,919
Louisiana	$650,961,074
Maine*	$1,182,621,529
Maryland	$215,769,982
Massachusetts	$903,351,990
Mississippi	$36,345,837
New Hampshire*	$67,430,175
New Jersey	$697,228,233
New York	$485,729,176
North Carolina	$1,915,267,944
Oregon	$455,898,871
Pennsylvania	$50,849,817
Rhode Island*	$207,477,461
South Carolina	$340,855,812
Texas	$436,650,201
Virginia	$741,206,763
Washington*	$290,395,450
Total	$46,898,395,845

Note: (*) Asterisk indicates that the multiplier for Oil and Gas Extraction is unavailable from BEA. Researchers instead estimate the effect by using as the multiplier the simple average of the state multipliers provided by BEA.

the first seven years of the investment cycle. The majority of new positions (162,541 jobs, or 60 percent) would be created in high-skills fields, such as health care, real estate, professional services, manufacturing, administration, finance, education, the arts, information, and management.

Table 12 reports the increase in annual employment over the life of the production phase. That is, the jobs in Table 12 would be created in the first year of production and maintained for 30 years. These gains thus represent new full-time careers rather than just one new job for one year.

Although the largest total increase in employment would occur (quite naturally) in the mining industry, significant numbers of jobs would be created in other industries. Again, many of these new jobs would be created in high-skills fields. These high-skills sectors represent approximately 49 percent of all new jobs and approximately 61 percent of all new non-mining jobs.[53]

D. Opening OCS Planning Areas Can Release Trillions of Dollars of Wages to Workers Hit by Recession

The BEA multipliers also allow an analysis of the effect

53. That is, the high-skills industries collectively account for 579,379 new 30-year positions out of a total of 1,189,983 new careers (and 953,908 new non-mining careers). Thus 579,379 / 1,189,983 = 0.49 and 579,379 / 953,908 = 0.61.

of increased OCS production on wages in affected states. To estimate how initial investments increase wages, the BEA's final demand earnings (wage) multipliers are applied to the investment estimates. Table 13 reports the results.

As Table 13 indicates, initial increases in investment would yield approximately $10.7 billion in new wages each year for the first few years of investment.

To estimate the total wage effects associated with OCS oil and gas production over a thirty-year period, the BEA multipliers in Table A3 are applied to the total value of the incremental OCS resources that would be newly opened to production. Table 14 reports the results.

Table 14 indicates that increased OCS production would yield approximately $1.406 trillion in additional wage income to workers in coastal states over the lifetime of the fields (or $46 billion per year over 30 years).

The estimates in Tables 13 and 14 again do not capture secondary effects. Applying the total U.S. wage multipliers to the initial investment, suggests that the increased investment would generate approximately $15.7 billion in additional annual wages *per year for the first seven years*. Applying the total U.S. wage multiplier (0.6109) to the total value of applicable OCS resources ($3.4 trillion), suggests that the increased production would generate approximately $70 billion per year for the next thirty years, or approximately $2.1 trillion in additional wage income.[54]

As with employment, the increase in wages can also be understood by examining specific industries that would benefit from increased offshore oil and gas production. Tables 11 and 12 indicated millions of new jobs would be created and that most of those would be in professional fields. The U.S. Bureau of Labor Statistics (BLS) *2007 Occupational Employment and Wage Estimates* suggest that the new employment in the Oil and Gas Extraction Industry would generally pay higher wages than similar occupations in other industries. As Table 15 indicates, the average wage in the Oil and Gas Extraction industry is 64 percent higher than the average U.S. wage. Furthermore, the Oil and Gas Extraction industry pays higher average wages for 16 of the 17 job classifications.

BLS data also suggest that all four broad industry classifications related to oil and gas extraction pay higher wages and similar jobs in other industries. Table 16 shows that jobs in: (1) Oil and Gas Extraction, (2) Pipeline Transportation of Crude Oil, (3) Petroleum and Coal Products Manufacturing, and (4) Support Activities for Mining, indicated in Table 16, typically pay higher wages than the average American job. Taking this broader measure,[55] the average job created by increased offshore oil and gas production pays approximately 28 percent more than the average U.S. job.

E. Opening OCS Planning Areas Can Contribute Trillions of Dollars in Taxes and Other Public Revenues to Local, State, and Federal Governments

Greater output, more jobs, and higher wages translate into higher tax collections and increases in other sources of public revenues. The MMS Report to Congress suggests that public revenues derived from OCS extraction are significant — the U.S. federal government has collected more than $156 billion in lease and levy payments for OCS oil and natural gas production.[56] Note that this amount counts only lease and royalty payments and thus does not include any sales and income taxes paid by firms or workers supported by OCS production.

The present analysis expands the MMS's analysis by taking a broad measure of the total tax revenues (from all sources) that federal, state, and local governments would enjoy from increased OCS oil and natural gas production. Conservative estimates suggest that seven years of initial annual exploration and refining investments would produce approximately $4.8 billion annually in coastal state and local tax revenue and $11.1 billion in U.S. federal tax income.[57] Over thirty years of production, I estimate that the extraction phase of OCS development would yield approximately $561 billion ($18.7 billion per year) in coastal state and local tax revenue and approximately $1.64 trillion ($54.7 billion per year) in new U.S. federal tax income.

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54. Equal to 0.6109 * $3,427,667,487,133, or approximately $2.1 trillion.

55. Note that the Support Activities for Mining and Petroleum and Coal Products Manufacturing are overbroad because they include many non-oil related jobs (support for other types of mining, coal products manufacturing, and so forth). This measure is thus less precise, and perhaps less reliable, than the narrow measure provided in Table 16.

56. *MMS Report to Congress, supra* note 1, at 4 ("From the time OCS leasing began in 1954 through 2004, the DOI [Department of the Interior] has regulated production of more than 15 Bbo and 165 Tcf of natural gas from OCS leases offshore California, Alaska, and in the GOM. During this time, more than $156 billion in bonus bid, rental and royalty payments has been collected from OCS oil and gas activity.").

57. Note that this analysis is conservative because it does not consider the state and local taxes produced from "secondary" effects. These tax revenues cannot be accurately measured because secondary output cannot be attributed to particular states. Because secondary output is significant, however, my estimate significantly understates the total incremental state and local taxes that would be produced *annually*.

Table 15: Occupation and Average Wage for Oil and Gas Extraction Employees, 2007

	Average Annual Wage		
Occupation	**U.S.**	**Oil and Gas Extraction**	**Difference**
Management	$96,150	$118,480	23%
Business and Financial Operations	$62,410	$70,480	13%
Computer and Mathematical Science	$72,190	$72,890	1%
Architecture and Engineering	$68,880	$100,710	46%
Life, Physical, and Social Science	$62,020	$93,630	51%
Legal	$88,450	$100,170	13%
Arts, Design, Entertainment, Sports, Media	$48,410	$63,910	32%
Healthcare Practitioner or Technical	$65,020	$70,930	9%
Protective Service	$38,750	$41,620	7%
Building and Grounds Cleaning and Maintenance	$23,560	$18,060	-23%
Personal Care and Service	$23,980	$37,970	58%
Sales	$35,240	$70,920	101%
Office and Administrative	$31,200	$35,860	15%
Construction and Extraction	$40,620	$42,480	5%
Installation, Maintenance, and Repair	$39,930	$47,250	18%
Production	$31,310	$56,120	79%
Transportation and Materials Moving	$30,680	$42,370	38%
Average	$40,690	$66,720	64%

Source: U.S. Bureau of Labor Statistics, May 2007 Occupational Employment and Wage Estimates.

To estimate the increase in state and local tax revenue attributable to expanded OCS production, the analysis follows the approach outlined by the Federal Reserve Bank of Boston to determine annual state and local tax burdens as a share of Gross State Product (GSP).[58] For each state and the District of Columbia, the state and local tax burden can be calculated by dividing annual state and local tax revenue by annual Gross State Product. Data for state and local tax revenues are released by the U.S. Census Bureau annually with a two year lag. As such, the state and local tax burden calculations are based on the most recent available fiscal year, 2006.[59] Those data produce the *average* state and local tax burden in 2006 in each state. To simplify the analysis, it is assumed that these state and local tax rates continue at the 2006 level indefinitely into the future. The effective tax burdens are applied to both the initial investments and to the total lifetime production support revenues.

Initially, state and local tax revenues will flow from

Table 16: Average Hourly and Annual Wage, 2007

	Average Wage	
Industry	**Hourly**	**Annual**
Oil and Gas Extraction	$32.08	$66,720
Pipeline Transportation of Crude Oil	$30.08	$62,570
Petroleum and Coal Products Manufacturing	$27.03	$56,210
Support Activities for Mining	$20.77	$43,200
Oil and Gas Support Average	$25.13	$52,264
U.S. Average	$19.56	$40,690

Source: U.S. Bureau of Labor Statistics, May 2007 Occupational Employment and Wage Estimates.

Note: Averages are job-weighted averages.

58. *See* Matthew Nagowski, Measures of State and Local Tax Burden, New England Public Policy Center, Federal Reserve Bank of Boston, July 13, 2006, *available at*: http://www.bos.frb.org/economic/neppc/memos/2006/nagowski071306.pdf.

59. Data pertain to period July 1, 2005 – June 30, 2006. U.S. Census Bureau, Federal State and Local Governments, State and Local Government Finances, 2005-2006 Estimate, *available at*: http://www.census.gov/govs/www/06censustechdoc.html#fiscalyr.

Table 17: Increase in Annual State and Local Tax Revenues from Initial Investments in Previously Unavailable OCS Planning Areas and Additional Refining Capacity

State	Change in Total State and Local Taxes
Alabama	$1,724,602
Alaska	$292,350,437
California	$1,124,647,452
Connecticut	$21,277,637
Delaware	$4,917,624
Florida	$242,593,625
Georgia	$6,695,593
Illinois	$239,358,200
Louisiana	$800,640,249
Maine	$66,933,111
Maryland	$9,715,833
Massachusetts	$38,754,772
Mississippi	$1,757,434
New Hampshire	$2,458,707
New Jersey	$217,425,477
New York	$33,179,832
North Carolina	$71,769,390
Oregon	$15,011,301
Pennsylvania	$9,081,256
Rhode Island	$14,606,903
South Carolina	$193,058,825
Texas	$1,205,889,874
Virginia	$27,987,252
Washington	$153,837,786
Total	$4,795,673,172

Table 18: Increase in Annual State and Local Tax Revenues from Production in Previously Unavailable OCS Planning Areas and Additional Refining Capacity

State	Average Increase in Tax Revenues (30 Years)
Alabama	$16,680,387
Alaska	$4,351,540,140
California	$7,492,016,775
Connecticut	$208,798,395
Delaware	$47,396,270
Florida	$2,669,642,414
Georgia	$65,711,876
Illinois	$34,769,027
Louisiana	$260,471,830
Maine	$656,817,596
Maryland	$93,641,613
Massachusetts	$380,302,298
Mississippi	$16,997,939
New Hampshire	$24,127,406
New Jersey	$353,004,224
New York	$325,595,168
North Carolina	$691,716,439
Oregon	$167,655,627
Pennsylvania	$89,114,774
Rhode Island	$143,355,048
South Carolina	$28,043,608
Texas	$175,166,833
Virginia	$269,742,323
Washington	$118,922,838
Total	$18,681,230,849

investments in new offshore facilities and onshore refineries. Applying the state and local tax burdens to the investment figures, incremental *annual* state and local tax revenues are reported in Table 17.

Table 17 indicates that states and localities would receive approximately $4.8 billion in annual incremental tax revenues during the first few years of the investment stage. As before, those tax revenues do not include taxes levied on "secondary" revenues.[60]

Additional tax revenues will flow from the extraction phase of production. Applying the same state and local effective tax rates to the estimates of the total change in Gross State Product, the analysis estimates that oil and natural gas extraction in previously unavailable OCS Planning Areas will generate approximately $18.7 billion in annual incremental coastal state and local tax revenue, or over $545 billion over the thirty-year extraction period, as indicated in Table 18. Again, note that this tax revenue is the *incremental* tax revenue produced by allowing resource extraction in previously unavailable OCS Planning Areas. That is, $0 in additional state and local tax revenue would be created if the recent moratoria are extended indefinitely. As above, the state and local tax estimates in Table 18 do not include taxes levied on secondary revenues. The estimates thus represent a lower bound

60. It is impossible to quantify these benefits because state and local taxes differ from state to state and because the BEA does not provide a means to allocate the secondary revenues to particular states. To be conservative, the analysis estimates only the revenues that can be accurately assigned and measured.

