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Update of the Census for Lea County: The Economic Context

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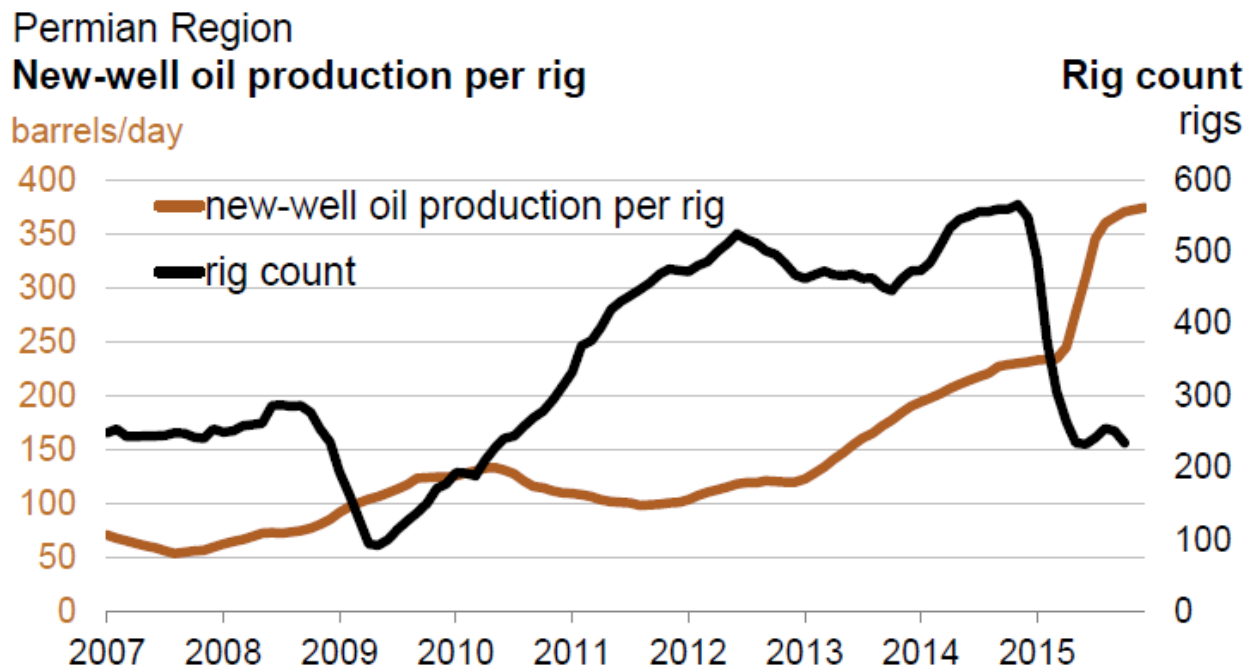
Bureau of Business & Economic Research
THE UNIVERSITY of NEW MEXICO

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Executive Summary

The Lea County economy had a dazzling run after 2010, but the high oil prices which put the economy into high gear are gone, with the West Texas Intermediate spot oil price back down in the neighborhood of \$40 per barrel. Many producers had entered into hedging contracts that guaranteed high prices well into the future, so the collapse of oil prices did not immediately slow production, although rig counts and drilling activity did fall off and the contracts have come due. Lea County in the Permian Basin is a low cost area with abundant reserves. Drilling and other activities over the past few years have increased dramatically the productivity of individual oil reservoirs. In this period of lower prices, the county and the Permian Basin more generally seem to have attracted interest and investment as major companies were pulling out of more costly tight oil plays in North Dakota and elsewhere. Figure ES.1 pretty much captures the changing reality for oil in the Permian Basin and Lea County over the recent past. What distinguishes the Permian is the fact net oil production (from legacy wells as well as new) has continued to increase. Gas production is also up slightly, although prices for natural gas have continued to fall, with the Henry Hub spot price now in the neighborhood of \$2.00 per MMBTU.

Figure ES.1



Source: Department of Energy, Energy Information Agency, *Permian Region Drilling Productivity Report*, November 2015.

Economic activity in Lea County has slowed a bit and may be expected to slow further, but the economy is today significantly more diversified, with nuclear energy (Urenco , which has just completed a major upgrade at the National Enrichment Facility in Eunice and with the promise of future investments by International Isotopes and Moly 99), and alternative energy investments (Joule and other biodiesel as well as solar and wind facilities). Moreover, Lea County and Hobbs in particular continue to flourish as a retail and commercial center for the larger region. In terms of new economic base industries, International Continental is proceeding with plans for a \$1 billion investment in a major potash mine and processing facility near Jal, while Intrepid is expanding its operations into western Lea County. Meanwhile there are efforts to improve the oil and gas infrastructure through major investments in transload facilities and in both an oil refinery and a gas plant. All these new investments look toward the future and the timing could not be better. The oil boom and recent construction to upgrade the NEF as well as a slew of housing and infrastructure improvement projects have strained the available workforce. In this situation, many employers surveyed indicate “finding good workers and keeping them” as their number one challenge. In this environment a temporary slowdown in oil provides space to undertake other projects.

There is other good news. Lea County has been losing its health care workforce but there are now a number of plans in the works to increase facilities and to bring more providers into Lea County. For example, NorLea Hospital District has entered into contracts which will bring physician specialists into their facilities on a regular basis. Although not nearly sufficient to meet future needs, significant investments, public and private, have been made to improve the housing situation by increasing the stock of both single and multifamily homes.

BBER is projecting future job growth at minimum to average close to 1% annually. A more likely scenario sees investments in the major projects briefly discussed above with job growth averaging in the 3 to 5% range from 2016 through 2019, and in the absence of new projects , slowing to 2% in 2020.

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Among our students, very special thanks are owed to our undergraduate research assistant Alison Turner, who helped pull together data from a variety of sources in the early stages of the project and who took prime responsibility for analyzing the results of the business survey and for preparing the tables that appear in the report.