If the federal royalty revenue is considered with the federal tax receipts, increased offshore oil and gas extraction would yield about $2.07 trillion in additional federal revenue, or an extra $69 billion each year for 30 years.

on potential state and local tax revenues generated from increasing offshore oil and gas production.

The increase in economic activity generated by OCS exploration and drilling would also produce significant additional *federal* tax revenues. According to the IRS, the average effective tax rate in the United States in FY2007 was 20.02 percent of GSP.[61] Applying this rate to the total annual investment expenditures ($55.5 billion) suggests that U.S. federal tax receipts would increase by $11.1 billion per year during the seven years of the investment phase. Applying the same rate to the total increase in U.S. output ($8.2 trillion) suggests that increased offshore oil and gas extraction would yield approximately $54.7 billion in annual incremental federal tax receipts, totaling about $1.64 trillion in additional federal tax revenue over the lifetime of the applicable fields.

In total, therefore, opening OCS planning areas to exploration and drilling can generate initial tax revenues of about $16 billion per year, rising to almost $75 billion per year in the production phase. Dividing the benefit equally among all US taxpayers (population 18 years of age or older) yields an immediate benefit of about $75 annually per taxpayer, rising to almost $350 per taxpayer in the production phase. Unlike typical U.S. tax "rebates," however, this tax reduction does not come at the expense of increased U.S. borrowing. Rather, these amounts represent *net* tax reductions.

Increased offshore oil and gas production would also increase federal lease and royalty payments. The U.S. Department of the Interior enforces a royalty rate on OCS oil and gas projects that generally varies between 12.5 percent and 18.75 percent.[62] Conservatively applying the lower bound of this range, 12.5 percent, to the value of incremental resources implies that total future royalty payments would amount to approximately $428.5 billion.[63] Amortized over a 30 year period, these payments would amount to an additional $14.3 billion per year in federal royalty revenue.[64] If the federal royalty revenue is considered with the federal tax receipts, increased offshore oil and gas extraction would yield about $2.07 trillion in additional federal revenue, or an extra $69 billion each year for 30 years.

A portion of federal lease and royalty payments are reserved for environmental and historical causes. Specifically, MMS disburses revenues from offshore oil and gas production to states under the Coastal Impact Assistance Program (CIAP), to the Land and Water Conservation Fund (LWCF), and to the National Historic Preservation Fund (HPF). Payments to all three organizations are constant each year: CIAP receives $250 million, the LWCF receives $900 million, and the HPF receives $150 million.[65] Although these payments are capped at the moment, a portion of the incremental federal revenue derived from increased OCS production could be added to future CIAP, LWCF,

61. Department of the Treasury, Internal Revenue Service, SOI Tax Stats - IRS Data Book: 2007, Table 5, *available at:* http://www.irs.gov/taxstats/article/0,,id=168593,00.html.

62. See Department of the Interior, 2008 Budget, Bureau Highlights, Royalties on Deepwater Leases, BH-22, *available at* http://www.doi.gov/budget/2008/08Hilites/2008_Highlights_Book.pdf ("To ensure that American taxpayers are fairly compensated for the sale of Federal OCS minerals, MMS will raise royalty rates from 12.5 percent to 16.67 percent for all new deepwater Gulf of Mexico leases beginning in 2007."). *See also* MMS, MMS Fast Facts: Oil and Gas Production on the Federal Outer Continental Shelf, June 2008, *available at* http://www.mms.gov/ooc/PDFs/MMSFastFactsJune.pdf (noting that the royalty rates on the March 2008 Central Gulf of Mexico leases was set at 18.75 percent).

63. Again, this estimate is conservative to the extent that it applies the lowest royalty rate to all future leases. Under the conservative approach above, total payments are calculated based on an incremental OCS resource value of $3,427,667,487,135. See Table 4. Thus $3,427,667,487,135 * 0.125 × $428.5 billion. At the other end of the range, applying the maximum royalty rate (which was applied to the new March 2008 OCS leases) yields $642.7 billion in total royalty revenue, or $21.4 billion per year for 30 years.

64. Equal to $428.5 billion / 30 years = $14.3 billion per year.

65. *See MMS Report to Congress, supra* note 1, at 22 ("Annually, nearly $900 million from OCS revenue goes into the LWCF which provides revenue for the Federal Government and state and local governments to plan, acquire, and develop land and water resources for recreational use, habitat protection, scenic beauty, and biological diversity. Additionally, the OCS revenue provides all of the $150 million transferred annually to the HPF to help protect and preserve hundreds of American battlefields, historic boildings, historic landmarks, and tribal properties and cultural traditions."). Note that HPF did not receive any payments in FY2006 because the act authorizing these payments had expired. The act was reauthorized in December 2006 and payments resumed in FY2007. *See* Congressional Research Service, CRS Report for Congress, Outer Continental Shelf: Debate Over Oil and Gas Leasing and Revenue Sharing, Jan 22, 2008, at CRS-6 fn. 9 ("Under the National Historic Preservation Act (16 U.S.C. 470 et.seq.) The National Historic Preservation Fund is authorized to receive $150 million annually from OCS receipts. Authorization for this act expired at the end of FY2005, thus no funds were disbursed from OCS receipts in FY2006. After reauthorization in December 2006, funding from OCS receipts resumed in FY2007.").

and HPF funds. Incremental federal revenue could also be used to increase the payments presently made to states that adjoin OCS territories.[66]

F. Communities Nationwide Will Benefit from Increased Health, Education, Welfare, and Social Services

Communities around the country would also realize knock-on effects associated with increased offshore oil and gas production. These effects flow from the increase in high-wage, high-skills employment associated with the expansion. For example, a new offshore facility may induce the development of onshore support facilities such as shipyards and refineries. Employees in these new industries, in turn, would increase community demand for health care, education, and other community services that are available to *all* residents (whether they are employed by the offshore industry or not), as well as tax revenues to fund those expansions.

The estimated increase in employment in the health and education fields is but one indication of the tertiary effects associated with increased offshore oil and gas production. As indicated in Table 11, an increase in offshore oil and gas production would initially support 20,760 new health care providers and 5,149 new teachers per year. Over the long term, offshore production would produce 3,762,893 new health care job-years and 950,492 new education job-years (Table 12). Assuming a 30 year production span, increased offshore production would yield 125,000 new health care providers and 32,000 new teachers *per year*. Considering that many of these jobs would be based in small coastal towns like Port Fourchon, Louisiana (which is home to substantial resources serving Gulf of Mexico offshore production), these estimates represent large relative increases.[67] Indeed, in some communities the increase in demand associated with new jobs tied to offshore production may mean the difference between having a local hospital and school or driving several hours to a facility in the next town or the next county.

G. The Economic Effects Associated with Increasing U.S. Offshore Oil and Gas Production Vary by Drilling Distance from Shore

Government sources indicate that the economic effects associated with increased OCS oil and gas production are likely to vary with the distance from shore. This dynamic has important implications for the analysis because increasing OCS development includes a mix of both shallow and deep water projects. Deep water projects are far more expensive than shallow water projects, however, so far fewer are undertaken.[68]

According to the MMS, the cost of developing a deep water field can exceed $1 billion.[69] This cost far exceeds the cost of developing a shallow field, which the MMS places at approximately $100 million.[70] While some argue that deep water fields are significantly larger than shallow water fields, that is based on an observational bias arising in part because firms will only bear the high cost of development for sufficiently large fields.[71] Nonetheless, while it is estimated that

Applied to the total volume of incremental OCS resources, total future lease and royalty payments could amount to approximately $169 billion in additional revenue. Amortized over a 30-year period, this revenue would amount to an additional $5.6 billion in federal revenue per year.

66. Several states receive payments from federal leasing and royalty payments. *See id.* at CRS-6 ("Revenues from the offshore leases are statutorily allocated among the coastal states, the Land and Water Conservation Fund, the National Historic Preservation Fund, and the U.S. Treasury.").

67. For a discussion of Port Fourchon, *see* Loren C. Scott Associates, The Economic Impacts of Port Fourchon on the National and Houma MSA Economies, Apr. 2008, *available at* http://www.portfourchon.com/site100-01/1001757/docs/port_fourchon_economic_impact_study.pdf.

68. *See, e.g.*, *MMS Deep Water 2008*, *supra* note 24, at 14 ("Significant challenges exist in deep water in addition to environmental considerations. Deepwater operations are very expensive and often require significant amounts of time between the initial exploration and first production. Despite these challenges, deepwater operators often reap great rewards.").

69. U.S. Department of the Interior, Minerals Management Service, Deep Water: Where the Energy Is, 2004 [*MMS Deep Water 2004*], at 3 ("For all these reasons, the cost of developing a single deep water field can exceed $1 billion, with costs likely to increase as operations are conducted in even deeper water.").

70. *Id.* ("Compare this [cost] to the cost of a typical shallow Gulf development (100 feet of water, 10,000 foot wells) at $100 million, and you can appreciate the cost of addressing the challenges of deep water.").

71. *See, e.g.*, *MMS Deep Water 2008*, *supra* note 24, at 73 Figure 53a (showing average deep water production of 2,500 barrels per day versus average shallow water production of 200 barrels per day). Note that this discrepancy is also no doubt related to the fact that shallow resources have been diminished by previous development of the most productive fields (e.g. "picking the low-hanging fruit").

Table 19: Global Offshore Resources (mmboe) Onstream by Water Depth

				Forecast →			
	2006	2007	2008	2009	2010	2011	2012
Shallow	7,991.97	8,184.51	39,834.06	18,455.89	17,559.53	45,927.28	52,773.64
Deep	3,291.51	7,318.47	5,790.58	3,220.31	4,848.88	5,656.58	8,545.60
Ultra deep	204.38	972.61	1,606.77	529.69	1,616.54	855.59	1,988.62

Sources: Field data: Infield Systems, London (www.infield.com); Rig data: Rigzone, Houston (www.rigzone.com).

Note: Shallow water <500m; Deep 500-1500m; Ultradeep >1500m.

deep and ultra deep water oil resources are some 35-60 times the magnitude of shallow water resources, the economics of exploration and development, as well as production, dictate that deep and ultra deep projects will not generate sufficient production to relieve the importance of shallow water projects any time soon.

As Table 19 indicates, while deep water oil production accounted for an increased share of total U.S. offshore production in recent years, the trend is likely to subside as expensive projects are curtailed in the current low oil price environment.

The increased cost and offshore distance associated with deep water operations has several implications for the above economic analysis. While the increased cost of development translates into increased purchases of goods and services in local communities, as distance increases shore operations can be more easily centralized into a few communities that serve many deep water fields. Thus the local economic effects associated with deep water production are likely to be greater and more concentrated than they are for shallow water production.

Port Fourchon, Louisiana, is a leading indicator of how deep water production may concentrate economic benefits into a few communities. The Greater Lafourche Port Commission was first organized in 1960.[72] At that time, the surrounding Lafourche Parrish had a population of 55,381.[73] Since then, the port and the surrounding area have experienced significant growth tied to Port Fourchon's central role in offshore oil and gas production. Today, Port Fourchon services half of all drilling rigs presently operating in the Gulf of Mexico.[74] Furthermore, current plans call for more than half of all new deep water drilling platforms in the Eastern and Central Gulf of Mexico to use Port Fourchon as their service base.[75] Economic development has swollen the population of Lafourche Parrish, to 95,554 in 2006.[76] Over the period 1960-2006, the Lafourche Parrish population grew by 72.5 percent whereas the State of Louisiana population grew 31.6 percent.[77] Given the concentration of deep water Gulf of Mexico operations at Port Fourchon, it is reasonable to assume that similar deep water service concentrations may arise in other areas.

Furthermore, the costs of deep water exploration and drilling continue to be subsidized by the U.S. government in its deep water royalty relief program.[78] Federal subsidies diminish the potential public revenue gains from opening OCS Planning Areas and subtract from wage, employment, and quality of life gains to citizens that can be expected to arise as a result of such development.

72. *See* Greater Lafourche Port Commission, About Us, *available at* http://www.portfourchon.com/overview.cfm.

73. U.S. Census Bureau, Louisiana: Population of Counties by Decennial Census: 1900 to 1990, *available at* http://www.census.gov/population/cencounts/la190090.txt [hereinafter *Historical Census Data*].

74. *See* LAI Coalition, Facts and Figures: Port Fourchon, *available at* http://www.laicoalition.org/facts.html.

75. *See id.*

76. U.S. Census Bureau, Quickfacts, Lafourche Parrish, Louisiana, *available at* http://quickfacts.census.gov/qfd/states/22/22057.html.

77. *See id.* and *Historical Census Data*, *supra* note 73.

78. *See* U.S. Department of the Interior, Economic Incentives to Promote Offshore Energy Development, Royalty Relief Incentives for Deepwater Leasing, *available at* http://www.doi.gov/initiatives/economic.html.

V. Summary and Conclusions

This paper estimates the net local and national economic effects that can be expected from opening OCS Planning Areas. In contrast to previous analyses of offshore development, this study estimates economic growth and output associated with the production phase, but also estimates the economic effects of the exploration and development phases as well. In truth, exploration and development involve a great deal of economic activity, suggesting that opening OCS Planning areas can increase economic growth, provide jobs, increase aggregate wages, and add to public revenues both today and for years in the future.

Over the life span of development, OCS planning areas will contribute approximately $8.7 trillion dollars to U.S. economic growth, of which some $2.2 trillion can be expected to be paid out in wages to employees in almost 38 million annual jobs, many in high-paying professional career fields.

That economic growth will also generate more than $1.6 trillion in Federal tax revenues, almost $0.6 trillion in state and local tax revenue, and $0.4 trillion in royalty revenue that will be split between federal and state governments. Those revenues will contribute to schools, health centers, and infrastructure projects that will contribute substantially to the quality of life in not only coastal regions directly affected by the development, but nationwide. Immediate revenues from exploration can also help many coastal states weather the effects of the present recession and mortgage crisis without Federal aid.

While some are suggesting limiting OCS Planning Area development to areas located more than one hundred miles offshore, it is important to point out that such limitations substantially curtail the benefits of OCS development. Not only are the costs of such deep and ultradeep water development often prohibitive, but production in such areas is more volatile as a result and Federal subsidies substantially diminish the potential public revenue gains from opening OCS Planning Areas.

In summary, investment and development in OCS Planning Areas can increase economic growth with attendant effects on jobs, wages, taxes, and other public revenues, helping to both invigorate and stabilize economic growth while reducing oil price volatility. The resulting economic growth and public revenues are particularly attractive to local economies close to previously prohibited OCS planning areas like those off the coasts of California and Florida, which are experiencing the full force of recession and mortgage foreclosures. Jobs in these areas can be particularly powerful in resuscitating the economy and restoring economic growth. It makes no sense to consciously choose to forego such a substantial source of economic growth in a recession.

In closing, a caveat. The present analysis is only meant to be a starting point for discussing the economic effects of unavailable OCS resources rather than an exact estimate of the economic effects of OCS Planning Area development and operation. Clearly there will be debate about many of the parameters used in the analysis. No amount of debate, however, should detract from the simple reality that reaffirming the OCS moratoria will leave valuable economic growth opportunities on the table precisely at a time when the country owes its citizens access to jobs and wages that can help them weather the current recession.

Appendix

Table A1: Average Inflation-Adjusted Energy Prices, 2009-2030		
Year	Average Oil Price (constant 2007 $ per barrel)	Average Gas Price (constant 2007 $ per 1000 cf)
2009	$60.89	$5.73
2010	$77.97	$5.92
2011	$85.85	$5.91
2012	$94.47	$6.07
2013	$99.24	$6.08
2014	$106.60	$6.19
2015	$109.96	$6.26
2016	$111.26	$6.38
2017	$112.44	$6.50
2018	$114.33	$6.70
2019	$114.41	$6.86
2020	$115.64	$6.75
2021	$116.93	$6.59
2022	$118.95	$6.73
2023	$119.15	$6.78
2024	$120.31	$7.07
2025	$121.47	$7.31
2026	$122.90	$7.65
2027	$125.08	$8.02
2028	$126.91	$8.14
2029	$128.87	$8.31
2030	$130.50	$8.39
Average	$110.64	$6.83

Source: U.S. Department of Energy, Energy Information Adminsitration, Annual Energy Outlook 2009 Early Release, Report DOE/EIA-0383(2009), released December 2008, at Tables 12 & 13.

Note: Oil price is based on price of Imported Low-Sulfur Light Crude Oil. Natural gas price based Average Wellhead price in the Lower 48 states.

Table A2: State and Local Tax Burden as a Percentage of GSP, FY2006			
State	**Total State and Local Taxes**	**Gross State Product**	**Tax Burden**
Alabama	$12,768,354,000	$154,539,500,000	8.26%
Alaska	$3,664,728,000	$41,207,500,000	8.89%
California	$163,749,003,000	$1,687,497,000,000	9.70%
Connecticut	$19,871,967,000	$199,122,500,000	9.98%
Delaware	$3,618,436,000	$58,461,500,000	6.19%
Florida	$66,695,224,000	$693,371,000,000	9.62%
Georgia	$31,025,457,000	$368,052,000,000	8.43%
Louisiana	$15,723,965,000	$193,604,500,000	8.12%
Maine	$5,805,560,000	$45,352,000,000	12.80%
Maryland	$25,788,809,000	$250,716,000,000	10.29%
Massachusetts	$30,635,651,000	$326,469,500,000	9.38%
Mississippi	$8,180,449,000	$82,023,500,000	9.97%
New Hampshire	$4,517,017,000	$54,770,500,000	8.25%
New Jersey	$47,307,677,000	$436,961,500,000	10.83%
New York	$123,660,934,000	$990,980,500,000	12.48%
North Carolina	$30,012,764,000	$365,074,000,000	8.22%
Oregon	$12,402,985,000	$144,520,500,000	8.58%
Rhode Island	$4,679,980,000	$44,405,500,000	10.54%
South Carolina	$12,444,152,000	$142,415,000,000	8.74%
Texas	$75,732,050,000	$1,023,715,000,000	7.40%
Virginia	$30,058,820,000	$359,446,000,000	8.36%
Washington	$25,168,807,000	$282,277,500,000	8.92%
Total	$753,512,789,000	$7,944,982,500,000	9.48%

Source: U.S. Census Bureau, Federal, State, and Local Governments, State and Local Government Finances, 2005-2006 Estimate.

Appendix (continued)

Table A3: BEA Final Demand Multipliers, 2006

	Refinery Multipliers			Extraction Multipliers		
State	**Output (GSP)**	**Earnings**	**Employment**	**Output (GSP)**	**Earnings**	**Employment**
Alabama	1.5848	0.2797	5.5886	1.5047	0.3206	5.7384
Alaska	1.7036	0.2772	4.1906	1.6517	0.3756	5.6487
California	1.7388	0.3106	4.7243	1.8605	0.4703	7.0889
Connecticut	1.6706	0.3153	5.1625	1.5374	0.3788	5.8564
Delaware	1.3332	0.1612	2.2835	1.4377	0.3393	4.4245
Florida	1.6090	0.3205	6.5797	1.5183	0.3645	12.3139
Georgia*	1.6996	0.3263	6.4300	1.5875	0.3659	7.4895
Illinois	1.5894	0.2613	4.4118	0	0	0
Louisiana	1.8257	0.3132	5.4024	1.7932	0.4079	6.8625
Maine*	1.5876	0.3103	7.5281	1.5875	0.3659	7.4895
Maryland	1.5738	0.2764	5.1494	1.5438	0.3659	12.271
Massachusetts	1.7062	0.3337	5.7096	1.489	0.3319	4.6717
Mississippi	1.5470	0.2153	4.0113	1.5301	0.3263	5.6673
New Hampshire*	1.7043	0.3235	6.1185	1.5875	0.3659	7.4895
New Jersey	1.5213	0.2285	3.4982	1.6352	0.3582	6.3141
New York	1.5377	0.2624	4.5150	1.4493	0.2698	3.7639
North Carolina	1.6400	0.3043	6.5964	1.4695	0.3345	5.4105
Oregon	1.7339	0.3321	6.9233	1.4989	0.3498	12.376
Pennsylvania	1.5924	0.2523	4.5029	0	0	0
Rhode Island*	1.6375	0.3047	5.5592	1.5875	0.3659	7.4895
South Carolina	1.6733	0.3164	7.0455	1.4813	0.3712	13.4601
Texas	2.0140	0.3714	6.0729	2.0721	0.5085	8.2985
Virginia	1.3812	0.2003	3.6977	1.514	0.3479	7.155
Washington*	1.4438	0.2288	3.6666	1.5875	0.3659	7.4895
Total-U.S.	2.286	0.4541	7.9432	2.3938	0.6109	10.4152

Note: (*) Multiplier is unavailable from BEA. Researchers instead estimate the effect by using as the multiplier the simple average of the state multipliers provided by BEA.

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department.

Table A4: BEA Final Demand Multipliers for "Petroleum and Coal Products Manufacturing," 2006

State	Output (GSP)	Earnings	Employment
California	1.7388	0.3106	4.7243
Illinois	1.5894	0.2613	4.4118
Louisiana	1.8257	0.3132	5.4024
New Jersey	1.5213	0.2285	3.4982
Pennsylvania	1.5924	0.2523	4.5029
Texas	2.0140	0.3714	6.0729
Washington*	1.4438	0.2288	3.6666

Source: Regional Input-Output Modeling System (RIMS II), Regional Product Division, Bureau of Economic Analysis, U.S. Commerce Department.

Table A5: BEA Final Demand Multipliers for "Oil and Gas Extraction," 2006 Oil and Gas Extraction Employment Change in the U.S., by Industry

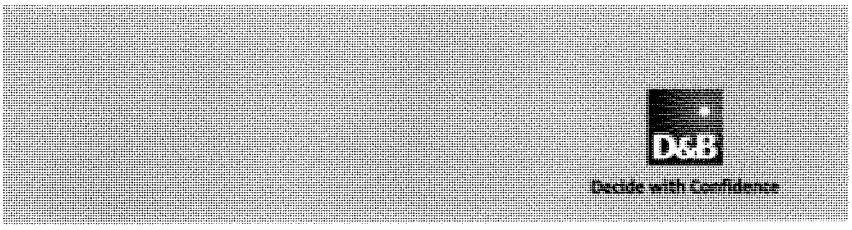
Industry	Refining Multiplier	Extraction Multiplier
Mining	0.1243	2.0662
Health care and social assistance	0.4841	1.0978
Retail trade	0.0431	1.0323
Accommodation and food services	0.0565	0.7132
Real estate and rental and leasing	1.4864	0.7079
Professional, scientific, and technical services	0.4188	0.6560
Manufacturing	0.7795	0.6117
Administrative and waste management services	0.3259	0.6104
Finance and insurance	0.1342	0.5521
Other services	0.4169	0.5272
Transportation and warehousing	0.3844	0.3694
Wholesale trade	0.5148	0.3051
Educational services	0.118	0.2773
Arts, entertainment, and recreation	0.4551	0.2101
Information	0.2114	0.1797
Management of companies and enterprises	0.8154	0.1679
Agriculture, forestry, fishing, and hunting	0.1613	0.1599
Construction	0.5514	0.0666
Households	0.4159	0.0617
Utilities	0.0459	0.0426
Total	7.9432	10.4151

Source: U.S. Department of Commerce, Bureau of Economic Analysis; Empiris calculations.

AMERICAN ENERGY ALLIANCE

American Energy Alliance
655 15th Street, NW Suite 825
Washington, DC 20005

Phone: 202.621.2940 | Email: info@energydc.org
www.americanenergyalliance.org



August 17, 2010

Honorable Mary Landrieu
Chair, Small Business and Entrepreneurship Committee
United States Senate
Washington, D.C. 20510

Dear Chair Landrieu,

Dun & Bradstreet has prepared two responses to inquires posed during our testimony before the Senate Committee on Small Business and Entrepreneurship at the "*The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Business?*" hearing on July 27, 2010. Specifically, we have further analyzed:

- The nation-wide impact on small businesses from a drilling moratorium
- Diversity classifications of the small businesses within the Gulf States

We hope the committee will find this additional information helpful. Please let us know if you have any questions.