Finally, we wish to express our appreciation to the Lea County Community Improvement Corporation (LCCIC) and to the JF Maddox Foundation for providing the financial and other support necessary to do this research. Particularly helpful were our meetings, some in person, some on line, with members of the LCCIC. Thanks go to Dr. Bob Reid, Executive Director of the JF Maddox Foundation for his encouragement of our research. We are particularly indebted to Dennis Holmberg for starting the conversation that led to this project and for the critical assistance he provided at every step along the way. He provided copies of newspaper articles and studies of interest; he graciously showed us around, giving us the benefit of his own in-depth knowledge of the area and his insights into the community and the economy; he opened doors, handled arrangements, set up meetings with key stakeholders, and arranged for presentations, so that we would get feedback and thus deepen our understanding. Thank you, Dennis for your patience and understanding, your excellent questions and your continuing encouragement of our work.

In addition to Dennis, however, we would like to thank the many individuals who patiently explained what was going on in Lea County and answered our many questions. Particular thanks go to Melinda Allen CEO of the Economic Development Corporation of Lea County, who gave us an amazingly detailed "briefing" at the beginning of this project and who continued to be the go-to-person for any questions regarding present and future developments in Lea County. We would also like to acknowledge the assistance provided by Gregg Fulfer, who wears many hats and seems to know in detail what is happening around Lea County, where he is currently Chair of the County Commission. Also extremely helpful were Bob Gallegher, Interim City Manager, Jal, Lisa Hardison, Director of Community Relations and Marketing, Urenco USA, Chris Herbert, Executive Director, Region VI Housing Authority, Ben Jaime, Xcel Energy Community Service Manager, David Shaw, Nor-Lea Hospital District, Steve McCleery, President, NM Junior College, Marty Moore, City Manager, Eunice, Robert Rhodes, NM Junior College

Workforce Training, Marilyn Burns, Mayor, Town of Tatum. We want to thank all those who responded to our phone calls as well as those who took the time to respond to our email survey.

Throughout this research, we have tried to understand Lea County on its own terms. We have carefully analyzed the data but we have sought to get behind the data, testing out our ideas and our findings by talking with many people. While many have helped us develop our understanding, we assume responsibility for any errors.

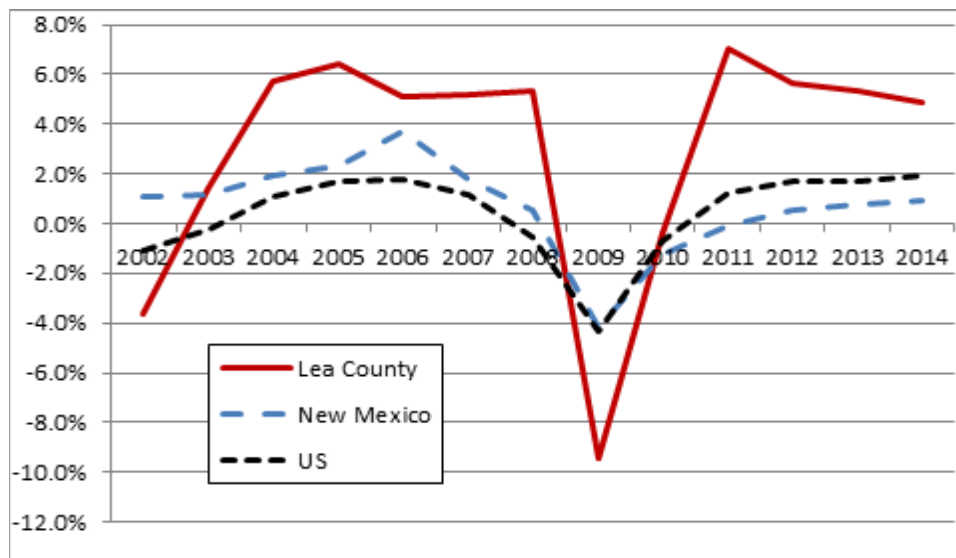
Lee A. Reynis

Lea County Economy

Introduction

Lea County's recovery and surging growth since the Great Recession is noteworthy. As **Figure 1.1** illustrates, Lea Co. has considerably out-performed the US as well as New Mexico in job growth. The details on job growth by sector may be found in Appendix A, which also presents data on employment within Lea County municipalities and Census Designated Places and, more meaningfully, Lea County Census County Divisions (CCDs).

Figure 1.1. Percentage Growth in Total Nonfarm Employment: Lea County, New Mexico, US



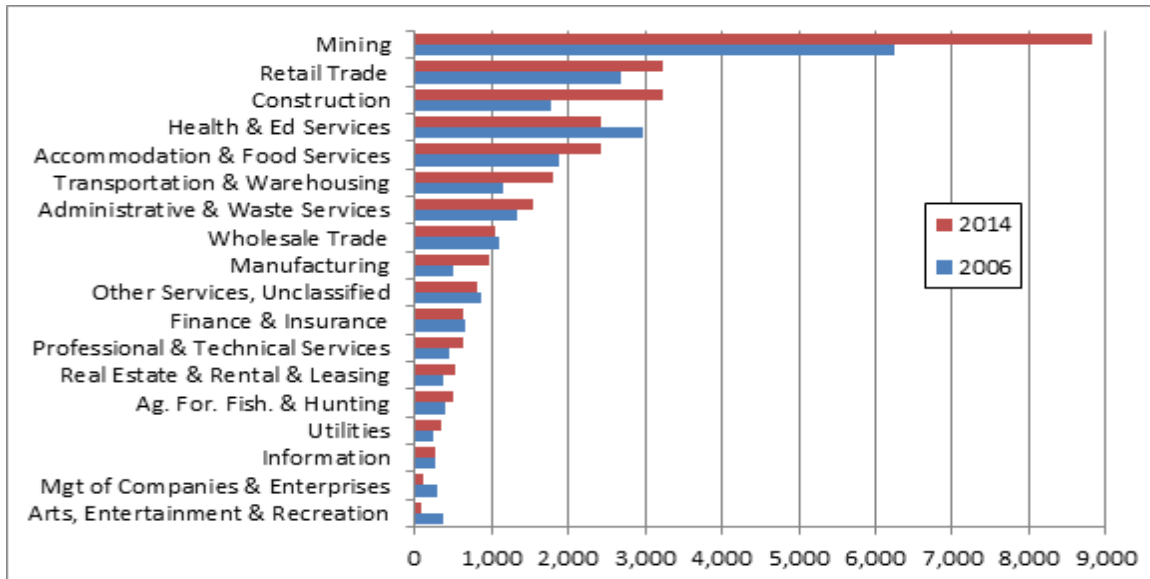
Source of data: *Quarterly Census of Employment and Wages*