Sincerely,

Ethan Treese
Vice President, Government Solutions
Dun & Bradstreet

4350 N. Fairfax Dr, Suite 650, Arlington, VA 22203
T 703.807.5725 www.dnb.com/gov

Decide with Confidence

The Deepwater Drilling Moratorium

Preliminary Impact Analysis on Small Business Diversity Classifications in the Gulf States

Decide with Confidence

Submitted by Dun & Bradstreet to the Senate Committee on Small Business and Entrepreneurship in support of testimony for the hearing: "*The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses*?" – July 27, 2010

Summary

D&B used its database of over 169 million businesses to perform this preliminary assessment. Using the small business size standards of the Small Business Administration, we analyzed businesses in five 4-digit Standard Industry Classification Codes (and 54 specific 8-digit codes) related to Oil and Gas Exploration Services, Oil and Gas Field Services, Oil and Gas Field Machinery, and Air Transportation (i.e. Helicopter services) in the five Gulf States. In response to inquiries, we prepared a summary analysis of the diversity classifications of small businesses within the five Gulf States.

A breakdown of diversity classification of small businesses within the Gulf States in the designated industries indicates that not surprisingly, the state of Texas has the most diverse businesses across all categories – 94 minority-owned with 1,290 employees, 42 veteran-owned with 426 employees and 361 women-owned with 2,906 employees that may be potentially impacted by the drilling moratorium. Louisiana had the second highest percentage of diverse small businesses.

Alabama

Diversity Classification	Description	# of Small Businesses by Classification	% of Small Businesses by Classification	Total Employees	% of Total Employees
Minority-owned	Oil and gas field services	3	30.0%	14	16.5%
Minority-owned	Air transportation, scheduled	1	10.0%	3	3.5%
Veteran-owned	Oil and gas field services	2	20.0%	56	65.9%
Veteran-owned	Air transportation, scheduled	1	10.0%	3	3.5%
Woman-owned	Oil and gas field services	2	20.0%	6	7.1%
Woman-owned	Air transportation, scheduled	1	10.0%	3	3.5%
	Total	**10**	**100.0%**	**85**	**100.0%**

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Florida

Diversity Classification	Description	# of Small Businesses by Classification	% of Small Businesses by Classification	Total Employees	% of Total Employees
Minority-owned	Oil and gas exploration services	1	3.0%	3	1.3%
Minority-owned	Oil and gas field services	2	6.1%	16	7.2%
Minority-owned	Air transportation, nonscheduled	1	3.0%	3	1.3%
Veteran-owned	Oil and gas field machinery	1	3.0%	6	2.7%
Veteran-owned	Air transportation, scheduled	1	3.0%	9	4.0%
Veteran-owned	Air transportation, nonscheduled	3	9.1%	59	26.5%
Veteran-owned	Oil and gas exploration services	1	3.0%	3	1.3%
Veteran-owned	Oil and gas field services	2	6.1%	16	7.2%
Woman-owned	Oil and gas exploration services	7	21.2%	39	17.5%
Woman-owned	Oil and gas field services	7	21.2%	20	9.0%
Woman-owned	Oil and gas field machinery	1	3.0%	9	4.0%
Woman-owned	Air transportation, scheduled	2	6.1%	4	1.8%
Woman-owned	Air transportation, nonscheduled	4	12.1%	36	16.1%
	Total	**33**	**100.0%**	**223**	**100.0%**

Louisiana

Diversity Classification	Description	# of Small Businesses by Classification	% of Small Businesses by Classification	Total Employees	% of Total Employees
Minority-owned	Oil and gas exploration services	3	2.7%	13	1.2%
Minority-owned	Oil and gas field services	13	11.6%	126	11.5%
Minority-owned	Oil and gas field machinery	3	2.7%	10	0.9%
Veteran-owned	Oil and gas exploration services	3	2.7%	16	1.5%
Veteran-owned	Oil and gas field services	6	5.4%	214	19.6%
Veteran-owned	Oil and gas field machinery	4	3.6%	35	3.2%
Veteran-owned	Air transportation, scheduled	1	0.9%	8	0.7%
Woman-owned	Oil and gas exploration services	21	18.8%	55	5.0%
Woman-owned	Oil and gas field services	51	45.5%	563	51.6%
Woman-owned	Oil and gas field machinery	7	6.3%	52	4.8%
	Total	**112**	**100.0%**	**1092**	**100.0%**

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Mississippi

Diversity Classification	Description	# of Small Businesses by Classification	% of Small Businesses by Classification	Total Employees	% of Total Employees
Minority-owned	Oil and gas field services	2	13.3%	5	4.7%
Woman-owned	Oil and gas exploration services	5	33.3%	7	6.5%
Woman-owned	Oil and gas field services	8	53.3%	95	88.8%
	Total	**15**	**100.0%**	**107**	**100.0%**

Texas

Diversity Classification	Description	# of Small Businesses by Classification	% of Small Businesses by Classification	Total Employees	% of Total Employees
Minority-owned	Oil and gas exploration services	18	3.6%	197	4.3%
Minority-owned	Oil and gas field services	62	12.5%	712	15.4%
Minority-owned	Oil and gas field machinery	14	2.8%	381	8.2%
Veteran-owned	Oil and gas exploration services	9	1.8%	72	1.6%
Veteran-owned	Oil and gas field services	21	4.2%	158	3.4%
Veteran-owned	Oil and gas field machinery	10	2.0%	182	3.9%
Veteran-owned	Air transportation, scheduled	2	0.4%	14	0.3%
Woman-owned	Oil and gas exploration services	104	20.9%	394	8.5%
Woman-owned	Oil and gas field services	222	44.7%	1913	41.4%
Woman-owned	Oil and gas field machinery	34	6.8%	585	12.7%
Woman-owned	Air transportation, nonscheduled	1	0.2%	14	0.3%
	Total	**497**	**100.0%**	**4622**	**100.0%**

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The Deepwater Drilling Moratorium

Preliminary Impact Analysis on Small Businesses across the U.S.

Decide with Confidence

Submitted by Dun & Bradstreet to the Senate Committee on Small Business and Entrepreneurship in support of testimony for the hearing: "*The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses*?" – July 27, 2010

Executive Summary

As stated in our testimony, D&B used its database of over 169 million businesses to perform this preliminary assessment. Using the small business size standards of the Small Business Administration, we analyzed businesses in five 4-digit Standard Industry Classification Codes (and 54 specific 8-digit codes) related to Oil and Gas Exploration Services, Oil and Gas Field Services, Oil and Gas Field Machinery, and Air Transportation (i.e. Helicopter services) in all states. In response to inquiries about the potential impact of a drilling moratorium nationwide we prepared a summary analysis of the Gulf States compared to all Non-Gulf States as well as the states individually.

In comparing the Gulf States vs. Non-Gulf States, not surprisingly, we found small businesses within the oil and gas services and air transportation industries in the five Gulf States have a higher potential to be impacted than businesses in the remaining 45 Non-Gulf States. Within the businesses analyzed, an estimated 16,228 small businesses and 153,502 employees have the potential to be effected within the Gulf region. The potential impact on these five states alone out numbers that of all Non-Gulf States by 739 small businesses and 5,929 employees.

Small Business & Employees Distribution by Industry Code for Gulf States

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	619	34.6%	38667	25.2%
1389	Oil and gas field services	9234	56.9%	87400	56.9%
3533	Oil and gas field machinery	1184	7.3%	25399	16.5%
4512	Air transportation, scheduled	54	0.3%	306	0.2%
4522	Air transportation, nonscheduled	137	0.8%	1730	1.1%
	Total	**16,228**	**100.0%**	**153,502**	**100.0%**

Small Business & Employees Distribution by Industry Code for Non-Gulf States

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	4,376	28.3%	39,997	27.1%
1389	Oil and gas field services	9,713	62.7%	87,771	59.5%
3533	Oil and gas field machinery	812	5.2%	11,278	7.6%
4512	Air transportation, scheduled	196	1.3%	5,063	3.4%
4522	Air transportation, nonscheduled	392	2.5%	3,464	2.3%
	Total	**15,489**	**100.0%**	**147,573**	**100.0%**

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In analyzing all states individually, Texas has the highest number of small businesses and employees within the oil and gas services and air transportation industries with an estimated 12,140 businesses and 111,939 employees having the potential to be impacted. Oklahoma had the second highest number of small businesses with 2,937 and the third highest number of employees with 26,446. Louisiana had the third highest number of 2,831 small businesses and the second highest number of employees at 35,143. Interestingly, if you look at the combined number of small businesses and employees in the analyzed industries for two of the Gulf States – Texas and Louisiana – it is almost equal to that of all Non-Gulf States.

From an All States perspective - the total number of small businesses by the designated industry codes is 31,717 with an associated employee population of 301,075.

Small Business & Employees Distribution by Industry Code for All States

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	9,995	31.5%	78,664	26.1%
1389	Oil and gas field services	18,947	59.7%	175,171	58.2%
3533	Oil and gas field machinery	1,996	6.3%	36,677	12.2%
4512	Air transportation, scheduled	250	0.8%	5,369	1.8%
4522	Air transportation, nonscheduled	529	1.7%	5,194	1.7%
	Total	**31,717**	**100.0%**	**301,075**	**100.0%**

Individual summaries of each state are on the following pages and details by the designated industry codes, the total number of small businesses and the number of employees associated with those small businesses are provided.

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State Summary (in alphabetical order)

Small Business & Employees Distribution by Industry Code—Alabama

SIC 4 digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	66	34.60%	567	37.70%
1389	Oil and gas field services	109	57.10%	851	56.70%
3533	Oil and gas field machinery	10	5.20%	66	4.40%
4512	Air transportation, scheduled	4	2.10%	13	0.90%
4522	Air transportation, nonscheduled	2	1.00%	5	0.30%
	Total	**191**	**100.00%**	**1,502**	**100.00%**

Small Business & Employees Distribution by Industry Code—Alaska

SIC 4 digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	27	14.1%	128	0.8%
1389	Oil and gas field services	124	64.9%	16,520	96.6%
3533	Oil and gas field machinery	15	7.9%	13	0.8%
4512	Air transportation, scheduled	13	6.8%	23	1.3%
4522	Air transportation, nonscheduled	12	6.3%	92	0.5%
	Total	**191**	**100.0%**	**17,109**	**100.0%**

Small Business & Employees Distribution by Industry Code—Arizona

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	41	27.2%	98	18.3%
1389	Oil and gas field services	82	54.3%	286	53.4%
3533	Oil and gas field machinery	5	3.3%	14	2.6%
4512	Air transportation, scheduled	5	3.3%	32	6.0%
4522	Air transportation, nonscheduled	18	11.9%	106	19.8%
	Total	**151**	**100.0%**	**536**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Arkansas

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	90	27.9%	417	20.0%
1389	Oil and gas field services	212	65.6%	1,641	78.7%
3533	Oil and gas field machinery	12	3.7%	8	0.4%
4512	Air transportation, scheduled	3	0.9%	5	0.2%
4522	Air transportation, nonscheduled	6	1.9%	15	0.7%
	Total	**323**	**100.0%**	**2,086**	**100.0%**

Small Business & Employees Distribution by Industry Code—California

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	294	21.1%	6,598	44.7%
1389	Oil and gas field services	892	64.0%	6,859	46.5%
3533	Oil and gas field machinery	110	7.9%	649	4.4%
4512	Air transportation, scheduled	31	2.2%	159	1.1%
4522	Air transportation, nonscheduled	67	4.8%	480	3.3%
	Total	**1,394**	**100.0%**	**14,745**	**100.0%**

Small Business & Employees Distribution by Industry Code—Colorado

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	906	56.5%	5,943	51.5%
1389	Oil and gas field services	643	40.1%	5,214	45.2%
3533	Oil and gas field machinery	35	2.2%	170	1.5%
4512	Air transportation, scheduled	3	0.2%	15	0.1%
4522	Air transportation, nonscheduled	16	1.0%	193	1.7%
	Total	**1,603**	**100.0%**	**11,535**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Connecticut