A trip to Lea County in March, 2015, found Hobbs a changed place since 2007. The downtown facelift, then in progress, has done its magic and there are many attractive office buildings and other structures. Even with the now low oil prices, the town is a buzz of activity and new construction and has a sense of vibrancy. There are many more stores and hotels and restaurants, mostly national chains, although some local restaurants, including the excellent Pacific Rim, continue to thrive. Hobbs, with less natural amenities, has invested well in parks and recreational facilities, and the area appears to be well served by museums and its two higher educational institutions.

Lea County has aggressively pursued a strategy of diversifying its economy. Back in 2006-07 emphasis was on creating an "Energy Corridor" in the Lea County area that would emphasize alternative energy, specifically nuclear with the opening of the Uranium Enrichment Facility in Eunice, but also bio-diesel and alternatives to coal, like

natural gas, solar and wind. While this strategy is bearing fruit, what has put Lea County on the map is once again oil. **Figure 1.2** provides a telling comparison of jobs by industry in 2014 and 2006, when BBER was just beginning their previous study. Overall and between 2006 and 2014, employment increased by 6,643, or 25%. Growth is evident in many sectors but, as can be seen in **Figure 1.2**, the major source of private sector growth has been the close to 2,600 jobs added over the period in mining and extractive industries. Second place goes to construction, which added almost 1,500 (1,457) jobs, followed by transportation and warehousing (655), retail (535), and accommodation and food services (530). Much of the growth in these sectors is related directly or indirectly to what has been happening in the oil industry. The biggest decline over the period was in health care and education (533), calculated as residual since numbers for neither sector were disclosed in 2006.

Figure 1.2. Composition of Lea County Covered Private Employment, 2006 and 2014



Return visits to Lea County in October 2015 find signs that the economy is less buoyant. It was easier and less expensive to book a hotel room and the hotel itself seemed virtually empty. Gone was the deal-making over breakfast that had so charged the atmosphere in March. A trip to a good restaurant for lunch, however, found the place still hopping. Appendix B examines the emerging evidence of a slowdown in the Lea County economy.

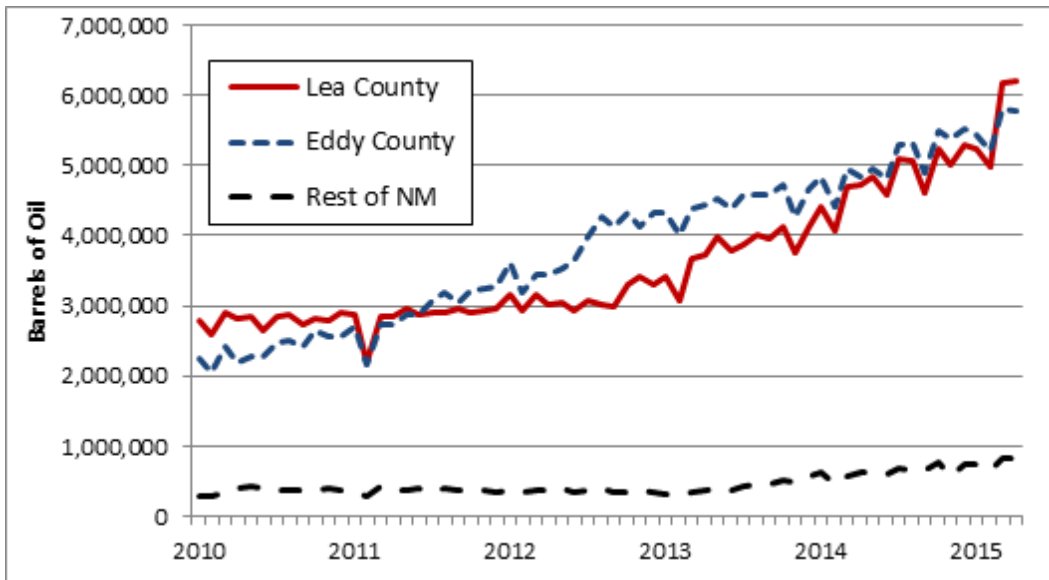
The Oil and Gas Industry and the Lea County Economy

The oil and gas industry has long dominated the economies of southeastern New Mexico. **Figure 1.3** presents the latest data on oil production for Lea County, Eddy County and the rest of New Mexico. Note that Lea County had slipped a bit behind Eddy

County as the number one oil-producing county in the state but that gap largely disappeared in 2014. Note also that Lea County has moved into first place again in 2015, with production rising despite lower oil prices.

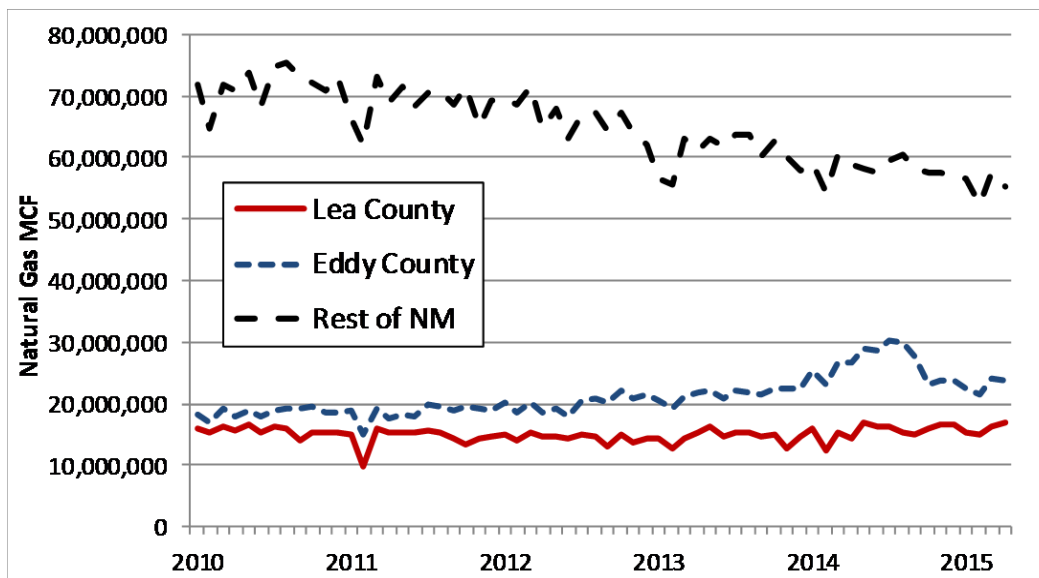
Figure 1.4 presents a similar analysis for natural gas. The San Juan Basin dominates New Mexico’s gas industry but Lea and Eddy County each have a significant natural gas industry. Note that Eddy County’s production exceeds that of Lea County. The gap, which had been growing, has narrowed recently.

Figure 1.3. Oil Production in Lea and Eddy Counties and the Rest of New Mexico



Source: NM ONGARD Database

Figure 1.4. Natural Gas Production in Lea County, Eddy County and the Rest of NM

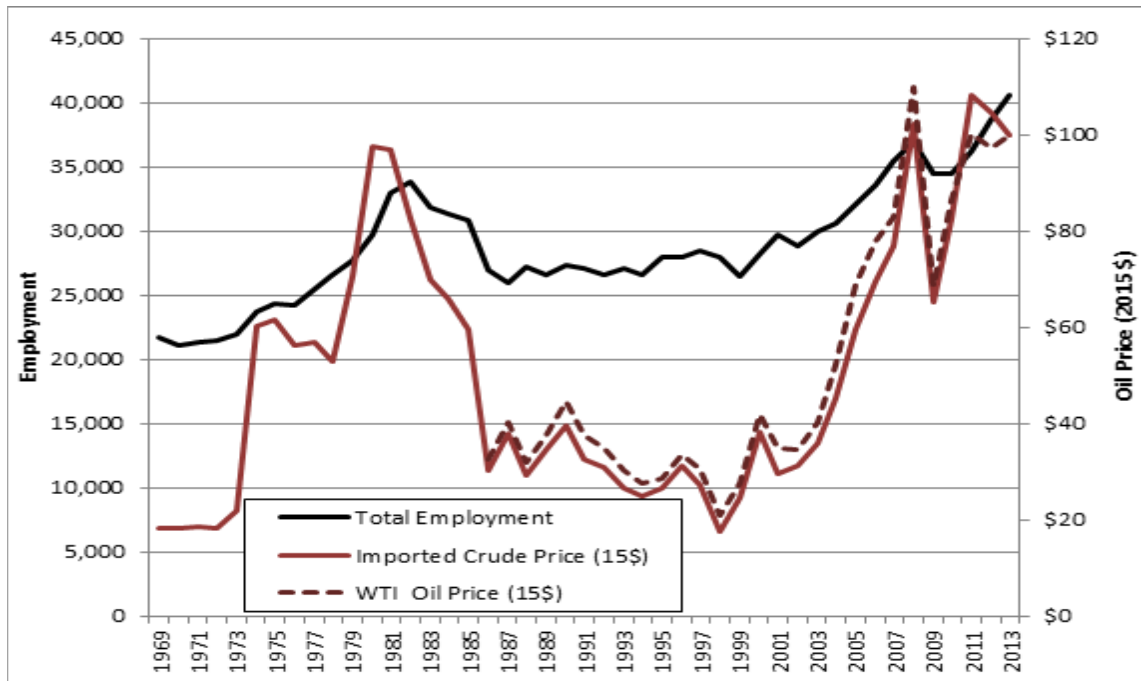


Source: NM ONGARD Database

The booms and busts of the mining industry in the West are legendary and New Mexico provides numerous examples of ghost towns or communities like Grants, which was hard hit by the fall in uranium prices in the early 1980's. Lea County's historical dependence on the oil and gas industry can be seen as creating a vulnerability to world market prices and is often cited as a reason for skittishness on the part of investors, for example in the housing industry.

BBER collected data on historical oil prices, the price for imported oil and that for West Texas Intermediate (WTI), which is close to the price paid for NM oil. **Figure 1.5** plots total annual Lea County employment, wage and salary and self-employment, full-time as well as part-time, against both the oil import price and WTI price adjusted for inflation using the Consumer Price Index (rebased by the US Energy Information Agency to July 2015). The graph is interesting. Total employment clearly rose sharply with the stimulus of rising oil prices in the mid-1970's and again in the late 1970's. As the oil price fell after 1981, so did total employment. By 1986, the price of imported oil had more than halved, to \$13. Lea County lost about 5,000 jobs from the 1981 peak. In real terms, the price of oil continued to fall through much of the decade of the 1980's, but total employment stabilized and even increased. By 2003, Lea County employment was back up to 30,000 even with a nominal oil price of under \$28 per barrel and a real price under \$36. Then oil prices in real terms as well as nominal began a steep ascent. With the stimulus of still higher real oil prices, employment was just under 37,000 in 2008.