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	23	24.7%	75	2.1%
1389	Oil and gas field services	59	63.4%	2,876	82.1%
3533	Oil and gas field machinery	7	7.5%	521	14.9%
4512	Air transportation, scheduled	2	2.2%	5	0.1%
4522	Air transportation, nonscheduled	2	2.2%	26	0.7%
	Total	**93**	**100.0%**	**3,503**	**100.0%**

Small Business & Employees Distribution by Industry Code—Delaware

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	7	22.6%	23	29.5%
1389	Oil and gas field services	16	51.6%	34	43.6%
3533	Oil and gas field machinery	3	9.7%	7	9.0%
4512	Air transportation, scheduled	1	3.2%	2	2.6%
4522	Air transportation, nonscheduled	4	12.9%	12	15.4%
	Total	**31**	**100.0%**	**78**	**100.0%**

Small Business & Employees Distribution by SIC Code—Florida

SIC 4 digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	98	16.90%	320	14.10%
1389	Oil and gas field services	380	65.60%	1431	62.90%
3533	Oil and gas field machinery	24	4.10%	145	6.40%
4512	Air transportation, scheduled	18	3.10%	68	3.00%
4522	Air transportation, nonscheduled	59	10.20%	312	13.70%
	Total	**579**	**100.00%**	**2,276**	**100.00%**

Small Business & Employees Distribution by Industry Code—Georgia

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	33	15.0%	133	2.5%
1389	Oil and gas field services	160	72.7%	5,003	94.1%
3533	Oil and gas field machinery	12	5.5%	34	0.6%
4512	Air transportation, scheduled	3	1.4%	9	0.2%
4522	Air transportation, nonscheduled	12	5.5%	135	2.5%
	Total	**220**	**100.0%**	**5,314**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Hawaii

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	3	3.7%	37	5.7%
1389	Oil and gas field services	15	25.0%	46	7.1%
4512	Air transportation, scheduled	8	13.3%	37	5.7%
4522	Air transportation, nonscheduled	34	58.3%	529	81.5%
	Total	60	100.0%	649	100.0%

Small Business & Employees Distribution by Industry Code—Idaho

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	9	14.1%	80	21.3%
1389	Oil and gas field services	42	65.6%	110	29.3%
3533	Oil and gas field machinery	2	3.1%	3	0.8%
4512	Air transportation, scheduled	3	4.7%	5	1.3%
4522	Air transportation, nonscheduled	8	12.5%	177	47.2%
	Total	**64**	**100.0%**	**375**	**100.0%**

Small Business & Employees Distribution by Industry Code—Illinois

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	77	18.4%	393	7.9%
1389	Oil and gas field services	295	70.6%	2,097	42.1%
3533	Oil and gas field machinery	30	7.2%	2,164	43.5%
4512	Air transportation, scheduled	3	0.7%	182	3.7%
4522	Air transportation, nonscheduled	13	3.1%	144	2.9%
	Total	**418**	**100.0%**	**4,980**	**100.0%**

Small Business & Employees Distribution by Industry Code—Indiana

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	27	22.0%	82	14.3%
1389	Oil and gas field services	82	66.7%	336	58.6%
3533	Oil and gas field machinery	8	6.5%	126	22.0%
4512	Air transportation, scheduled	1	0.8%	9	1.6%
4522	Air transportation, nonscheduled	5	4.1%	20	3.5%
	Total	**123**	**100.0%**	**573**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Iowa

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	5	8.6%	7	5.0%
1389	Oil and gas field services	45	77.6%	112	80.0%
3533	Oil and gas field machinery	3	5.2%	4	2.9%
4512	Air transportation, scheduled	2	3.4%	3	2.1%
4522	Air transportation, nonscheduled	3	5.2%	14	10.0%
	Total	**58**	**100.0%**	**140**	**100.0%**

Small Business & Employees Distribution by Industry Code—Kansas

SIC 4 Digit	Description	# of Small Businesses	% of Total Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	181	20.0%	754	16.5%
1389	Oil and gas field services	700	77.3%	3,661	80.2%
3533	Oil and gas field machinery	21	2.3%	140	3.1%
4522	Air transportation, nonscheduled	4	0.4%	8	0.2%
	Total	**906**	**100.0%**	**4,563**	**100.0%**

Small Business & Employees Distribution by Industry Code—Kentucky

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	115	42.8%	506	44.7%
1389	Oil and gas field services	146	54.3%	597	52.7%
3533	Oil and gas field machinery	2	0.7%	2	0.2%
4512	Air transportation, scheduled	2	0.7%	3	0.3%
4522	Air transportation, nonscheduled	4	1.5%	25	2.2%
	Total	**269**	**100.0%**	**1,133**	**100.0%**

Small Business & Employees Distribution by SIC Code—Louisiana

SIC 4 digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	775	27.40%	4716	13.40%
1389	Oil and gas field services	1813	64.00%	24691	70.30%
3533	Oil and gas field machinery	195	6.90%	4534	12.90%
4512	Air transportation, scheduled	11	0.40%	139	0.40%
4522	Air transportation, nonscheduled	37	1.30%	1063	3.00%
	Total	**2,831**	**100.00%**	**35,143**	**100.00%**

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Small Business & Employees Distribution by Industry Code—Maine

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	3	15.0%	26	41.9%
1389	Oil and gas field services	13	65.0%	30	48.3%
4512	Air transportation, scheduled	1	5.0%	3	4.8%
4522	Air transportation, nonscheduled	3	15.0%	3	4.8%
	Total	20	100.0%	62	100.0%

Small Business & Employees Distribution by Industry Code—Maryland

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	15	17.9%	3,048	90.5%
1389	Oil and gas field services	66	78.6%	312	9.3%
3533	Oil and gas field machinery	1	1.2%	1	0.0%
4512	Air transportation, scheduled	1	1.2%	6	0.2%
4522	Air transportation, nonscheduled	1	1.2%	2	0.1%
	Total	**84**	**100.0%**	**3,369**	**100.0%**

Small Business & Employees Distribution by Industry Code—Massachusetts

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	18	15.0%	163	26.4%
1389	Oil and gas field services	82	68.3%	289	46.8%
3533	Oil and gas field machinery	7	5.8%	130	21.1%
4512	Air transportation, scheduled	7	5.8%	25	4.1%
4522	Air transportation, nonscheduled	6	5.0%	10	1.6%
	Total	**120**	**100.0%**	**617**	**100.0%**

Small Business & Employees Distribution by Industry Code—Michigan

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	237	42.3%	1,528	40.8%
1389	Oil and gas field services	283	50.5%	2,062	55.1%
3533	Oil and gas field machinery	22	3.9%	74	2.0%
4512	Air transportation, scheduled	6	1.1%	16	0.4%
4522	Air transportation, nonscheduled	12	2.1%	64	1.7%
	Total	**560**	**100.0%**	**3,744**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Minnesota

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	15	14.2%	32	0.8%
1389	Oil and gas field services	73	68.9%	239	5.9%
3533	Oil and gas field machinery	10	9.4%	30	0.7%
4512	Air transportation, scheduled	5	4.7%	3,733	91.6%
4522	Air transportation, nonscheduled	3	2.8%	40	1.0%
	Total	**106**	**100.0%**	**4,074**	**100.0%**

Small Business & Employees Distribution by SIC Code—Mississippi

SIC 4 digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	189	38.80%	553	20.90%
1389	Oil and gas field services	271	55.60%	1951	73.80%
3533	Oil and gas field machinery	21	4.30%	112	4.20%
4512	Air transportation, scheduled	2	0.40%	10	0.40%
4522	Air transportation, nonscheduled	4	0.80%	16	0.60%
	Total	**487**	**100.00%**	**2,642**	**100.00%**

Small Business & Employees Distribution by Industry Code—Missouri

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	29	29.9%	101	18.2%
1389	Oil and gas field services	62	63.9%	429	77.2%
3533	Oil and gas field machinery	3	3.1%	23	4.1%
4512	Air transportation, scheduled	1	1.0%	2	0.4%
4522	Air transportation, nonscheduled	2	2.1%	1	0.2%
	Total	**97**	**100.0%**	**556**	**100.0%**

Small Business & Employees Distribution by Industry Code—Montana

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	115	39.1%	288	22.1%
1389	Oil and gas field services	164	55.8%	966	74.0%
3533	Oil and gas field machinery	4	1.4%	6	0.5%
4512	Air transportation, scheduled	2	0.7%	14	1.1%
4522	Air transportation, nonscheduled	9	3.1%	31	2.4%
	Total	**294**	**100.0%**	**1,305**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Nebraska

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	7	10.8%	28	8.7%
1389	Oil and gas field services	55	84.6%	238	73.9%
3533	Oil and gas field machinery	3	4.6%	56	17.4%
	Total	**65**	**100.0%**	**322**	**100.0%**

Small Business & Employees Distribution by Industry Code—Nevada

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	56	38.6%	220	34.9%
1389	Oil and gas field services	77	53.1%	254	40.3%
3533	Oil and gas field machinery	3	2.1%	6	1.0%
4512	Air transportation, scheduled	4	2.8%	39	6.2%
4522	Air transportation, nonscheduled	5	3.4%	111	17.6%
	Total	**145**	**100.0%**	**630**	**100.0%**

Small Business & Employees Distribution by Industry Code—New Hampshire

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	7	18.4%	70	18.2%
1389	Oil and gas field services	27	71.1%	81	44.5%
4512	Air transportation, scheduled	2	5.3%	14	7.7%
4522	Air transportation, nonscheduled	2	5.3%	17	9.3%
	Total	**38**	**100.0%**	**182**	**100.0%**

Small Business & Employees Distribution by Industry Code—New Jersey

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	26	16.0%	129	14.5%
1389	Oil and gas field services	104	63.8%	583	65.7%
3533	Oil and gas field machinery	10	6.1%	64	7.2%
4512	Air transportation, scheduled	5	3.1%	24	2.7%
4522	Air transportation, nonscheduled	18	11.0%	87	9.8%
	Total	**163**	**100.0%**	**887**	**100.0%**

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Small Business & Employees Distribution by Industry Code—New Mexico

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	126	17.0%	669	11.8%
1389	Oil and gas field services	572	77.1%	4,818	84.8%
3533	Oil and gas field machinery	37	5.0%	164	2.9%
4512	Air transportation, scheduled	1	0.1%	3	0.1%
4522	Air transportation, nonscheduled	6	0.8%	29	0.5%
	Total	**742**	**100.0%**	**5,683**	**100.0%**

Small Business & Employees Distribution by Industry Code—New York

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	95	24.1%	731	20.8%
1389	Oil and gas field services	256	65.0%	909	25.9%
3533	Oil and gas field machinery	13	3.3%	1,640	46.7%
4512	Air transportation, scheduled	16	4.1%	85	2.4%
4522	Air transportation, nonscheduled	14	3.6%	147	4.2%
	Total	**394**	**100.0%**	**3,512**	**100.0%**

Small Business & Employees Distribution by Industry Code—North Carolina

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	18	12.5%	42	8.3%
1389	Oil and gas field services	104	72.2%	403	80.1%
3533	Oil and gas field machinery	6	4.2%	7	1.4%
4512	Air transportation, scheduled	7	4.9%	3	6.0%
4522	Air transportation, nonscheduled	9	6.3%	21	4.2%
	Total	**144**	**100.0%**	**503**	**100.0%**

Small Business & Employees Distribution by Industry Code—North Dakota

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	41	15.5%	1,698	59.7%
1389	Oil and gas field services	211	79.6%	1,065	37.4%
3533	Oil and gas field machinery	12	4.5%	8	2.8%
4512	Air transportation, scheduled	1	0.4%	3	0.1%
	Total	**265**	**100.0%**	**2,846**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Ohio

SIC 4 Digit	Description	# of Small Businesses	% of Total Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	180	32.5%	1,797	38.3%
1389	Oil and gas field services	327	59.0%	2,035	43.4%
3533	Oil and gas field machinery	36	6.5%	826	17.6%
4522	Air transportation, nonscheduled	11	2.0%	33	0.7%
	Total	**554**	**100.0%**	**4,691**	**100.0%**