Figure 1.5. Lea County Employment and the Real Price of Crude Oil



Sources of Data: US Dept. of Energy, EIA Short-Term Outlook, July 2015 (oil import price, real and nominal), HIS Global Insight (WTI prices), US Bureau of Economic Analysis (total employment)

Lea Co. did not escape the ravages of the Great Recession and collapse of oil prices but sustained a decline in employment of 6.7% in 2009. The recovery of oil prices, which in both nominal and real terms soared to over \$100 in 2011 and 2012, was a contributing factor to a new surge in employment. That said, as the graph illustrates, total employment in Lea County grew relatively steadily at an annual rate of over 0.9% from 1987 until 2003 despite a real oil price at best in the neighborhood of and frequently below \$40 per barrel.

The spot price for West Texas Intermediate crude oil, which had been above \$90 since 2011 began slipping in the second half of 2014. By late January 2015, the spot price had fallen below \$45. The picture improved slightly, with the price above \$60 some days in May and June. The price has recently been in the \$40-50 range but was down to \$40.54 at the close of the day on Nov. 12, 2015,

BBER has established that the Lea County economy is likely to see job growth with a real oil price in the neighborhood of and below \$40. After talking with numerous people, BBER is persuaded that the Permian Basin, and Lea County in particular, is a low cost area for crude oil and that a price in the \$40-\$50 range is probably sufficient to encourage production and probably oil production enhancement (with CO₂, which is readily available)¹. Drilling activity has fallen off in the Permian Basin and in Lea County. See **Figure 1.6**. And employment in the mining sector in Lea County appears to have peaked in January, 2015.² However, there appear to be a number of companies making major investments in Lea County and West Texas at the same time as they are reducing activity in other parts of the US **presumably because this is a low cost area.**³

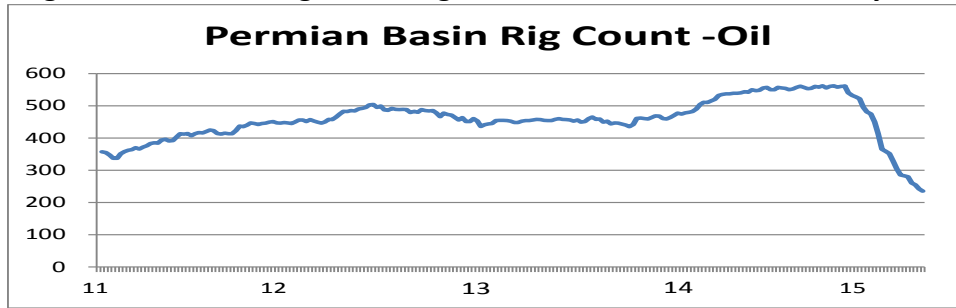
What has helped to sustain the oil industry in Lea County and elsewhere are technologies that increase the amount of oil recovered from a particular formation or particular reservoir. These methods include horizontal and to a lesser extent directional drilling and fracking which increase the productivity of a given well reservoir over what is possible from a vertical shaft. In Lea County, companies have been re-drilling existing wells to penetrate lower and higher areas of the reservoir and then boring horizontally

¹ According to Steven Ilkay, an independent oil and gas advisor, "The Wolfcamp and Bone Springs formations are shared assets between the two states [Texas and New Mexico]. "The northern portions of these plays tend to be oilier and have better economics in New Mexico," Ilkay said. The sweet spots for both plays in New Mexico are the western part of Lea County and the eastern half of Eddy. "With the exception of a very small portion of Loving, Winkler, and Ward counties in Texas, these areas have the best economics out there..." "New technology raises bar for New Mexico oil production," *Oil and Gas Journal*, July 1, 2013 ([www.ogj.com/..](http://www.ogj.com/))

² According to the recently released first quarter numbers from the Quarterly Census of Employment and Wages (downloaded 8/31/15). *Oil and Gas Journal*, July 1, 2013 ([www.ogj.com/..](http://www.ogj.com/))

³ This was suggested in a conference call by Hobbs City Mayor Sam Cobb. At his suggestions, BBER checked the websites of a number of companies with a history of presence in the Permian Basin. Some were very clear about increasing their presence in this area.

Figure 1.6. Baker-Hughes Oil Rig Count, Permian Basin 2011-May 2015



thousands of feet in different directions. However, companies have also been applying methods of enhanced oil recovery (tertiary recovery) involving flooding and injection of carbon dioxide (CO2). An extensive network of pipelines carries CO2 from facilities in northeastern New Mexico right into the oil fields of Lea County.

BBER was unable to get data specifically on Lea County, but within the Permian Basin, there has been a clear shift in the type of oil wells being drilled as well as the number. See **Figure 1.7**. As indicated in **Figure 1.8**, until around 2010, vertical wells accounted for 80% or more of the wells drilled. By late 2014, horizontal drilling accounted for over 75%, although vertical wells were still being drilled in 2015. Directional drilling, which in the first decade of this century had been perhaps 10% of the rigs targeting oil, has diminished in importance since then, accounting for under 5% in 2014.

Figure 1.7. Rigs Targeting Oil in the Permian Basin by Type

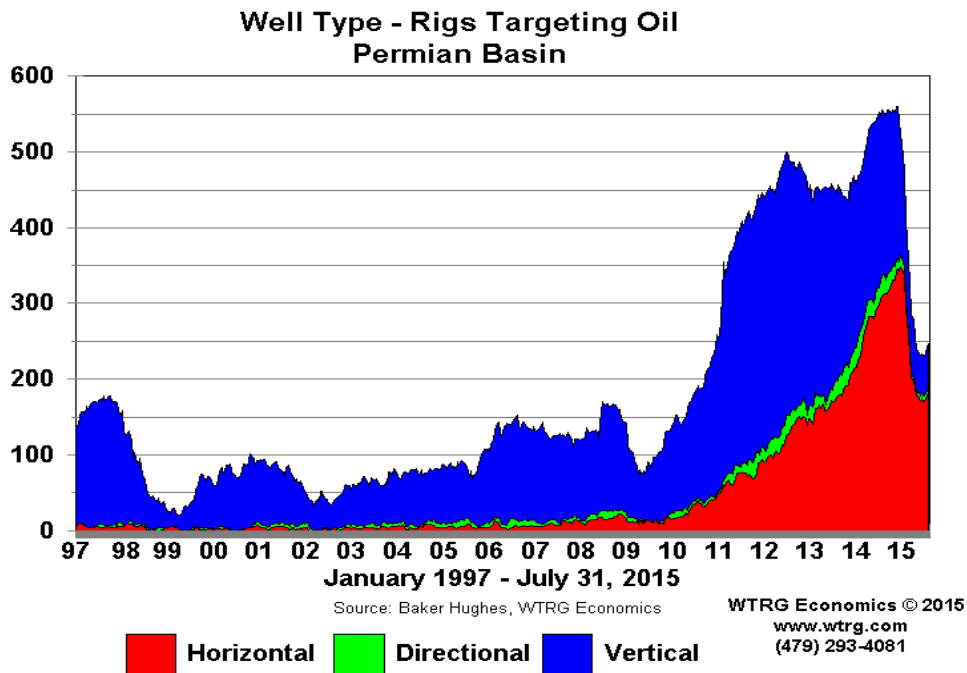
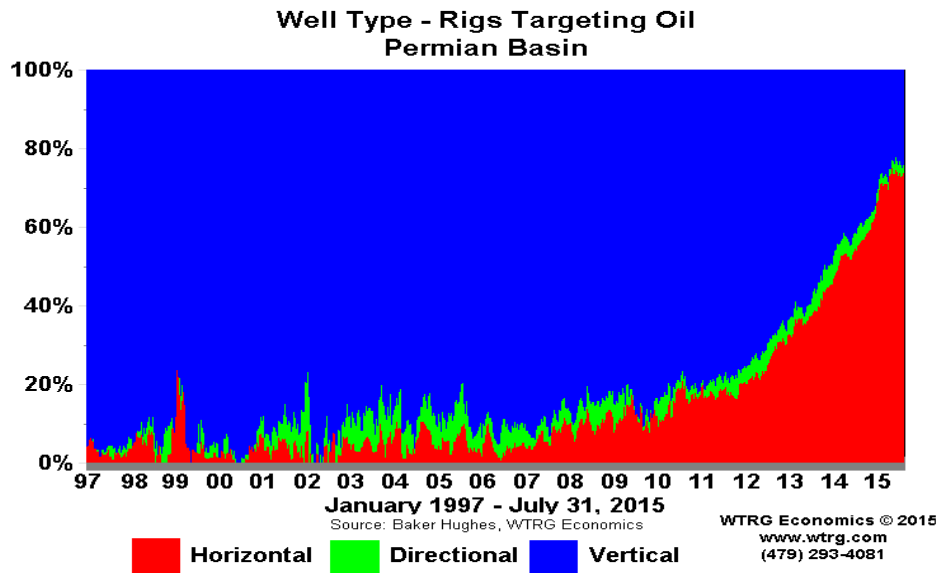


Figure 1.8. Relative Importance of Different Types of Drilling Rigs



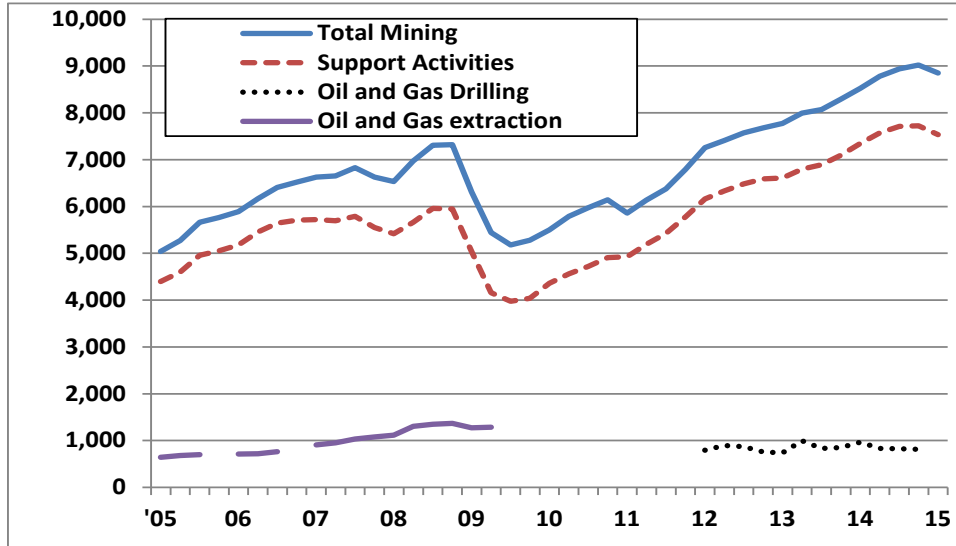
Overall mining employment in Lea County reached a peak of 7,308 in the third quarter of 2008 but with the Great Recession and the collapse of oil and gas prices, employment plunged to a low of 5,179 in the third quarter of 2009. Prices for natural gas never recovered. Since 2009, however, and with the stimulus of rapidly rising oil prices, mining employment in Lea County has increased almost continually and was up to 9,168 in January 2015, before the slide to 8,479 in March. As **Figure 1.9** illustrates, support activities in most years have accounted for the lion’s share of jobs – over 85%. For 2012-14, BBER was able to obtain a separate break-out for oil and gas drilling, which actually falls under mining support but which might be expected to be a more volatile component, sensitive to changes in prices. This series for 2012-14 are reported in the graph. Petroleum crude oil and natural gas **extraction activities** are subject to confidentiality restrictions for most quarters but are included on the graph when the data was available. The employment figures this subsector for 2014 are suppressed, but in 2013, the average employment was 991, working for 67 establishments, with average weekly wages of \$1,759. By contrast, the over 6,000 working in support activities for oil and gas operations had annual average wages of \$1,307.