Small Business & Employees Distribution by Industry Code—Oklahoma

SIC 4 Digit	Description	# of Small Businesses	% of Total Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	947	32.2%	8,852	33.5%
1389	Oil and gas field services	1,774	60.4%	14,743	55.7%
3533	Oil and gas field machinery	211	7.2%	2,833	10.7%
4512	Air transportation, scheduled	2	0.1%	7	0.0%
4522	Air transportation, nonscheduled	3	0.1%	11	0.0%
	Total	**2,937**	**100.0%**	**26,446**	**100.0%**

Small Business & Employees Distribution by Industry Code—Oregon

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	18	16.7%	49	8.1%
1389	Oil and gas field services	60	55.6%	205	33.8%
3533	Oil and gas field machinery	6	5.6%	84	13.8%
4512	Air transportation, scheduled	7	6.5%	41	6.8%
4522	Air transportation, nonscheduled	17	15.7%	228	37.6%
	Total	**108**	**100.0%**	**607**	**100.0%**

Small Business & Employees Distribution by Industry Code—Pennsylvania

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	133	29.0%	2,274	36.8%
1389	Oil and gas field services	284	62.0%	3,188	51.6%
3533	Oil and gas field machinery	20	4.4%	286	4.6%
4512	Air transportation, scheduled	5	1.1%	9	0.1%
4522	Air transportation, nonscheduled	16	3.5%	420	6.8%
	Total	**458**	**100.0%**	**6,177**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Rhode Island

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	2	15.4%	7	20.6%
1389	Oil and gas field services	10	76.9%	25	73.5%
3533	Oil and gas field machinery	1	7.7%	2	5.9%
	Total	**13**	**100.0%**	**34**	**100.0%**

Small Business & Employees Distribution by Industry Code—South Carolina

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	12	17.1%	24	14.0%
1389	Oil and gas field services	44	62.9%	106	61.6%
3533	Oil and gas field machinery	7	10.0%	10	5.8%
4512	Air transportation, scheduled	7	10.0%	32	18.6%
	Total	70	100.0%	172	100.0%

Small Business & Employees Distribution by Industry Code—South Dakota

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	8	25.0%	29	28.2%
1389	Oil and gas field services	19	59.4%	62	60.2%
3533	Oil and gas field machinery	1	3.1%	2	1.9%
4512	Air transportation, scheduled	3	9.4%	9	8.7%
4522	Air transportation, nonscheduled	1	3.1%	1	1.0%
	Total	**32**	**100.0%**	**103**	**100.0%**

Small Business & Employees Distribution by Industry Code—Tennessee

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	38	29.2%	795	69.4%
1389	Oil and gas field services	80	61.5%	303	26.4%
3533	Oil and gas field machinery	8	6.2%	32	2.8%
4512	Air transportation, scheduled	4	3.1%	16	1.4%
	Total	**130**	**100.0%**	**1,146**	**100.0%**

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Small Business & Employees Distribution by SIC Code—Texas

SIC 4 digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	4491	37.00%	32511	29.00%
1389	Oil and gas field services	6661	54.90%	58476	52.20%
3533	Oil and gas field machinery	934	7.70%	20542	18.40%
4512	Air transportation, scheduled	19	0.20%	76	0.10%
4522	Air transportation, nonscheduled	35	0.30%	334	0.30%
	Total	**12,140**	**100.00%**	**111,939**	**100.00%**

Small Business & Employees Distribution by Industry Code—Utah

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	76	20.9%	301	9.3%
1389	Oil and gas field services	261	71.7%	2,589	79.6%
3533	Oil and gas field machinery	19	5.2%	280	8.6%
4512	Air transportation, scheduled	4	1.1%	58	1.8%
4522	Air transportation, nonscheduled	4	1.1%	24	0.7%
	Total	**364**	**100.0%**	**3,252**	**100.0%**

Small Business & Employees Distribution by Industry Code—Vermont

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1389	Oil and gas field services	14	82.4%	41	76.9%
3533	Oil and gas field machinery	1	5.9%	1	1.9%
4512	Air transportation, scheduled	1	5.9%	2	3.8%
4522	Air transportation, nonscheduled	1	5.9%	10	17.9%
	Total	**17**	**100.0%**	**54**	**100.0%**

Small Business & Employees Distribution by Industry Code—Virginia

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	34	17.7%	767	46.8%
1389	Oil and gas field services	131	68.2%	766	46.8%
3533	Oil and gas field machinery	15	7.8%	33	2.0%
4512	Air transportation, scheduled	1	0.5%	50	3.1%
4522	Air transportation, nonscheduled	11	5.7%	22	1.3%
	Total	**192**	**100.0%**	**1,638**	**100.0%**

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Small Business & Employees Distribution by Industry Code—Washington

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	24	13.4%	53	7.6%
1389	Oil and gas field services	114	63.7%	381	55.0%
3533	Oil and gas field machinery	12	6.7%	43	6.2%
4512	Air transportation, scheduled	14	7.8%	104	15.0%
4522	Air transportation, nonscheduled	15	8.4%	112	16.2%
	Total	**179**	**100.0%**	**693**	**100.0%**

Small Business & Employees Distribution by Industry Code—West Virginia

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	80	27.2%	235	18.4%
1389	Oil and gas field services	197	67.0%	989	77.4%
3533	Oil and gas field machinery	14	4.8%	46	3.6%
4512	Air transportation, scheduled	1	0.3%	6	0.5%
4522	Air transportation, nonscheduled	2	0.7%	2	0.2%
	Total	**294**	**100.0%**	**1,278**	**100.0%**

Small Business & Employees Distribution by Industry Code—Wisconsin

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	12	14.5%	51	19.5%
1389	Oil and gas field services	54	65.1%	128	49.0%
3533	Oil and gas field machinery	5	6.0%	14	5.4%
4512	Air transportation, scheduled	5	6.0%	28	10.7%
4522	Air transportation, nonscheduled	7	8.4%	40	15.3%
	Total	**83**	**100.0%**	**261**	**100.0%**

Small Business & Employees Distribution by Industry Code—Wyoming

SIC 4 Digit	Description	# of Small Businesses	% of Small Businesses	Total Employees	% of Total Employees
1382	Oil and gas exploration services	159	17.7%	672	12.8%
1389	Oil and gas field services	674	75.2%	4,027	76.9%
3533	Oil and gas field machinery	60	6.7%	524	10.0%
4512	Air transportation, scheduled	1	0.1%	2	0.0%
4522	Air transportation, nonscheduled	2	0.2%	9	0.2%
	Total	**896**	**100.0%**	**5,234**	**100.0%**

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2011 Impact Report of Southern Tornado Outbreak

Preliminary Business Impact Analysis for States Affected by Tornados

D&B

Decide with Confidence

The extreme tornado outbreaks which occurred in April 2011 in the central and southern states have caused widespread damage across the region. The direct and indirect economic impacts on the states most impacted by the tornado outbreaks are not yet fully known. The states hit the hardest by the tornados are Alabama, Georgia, Mississippi, and Tennessee. Dun and Bradstreet, the world's leader in business information and commercial insight, has prepared a preliminary analysis of the potential business impact.

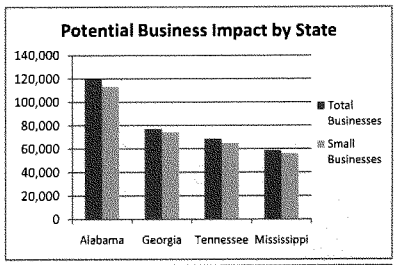
Analysis Methodology

D&B reviewed its database of over 195 million businesses to perform this preliminary analysis. We analyzed the impact to businesses, jobs, and sales volume as well as the financially stability of those businesses in the four states, along with key industries.

Business & Socio-Economic Impacts

This tornado season has the potential to impact **323,860 businesses** throughout AL, GA, MS, and TN, affecting **1,547,652 employees** and **$168 billion in sales volume**.

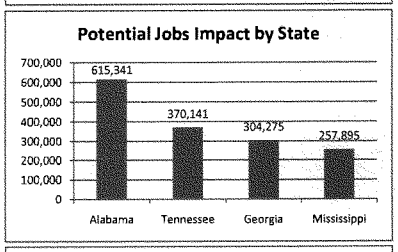
Of the 323,860 businesses, **307,921 or 95% are small business with less than 10 employees**.



Potential Business Impact by State

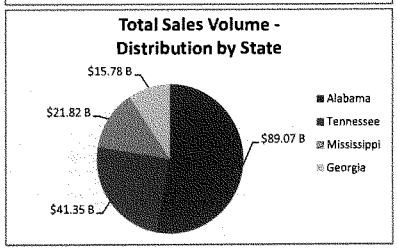
Of the **323,860 businesses** impacted in the four tornado outbreak states, about **37% are located in Alabama**. Tuscaloosa, AL was hit by a F5 ranked, mile-wide tornado on April 27. About **120,011 businesses** are located in Alabama, with **16,379 located in Tuscaloosa**.

About 94% or **113,008 businesses** in Alabama are small businesses with less than 10 employees. **74,020 businesses** (96%) in Georgia are classified as small, **64,759 businesses** (95%) in Tennessee, and **56,134 businesses** (96%) in Mississippi are also considered small.



Potential Jobs Impact by State

Of the **1.55M employees** in the four states, Alabama has nearly **615,341 employees**, or 40% of the total employees potentially impacted. Tennessee has about **370,141 employees**, Georgia has **304,275**, and Mississippi has **257,895 employees**.



Potential Sales Volume Impact by State

D&B found **53% ($89.07 Billion) of the total sales volume across all industries occurred in Alabama**, and about 25% occurred in Tennessee.

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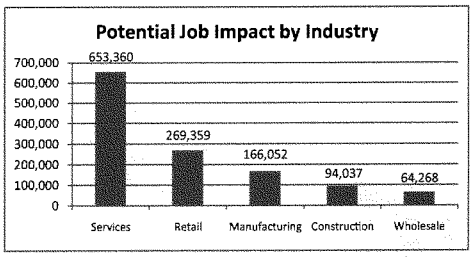
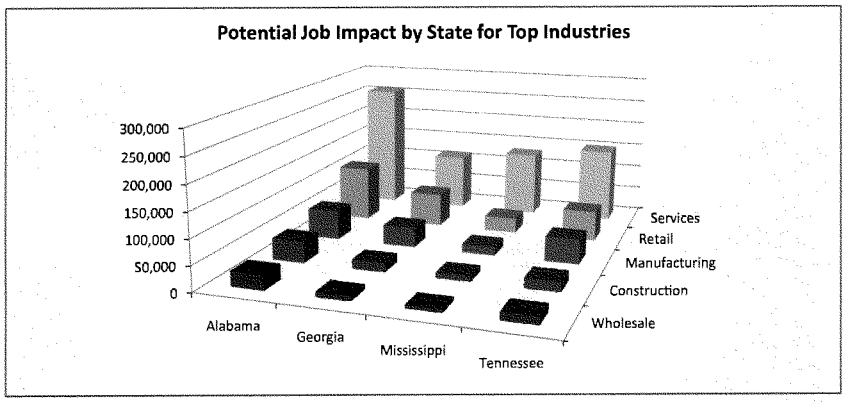
Potential Impacted Industries

The top five industries within the four states with the largest number of jobs that can potentially be impacted by the outbreak in tornados are **Services, Retail, Manufacturing, Construction and Wholesale.**

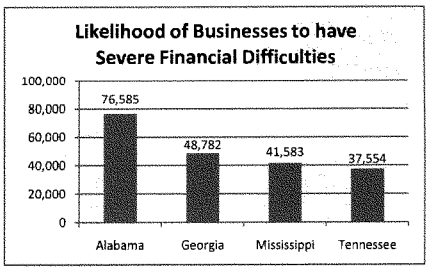
These industries have the highest representation in terms of the number of jobs. In these five lines of business alone, nearly **217,620 businesses, 1,247,076 employees**, and **$91.92 billion in sales volume** may be impacted by the tornadoes.





Likelihood of Businesses to have Severe Financial Difficulties

The D&B Financial Stress Score predicts the likelihood that a business will cease operations within the next 12 months. D&B found **204,504 businesses** within the four states were struggling prior to the tornadoes, making it increasingly difficult to recover from the tornado outbreaks. Because 95% of the total businesses are considered a small business with less than 10 employees, the majority of the 204,504 businesses with severe financial difficulties are also likely to be small businesses.



As the world's leading information provider for 170 years, D&B works with 95% of the Fortune 1000 companies. For over 30 years, D&B has worked with most Federal and state governments to help achieve their agency missions. For a more in-depth impact analysis on the outbreak of tornados, D&B can provide demographic analysis of affected entities (businesses & individuals), conduct geo-impact of the crisis (by State, Region, County, City, etc.), and model knock-on effects.

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2010 Deepwater Horizon Oil Spill

Preliminary Business Impact Analysis for Coastal Areas in the Gulf States

Since the Deepwater Horizon oil rig explosion in the Gulf of Mexico on April 21, 2010, the emphasis has been on capping the oil well and protecting the shoreline. The immediate environmental impact is clearly visible. However, the direct and indirect economic impacts in the coastal areas of the five Gulf States are not yet fully known. Dun and Bradstreet, a world leader in business information and commercial insight, has prepared a preliminary analysis of the potential economic impact.

Analysis Methodology

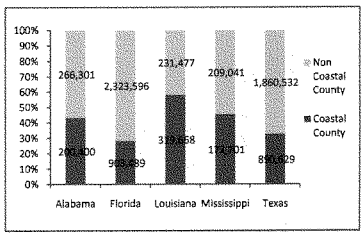
D&B reviewed its database of over 167 million businesses to perform this preliminary assessment. We analyzed the number of businesses, employees, and sales volume in coastal areas in the five Gulf States and along key industry lines.

Business & Socio-Economic Impacts

The oil spill has the potential to impact ***7.3M active businesses*** throughout AL, LA, FL, MS, and TX, affecting ***34.4M employees*** and ***$5.2 Trillion in sales volume***.

D&B found that **34% of the 7.3M businesses are located in the coastal counties** in AL, LA, MS, TX, and the Gulf Coast of Florida. Louisiana has the highest percentage (58%) of businesses in a coastal area.

Furthermore, of the 7.3M active businesses in the five Gulf States, **81% or 5.9M are small businesses with less than 10 employees.**



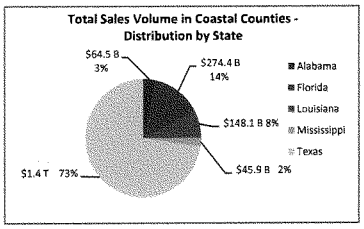
Potential Jobs Impact by State

Of the 34.4M employees in the five Gulf States, nearly **36% are tied to businesses located in coastal counties.** At a state level, **Louisiana has the highest proportion of its total employees in coastal counties**. The unemployment rates in some of the Gulf States are running above the national 9.9% average. Although people directly impacted by the oil spill may find immediate employment in clean-up efforts, the long term impacts to the unemployment rates in these states could be detrimental.

	Coastal County	% in Coastal County	Non Coastal County	Total	April 2010 Unemployment Rate[1]
Alabama	1,067,254	41%	1,530,343	2,597,597	11.0%
Florida	3,652,574	28%	9,554,446	13,207,020	12.0%
Louisiana	1,831,239	64%	1,037,482	2,868,721	6.7%
Mississippi	726,828	44%	930,645	1,657,473	11.5%
Texas	5,014,305	35%	9,151,828	14,166,133	8.3%
Grand Total	12,292,200	36%	22,204,744	34,496,944	9.9%

Impact on Sales Volume by State

D&B found **37% ($1.951 Trillion) of the Total Sales Volume across all industries in the Gulf States occurs in coastal counties**, with 8% ($148 Billion) tied to the coastal counties in Louisiana.



[1] Bureau of Labor Statistics (www.bls.gov) June 2, 2010.

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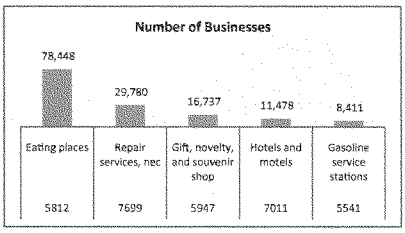
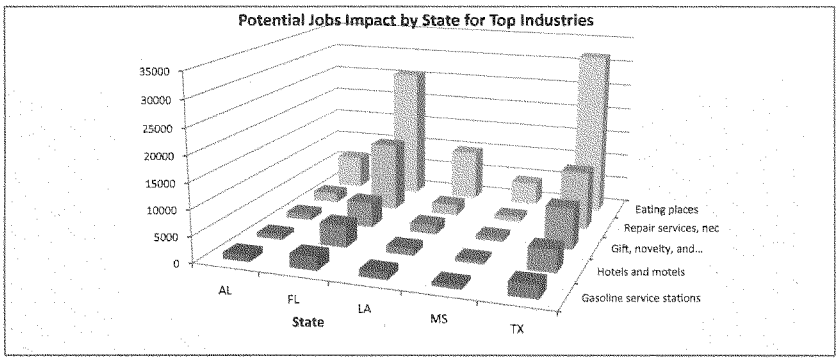
Impacted Industries

D&B analyzed 50 Industry Classifications (SIC Codes) related to Tourism, Fishing, Oil, Marine/Boating, and Transportation in the coastal counties of the five Gulf States.

Eating Places, Repair Services, Gift and Novelty Shops, Hotels and Motels, and Gasoline Service Stations lines of business have the highest representation in terms of the number of businesses and total employees. In these five lines of business alone, **nearly 145,000 businesses and close to 1M employees may be impacted by the oil spill.**



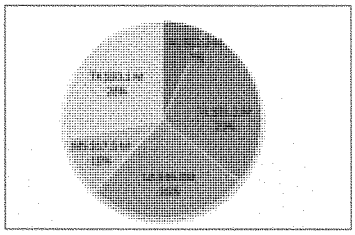


Sample Fishing Industry Impact

Nearly 78,264 square miles (32.3% of the Gulf of Mexico federal waters) have been closed to fishing[2] and as a result, **at least 1,034 businesses may be impacted**. Catching of Crab and Shrimp, Finfish, Fish hatcheries & preserves, and Shellfish represent **$177.2M in sales volume.**

Number of Businesses by State

Industry	AL	FL	LA	MS	TX	Total
Crabs, Catching of	0	13	10	1	0	24
Finfish	9	69	56	8	18	160
Fish Hatcheries & preserves	21	99	26	22	36	204
Shellfish	31	102	147	37	58	375
Shrimp, catching of	23	43	72	10	111	259
Total	**84**	**329**	**315**	**78**	**228**	**1034**



Sample Fishing Industry Sales Volume by State

[2] National Oceanic and Atmospheric Administration (noaa.gov) June 2, 2010.

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GULF CITIZENS UNITED—POST HEARING STATEMENT
"THE DEEPWATER DRILLING MORATORIUM: A SECOND ECONOMIC DISASTER FOR SMALL BUSINESSES?"
SENATE COMMITTEE ON SMALL BUSINESS & ENTREPRENEURSHIP
JULY 27, 2010

Gulf Citizens United (GCU) is a coalition of local chambers of commerce, trade associations, civic groups, local government associations, non-profits and citizens' groups formed in response to the moratorium imposed on oil and gas drilling in the Gulf of Mexico. Faced with the prospects of losing tens of thousands of jobs, hundreds of millions of dollars in economic activity, and greater reliance on foreign sources of energy supplies, GCU was formed to help get the message out that the moratorium will have negative and long-lasting impacts for the Gulf States and the nation.

The economy of any region is an organic entity. In good times, as businesses prosper, they pull other businesses up with them in a surge of profitability and job growth. When key industries are imperiled, they bring other business down with them as economic activity decreases and jobs disappear. Louisiana went through a decade of economic devastation in the 1980s when the oil industry collapsed. The impact wasn't felt only by drilling companies and their suppliers. Highly trained professionals, banks, restaurants, and small businesses of every variety faced hardship for years. Residents moved away by the tens of thousands.

Now Louisiana is faced with its biggest economic danger since the oil and gas recession of the '80s. The danger comes not from distortions in the economic cycle but from a federal government policy that is an overreaction to a tragic incident. If this moratorium on drilling continues much longer, thousands of jobs will be lost unnecessarily; families will suffer undue hardships; and state and local governments—already experiencing huge budget problems—will see vital revenues disappear and will be forced to further curtail government services.

Equally troubling is the fact that the U.S. will be forced to import more foreign oil, since 30 percent of our country's crude oil supply comes directly from Gulf of Mexico exploration and production. The moratorium is a bad deal for the Gulf region and an equally bad deal for the nation as a whole. GCU is committed to ending this unnecessary disruption of the Gulf economy and U.S. energy supplies.

I. ECONOMIC IMPLICATIONS FOR LOUISIANA

President Obama's announcement of the "moratorium" on May 27, 2010, sent shock waves throughout Louisiana and the Gulf Coast. The utterance triggered remembrances of the 1980s oil bust. Those were the days when oil and gas companies were flattened by plummeting prices for oil, taking down with them virtually every business along the southern parts of the coast, particularly in Louisiana.

A synonym for "moratorium" is "death spiral." Making it impossible to explore for and produce oil and natural gas, whether it be by governmental dictate or by economics, the outcome is virtually the same: businesses go broke; employees get laid off; car notes are unpaid; homes get repossessed; families are dislocated; outmigration is uncontained; and trained workers are lost to other jobs and communities. As businesses close and taxpayers leave their communities, tax collections drop, and state and local governments no longer have the financial resources to educate their children, protect their streets, or maintain an infrastructure.

People in Louisiana know this death spiral is real; they or their families have experienced it before. As the Los Angeles Times reported with David Maraniss' 1990 visit to the oil states, "When oil prices plummeted in 1986, the effects went far beyond the energy industry, shaking the economic, academic, cultural and social foundations of an entire region.

"Texas lost 230,000 jobs. Louisiana lost 9% of its (non-agricultural) work force, larger than the national percentage during the Great Depression. Libraries closed in New Orleans. Scores of nationally renowned professors fled Louisiana State University, and prestigious faculty chairs at the University of Texas and Texas A&M went unfilled. Teachers in Oklahoma and Texas suffered through years of low pay and salary cuts....(NOTE: Between 1981 and 1987, Louisiana employment in oil and gas extraction dropped by more than half.)

"Texas, Oklahoma and Louisiana, overly dependent on oil and gas royalties and mineral taxes for state revenues, essentially went bankrupt....Louisiana hit bottom May 12, 1988, when the state had an accumulated deficit of $1.3 billion and failed to meet its payroll." (1)

Maraniss went on to quote the chief economist for the Texas comptroller's office who said, "Fewer rigs and shrinking work forces meant less in taxes." (1) In oil and gas-dependent states, governments cannot provide the services to their constituents when rigs and rig-workers aren't drilling.

Another non-drilling industry throughout the southwest United States was in peril during the 1980s, the banking industry. Louisiana had 70 bank failures from 1980 to 1994, a loss of $4.1 billion in assets, or 17.4 percent of the total. (2) Agriculture was also another little-mentioned casualty: the FDIC reported that agricultural problems were compounded by the fact that by 1986 "farmers could no longer count on receiving oil and gas royalties to supplement their income: when the price of oil plummeted, many drillers abandoned wells they had formerly operated on farmers' spare acreage." (2) The ripple effects negatively hit rural town merchants.

The FDIC detailed the death spiral from the layoffs which begin in the oil fields, then to losses in related jobs such as geologists and engineers; next to service companies, not only oil-related companies, but also motels, restaurants, and grocery and clothing stores. With the outmigration, new construction of apartments and offices collapse causing thousands of construction jobs to be lost. The oversupply of single-family houses is accompanied by a sharp drop in prices, and home resale prices fall.

Gulf Coast residents and businesses do not want to see history repeat itself because of a moratorium or a *de facto* moratorium caused by strident, unpredictable regulatory policies. They fear what numerous economic studies have already reported about the impact of the spill, but even more so about the impact from the moratorium. Although there are significant variances in the predicted job losses, there is gloom in each and every report.