With lower oil prices, we expect to see continued production from existing wells that will require servicing. The number of drilling rigs fell off dramatically in the Permian Basin and also in Lea County and that can mean a loss of perhaps 50 workers per rig⁴. The employment figures for the first quarter of 2015 are included in Figure 1.9 and indicate a slight decline in both total mining and support activities. Detail for employment in oil and gas extraction was suppressed due to confidentiality, although there was no reduction in the number of establishment reporting. Renewed interest in Lea County as a low cost site promises more activity, more drilling, more jobs, but it is

⁴ Steve Henke, NM Oil and Gas Association

unclear whether the overall level of activity will be up. No figures were available for oil and gas drilling in the first quarter of 2015.

Figure 1.9. Lea County Total Employment in the Mining Sector, in Mining Support Activities and in Oil and Gas, Quarterly, 2005 – 2015Q1



Source of data: NM Department of Workforce Solutions website, US Bureau of Labor Statistics website *Quarterly Census of Employment and Wages*

In our first report BBER discussed the problem of restrictions on oil exports that have limited market outlets for US production. At that time producers had just recently been allowed to export condensate, with the distinction between crude and condensate redrawn, enabling more production to qualify. On August 15, the *Wall Street Journal* reported “further erosion in the four-decade ban” as the US Commerce Department indicated intent to approve an exchange of Mexican heavy oil for US light crude.

Developments in Industries Directly Related to Oil and Gas

Refining

For many years the only oil refinery in the area was the Navajo Refinery in Artesia in neighboring Eddy County. According to Greg Fulfer, Navajo Refining Company is slated to build a refinery in the Lovington-Hobbs area at an anticipated cost of \$200 million. The project would employ some 350 construction workers, with a permanent work force of 80 full time workers. Navajo Refining Co. currently has a Trucking Division in Lovington. Fulfer also discussed plans to build a gas plant that could refine the gas currently flared because of the lack of local capacity to process. Apparently, the NM Oil and Gas Conservation Division has been coming down hard on the industry to stop the flaring. According to Melinda Allen, the Agave Midstream Gas Plant is in the works for southern Lea County. There is already a gas plant operating in Eddy County across from the Texas border with another major investment planned in the Carlsbad area.

Transportation and Warehousing

In Lea County, there is a short-line run by the Texas and New Mexico Railroad (TNMR). TNMR operates this freight service from a connection with Union Pacific at Monahans, TX to Lovington, NM, with further connections to Eunice and Jal. Traffic includes LPG, liquid asphalt, aggregate, cotton, scrap metal, salt cake, sand, sulfuric acid, and hazardous waste – about 15,000 cars per year. There has been discussion (2011) of a second rail line connecting to Burlington Northern⁵, but lately the focus has been on construction transload facilities. CIG is slated to construct off-rail, storage and trucking facility in Jal with a second transload facility in the works for a bit further to the north. Based on promotional material BBER found on line, there is a whole industry aggressively marketing transload facilities in North Dakota and other oil production areas, promising a way of reducing costs in an era of lower oil prices.

Other Economic Base Industries

Potash Mining

International Continental Potash has announced their intention to proceed with a potash mining and processing facility near Jal in Lea County (the Ochoa Project). The Canadian company is apparently hoping to save on labor costs and to take advantage of the abundant and high quality potash deposits in this part of Lea County to produce the fertilizer sulfate of potash (SOP), which is, according to the company's website, the preferred potassium fertilizer.⁶ The project has a 3-year construction and commissioning phase, with an estimated capital cost of over \$1.0 billion. According to the Bureau of Land Management Draft Environmental Impact Statement (EIS), the project involves (1) developing an underground mine, to be accessed by a shaft and a ramp, (2) construction and operation of administrative offices and processing facilities "including the ore processing plant, dry stack tailings pile and evaporative pond" (3) "full development of brackish water wells in the Capitan Reef Acquirer" and a new pipeline to serve both the mine and the plant, and (4) "construction and operation of a railroad loadout facility near Jal" and (5) reclamation and decommissioning of site at completion.⁷ The BLM Draft EIS⁸ anticipates that the actual construction activity will peak between months 7 and 18 and directly involve 1,400 construction workers. Mining and processing at the facility could continue for 50 years, with permanent employment of 400, according to Melinda Allen from the EDC. The EIS estimates total employment at up to 502, including contract employees. On the western edge of Lea County,

⁵ Associated Press story that appeared in the *Albuquerque Journal*, March 30, 2011.

⁶ http://www.icpotash.com/learning-center/sop_vs_mop/

⁷ http://www.nm.blm.gov/cfo/ochoaMine/docs/D_2.0_Proposed_Action_and_Alternatives.pdf, pp. 2-1, 2-2

⁸ [IBID](#), pp 2-39-40.

Intrepid will be expanding their potash mining previously concentrated in the Carlsbad area.