- LSU's **Center for Energy Studies** (**CES**) reports that the oil and gas industry employs over 200,000 workers in the Gulf Coast region, with an additional 100,000 workers are associated with offshore activities throughout the region. (3)

- **CES** predicts that the moratorium's negative impact on employment in south Louisiana parishes could be very large for individual parishes. Lafayette would have the largest share of the total at 38.44%, followed by Terrebonne at 14.34%; St. Mary at 8.16%; Jefferson at 5.9%; Lafourche at 5.57%; and Iberia at 5.27%. Over three-fourths of the impact (77.6%) will be borne by these six south Louisiana parishes.

- Factoring in length of the moratorium, and the potential of moratorium plus permitting delays, **CES** says the potential negative impact on Louisiana jobs only ranges as high as 13,719, but generally between 9,000 and 11,000.

- Dr. Joseph **Mason**'s July, 2010, economic study "indicates that under the administration's six-month moratorium, set to last until Nov. 30, the Gulf Coast region will lose more than 8,000 jobs, nearly $500 million in wages, over $2.1 billion in economic activity, and nearly $100 million in state and local tax revenue. Taking into account the effects outside of the Gulf Coast, the moratorium will cost the United States 12,000 jobs and nearly $3 billion, including almost $200 million in federal tax revenues." (10)

- Dr. **Mason** goes on, "If the moratorium lasts six to 12 months longer, as many pundits expect, some 36,000 jobs could be lost across the country. Under the worst case scenario—a permanent moratorium on all oil and natural gas production in the Gulf of Mexico—nationwide economic losses would exceed $95 billion and more than 400,000 jobs." (10)

- **Moody's Analytics** predicted: "The potential for even greater economic damage to Louisiana's economy (than the spill) stems from President Obama's six-month moratorium on new offshore drilling. The oil and gas industry infrastructure accounts for a large share of the state's GDP—up to 20% in some metro areas near the Gulf coast. Though the number of jobs directly associated with the oil and gas industry is not enormous, it is estimated than many thousands more depend on this industry. (4)

- The **Louisiana Mid-Continent Oil and Gas Association (LMOGA)** suggests that the impact on jobs could be as high as 800-1,400 jobs per idle rig platform. (5)

- Average wages for rig jobs are $1,804 per week; each idle platform has a potential of lost wages of over $5 to $10 million per month.

- **CES** reports that the oil and gas industry contributes almost $100 billion to Gulf Coast states' gross domestic product. (3)

- **LMOGA** calculates that suspension of operations of the 33 drilling rigs will be idled for six months or longer, at a cost to companies of $250,000 to $500,000 per day, per rig, or $8.3 to $16.5 million per day in idle risk costs. (5)

- Thus, unproductive investment in these rigs yields a negative contribution to the region's gross domestic product.

Move Forward Now, a coalition of numerous southeast Louisiana business organizations, provides (6) what it believes to be a conservative summary of the economic impact of the moratorium on Louisiana:

	Best Case (18 mo.)	Worst Case (48 mo.)
Lost Louisiana Jobs	12,500	21,900
Lost Tax Revenue (State & Parish)	$151,659,000	$702,821,000
Lost MMS Royalties	$ 11,891,000	$40,028,000
Lost Toll Collection (Hwy 1)	$ 8,208,000	$39,398,000

At the July 27, 2010 hearing of the Senate Committee on Small Business and Entrepreneurship, Dun & Bradstreet Vice President, Ethan Treese, testified that the company had profiled the five Gulf Coast states, identifying small business related to oil and gas exploration services, field services and field machinery, as well as air transportation, and then classified them as to the "small business" definition. He said, "There are at least 16,580 businesses in the five Gulf States that could be impacted by a moratorium," and 98% meet the small business definition; but also 85% have fewer than 10 employees. "These businesses employ 153,502 individuals, with over 95% of them located in Texas and Louisiana." Hardest hit would be Texas at 74.8%, followed by 17.4% in Louisiana. However, Treese noted, "In Lafayette Parish alone, 780 businesses employing close to 10,500 people could be impacted." (It should be noted that the D&B testimony did not extend to any indirect negative impacts, only those direct impacts on the oil and gas service industry.)

Perhaps the most dire predictions come from **IHS Global Insight's** special report on the impact of the independent driller in the Gulf of Mexico: IHS attempts to quantify the economic contributions from the oil and gas activity in the Gulf, and it focuses on the increasing role of the independent producer. Using 2009 as a base year for the four-state Gulf region, IHS there would have been 202,503 jobs lost (direct, indirect and induced). That figure would grow to 289,716 by 2015, and even higher to 300,974 by 2020. (11)

Further, **IHS** predicts lost construction-related jobs in the region to be 40,777 over the decade. Meanwhile, lost taxes and royalties to the federal government will rise from $7.34 billion to $10.13 in 2015, and state and local tax revenues will be lost throughout the region. "Altogether, more than $147 billion in federal, state, and local revenues would be lost over a 10-year period if independents are excluded from the Gulf of Mexico." (11)

II. ECONOMIC IMPLICATIONS FOR THE NATION

While short-term economic implications of the moratorium and the regulatory stranglehold are greatest for Louisiana and the Gulf Coast, long-term implications are severe for the nation as a whole.

The **National Association of Counties** adopted a resolution urging that the moratorium on deep-water drilling be lifted. As part of that resolution, the NACo cited **CES** figures of oil and gas production in the Gulf and stressed the need for those secure supplies nationwide: (7)

- 33% of the nation's domestic oil comes from the Gulf of Mexico. 80% of the oil and 45% of the natural gas coming out of the GOM is from deep-water drilling operations in more than 1,000 feet of water.
- **CES** added that in 2008, over 420 million barrels of oil and 2.4 trillion cubic feet of natural gas were produced in the GOM to provide oil and gas supplies throughout the United States.

Petroleum products can and should remain a major energy source and feedstocks for thousands of consumer products. "The Department of Energy's Energy Information Administration (**EIA**) projects that daily petroleum production will rise 18 percent between 2010 and 2035 and that daily production from offshore wells (in the lower 48 states) will rise by over 40 percent. EIA also predicts that offshore drilling will supply significant increases in natural gas production. While total natural gas production will rise 16 percent over the same period, offshore production of natural gas will rise 63 percent, at which time it will be nearly a fifth of total domestic production." (8)

These projects and projections for reserves can come only if the offshore drilling ban is lifted and drilling is encouraged rather than discouraged. **Kreutzer's Heritage Foundation** report goes on to give specific implications through 2035 if the ban were to remain in effect:

- GDP will be reduced by $5.5 trillion;
- Average consumption expenditures for a family of four will be reduced by $2,381 per year (and exceeding $4,000 in 2035);
- Job growth will be reduced by more than 1 million jobs by 2015 and more than 1.5 million jobs by 2030; and
- Total expenditures for imported oil will increase by nearly $737 billion. (8)

President Obama announced on January 26, 2009:

> *America's dependence on oil is one of the most serious threats that our nation has faced. It bankrolls dictators, pays for nuclear proliferation and funds both sides of our struggle against terrorism. It puts the American people at the mercy of shifting gas prices, stifles innovation, and sets back our ability to compete.*

It will be the policy of my administration to reverse our dependence on foreign oil while building a new energy economy that will create millions of jobs.

Raymond James, answering "Will the moratorium make the U.S. more dependent on oil imports?" said, "In addition to the job losses and GDP reduction, the deepwater moratorium will—by definition—reduce domestic oil production and therefore make the country more dependent on imported oil." Assuming that the deepwater drilling ban lasts 12 months, the report went on to predict that there would be a 30% deepwater decline rate. "If anything, actual decline rates are probably higher given the quality of these reservoirs." (12)

Carrying the question to its full extent—What does this mean for the U.S. trade deficit?—**Raymond James** opined that the trade deficit would increase by about $65 billion, or 17%, and "it's safe to say that nearly all of these incremental imports would come from OPEC, reducing its excess capacity accordingly and therefore putting some upward pressure on prices." (12)

Simply stated, <u>any effort to decrease American reliance on imported foreign oil will fail if deep-water and shallow-water drilling is limited.</u>

The earlier-referenced **Heritage Foundation** report also predicts that, "Because oil trades on world markets, this lost domestic production would cause world oil prices to rise—compounding the cost of the increased imports. The losses mount slowly, which means that the impact on oil prices and import costs will also mount slowly. The additional imported-oil cost exceeds $25 billion per year by 2018 and rises to over $45 billion per year by 2035." (8)

The **Heritage Foundation** report also predicts that the ban "would likely lead to natural gas price increases of 10 percent by 2015, 23 percent by 2020, and 45 percent by 2035."

"Since energy is a critical input for so many things, raising its cost will increase production costs throughout the economy. Though producers will pass most of the costs on to consumers, consumers will not be able to buy as much at these higher prices. Therefore, the higher energy prices cut the demand for all the other inputs, such as labor. As the higher costs for petroleum and natural gas ripple through the economy, there may be a few bright spots (such as suppliers of more energy-efficient capital goods), but the overall impact is decidedly negative." (8)

American consumers should be reminded that thousands of products are available to them as a result of petroleum extraction and refining. Ranken Energy Corporation provides a partial list of products made from petroleum, everything from automobile products, pesticides and insecticides, fabrics, paints, antiseptics and pharmaceutical products, plastics and synthetic rubber products, cosmetics and personal hygiene products, and countless items for convenience and entertainment. Ranken contends that one 42-gallon barrel of oil creates 19.4 gallons of gasoline, with the remainder of the product being used to create thousands of products for daily living. (9)

The American public as a whole will be negatively impacted if the moratorium and *de facto* moratorium are allowed to continue, discontinuing drilling for new petroleum supplies in the Gulf of Mexico. American energy security will be threatened, because imports will increase to meet demand. The American economy will suffer because of

higher energy prices. American consumers will bear the burden of higher costs of goods and services. Many state and local governments will find their tax bases insufficient to meet the needs of their citizens as jobs dry up, workers are dislocated, and property values decline.

III. CONCLUSION

For the economic health of the states along the Gulf Coast as well as the nation, the moratorium on offshore deep-water drilling should be immediately lifted. Additionally, a structured and predictable procedure for permitting both shallow-water and deep-water drilling must be immediately implemented.

The moratorium is a disaster for the Gulf Coast economy and a huge potential impediment to the security of the nation's energy supplies.

(1) "Texas, Oklahoma and Louisiana Make Slow Comeback from '86 Oil Bust," David Maraniss. *Los Angeles Times*. November 18, 1990.
(2) *History of the Eighties—Lessons for the Future. An Examination of the Banking Crises of the 1980s and Early 1990s.* Federal Deposit Insurance Corporation. Volume 1.
(3) David E. Dismukes, Ph.D., LSU Center for Energy Studies. "*Deepwater Moratorium: Overview of Impacts for Louisiana (June 25, 2010).*
(4) "Special Report: Economic Impact of the Gulf Oil Spill," Marisa Di Natale. Moody's Analytics. July, 2010
(5) "Impacts of President Obama's Order Halting Work on 33 Exploratory Wells in the Deepwater Gulf of Mexico." Louisiana Mid-Continent Oil and Gas Association. www.lmoga.com
(6) "Coalition Platform." Move Forward Now. June 17, 2010.
(7) National Association of Counties, Annual Conference. Proposed Resolutions and Platform Changes. July 18, 2010.
(8) "The Economic Impact of an Offshore Drilling Ban," David W. Kreutzer, Ph.D., and John Ligon. *Heritage Foundation Web Memo*. July 1, 2010.
(9) Ranken Energy Corporation. www.ranken-energy.com.
(10) "The Economic Cost of a Moratorium on Offshore Oil and Gas Exploration to the Gulf Region," Joseph R. Mason, Ph.D. July, 2010. And "Congress's Hugo Chavez Bailout Bill," Joseph R. Mason. *The Wall Street Journal*. July 30, 2010.
(11) "The Economic Impact of the Gulf of Mexico Offshore Oil and Natural Gas Industry and the Role of the Independents," IHS Global Insight (USA), INC. July 21, 2010.
(12) "Obama's Deepwater Moratorium: How Painful Will the Macroeconomic Impact Get?" J. Marshall Adkins, Pavel Molchanov and Cory Garcia. Raymond James, U. S. Research.

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