Nuclear energy

The uranium enrichment facility, or **national enrichment facility** (NEF), that was under construction in 2007, is currently in its third phase of implementation. Total employment is approximately 350 and is expected to remain at this level. Construction employment, which was roughly 1,000 a few months ago and over 2,000 before that, fell to 500 this past spring. Additional phases are expected but operating employment should remain at current levels. The NEF operates under a 100-year federal license. As was explained to us, the NEF is here for the long haul.⁹

One of the early concerns raised by the state of NM was the waste products from the NEF. **International Isotopes (INIS)** is piloting a facility in Idaho with plans to open a new larger Fluorine Extraction and Depleted Uranium De-Conversion Facility in Hobbs. In 2011 Lea County transferred 640 acres to International Isotopes for the facility; the licensing for the facility is in place and construction will begin as soon as financing is secured. According to the INIS website, approximately 150 high skilled professional employees will be required to operate the facility during its initial phase of operations.

On April 30, 2015, a memorandum of agreement was signed by Holtec International and the Eddy Lea Energy Alliance (ELEA), LLC “to establish an *underground* consolidated interim storage facility in southeastern New Mexico, approximately 12 miles from the Waste Isolation Pilot Plant (WIPP) facility.... Per an agreement with the state of New Mexico, the “state-of-the-art interim storage facility” will be built on state land and will meet temporarily the need for safe depository spent nuclear fuel, e.g. from power plants, in “retrievable casks.”¹⁰ The proposed facility will use Holtec’s “HI-STORM UMAX technology which is an underground dry storage system designed to provide utmost protection to the environment by storing the spent nuclear fuel inside heavily fortified subterranean cavities.”¹¹

Lea County’s receptivity to all these facilities and to WIPP appears to have opened the way for other investments including a nuclear reactor specifically to produce molybdenum-99 (Moly 99), which is used in diagnostic imaging. With no production facilities itself, the US is currently dependent on aging facilities abroad. Should this project go forward it promises permanent employment to 150 once the facility is built. There may be other projects. And WIPP, which historically has employed some Lea County residents, is expected to reopen.

⁹ Conversation with Lisa Hardison, Director of Community relations and Marketing, Urenco.

¹⁰ <http://www.holtecinternational.com/productsandservices/consolidated-interim-storage-facility/>

¹¹ IBID.

Alternative fuels, such as bio-diesel, solar, wind

Solar and wind energy facilities have a much stronger foothold in Lea County today than back in 2006. SunEdison and Xcel energy have been building five solar plants that together will supply 53.5 megawatts of solar power in Lea County and they have been actively seeking further to diversify their renewable energy portfolio in NM. Completion of this project has apparently been subject to delays due to the tight labor market.

In terms of wind energy, there is Excelon's 13 turbine Wildcat Wind installation with a total capacity of 27.3 megawatts. This installation is part of NM Co-op's effort to be off the Xcel system by 2026. The NM Coop operates a 47-megawatt natural gas-based generation facility has the flexibility to switch to up to 27 MW of energy from the connected Wildcat wind project. There is also the Anderson Wind Farm, actually several small 7-8 megawatt farms, under construction near Hobbs with two dozen 264 foot wind turbines. Power generated by the farms will go directly into the Coop's system, another piece of their strategy to become independent.

Joule's SunSprings Biofuel Demonstration Plant

As explained by Martin LaMonica, instead of growing a crop, like corn, and then processing to make fuel, Joule "grows microorganisms that produce the fuel directly. These bugs, which grow in water, are fed carbon dioxide, sunlight, and nutrients in plastic bioreactors... secrete specific molecules, such as ethanol or diesel."¹² The fuel is continuously siphoned off... He explains that the company has already raised \$160 million, has the necessary EPA approvals, and is near commercialization at its demonstration plant.

And another firm, El Dorado Biofuels, is using recycled water from oil-and-gas production in four ponds to produce algae that could be used to generate energy or sold as livestock feed.

Retail and Other Sectors Bringing Dollars into Communities

Lea County now has two important industries that bring dollars into the community from outside: (1) mining, with good future prospects for potash as well as oil and gas; and (2) energy, which includes a nuclear cluster (NEF, and potentially International Isotopes, Moly 99, and Holtec) as well as alternative energy producers, like Joule. In the

¹² Martin LaMonica, "Biofuel Survivor Joule Lands New CEO, Plans Larger CO2-to-Fuel Plants," <https://twitter.com/mlamonica>

survey, manufacturing clearly emerged as a third important export base industry, with some 470 jobs expected within three to five years.

When examined in 2007, Lea County also had a strong retail and commercial base that drew customers from communities in Texas and elsewhere. In looking further into this source of export potential, BBER calculated “pull factors” for different industries, looking at taxable gross receipts per dollar of income in Lea County and Lea County communities versus New Mexico as a whole. We also calculated pull factors for surrounding counties and for major cities within these counties. This measure of relative performance compared to the state as a whole has been calculated for each sector in each geography for which the data exist. Below we provide a series of comparisons within and without Lea County.

Table 1.1 presents the county comparisons. Note the comparative strength of Lea County’s mining, manufacturing, wholesale and retail trade, as well as transportation and warehousing industries. Eddy County comes in a close second on these same industries. With pull factors for this industry well above 1, both are also indicated to be

Table 1.1. Pull Factor Comparisons by Industry, Lea County and Surrounding Counties

	Lea County	Chaves County	Eddy County	Curry County	Roosevelt County
Industry					
Ag. For. Fish. & Hunting	2.32	1.34	2.17	0.89	3.39
Mining	10.89	0.55	6.83	0.00	0.07
Utilities	2.79	1.20	2.14	1.38	1.86
Construction	2.91	0.92	1.95	1.49	0.91
Manufacturing	4.42	0.32	4.05	0.19	0.21
Wholesale Trade	3.65	0.49	2.57	0.51	0.15
Retail Trade	1.55	1.20	1.52	1.16	1.00
Transportation & Warehousing	5.67	0.79	5.71	0.52	1.76
Information	0.93	1.02	0.90	0.86	0.59
Finance & Insurance	0.71	0.83	0.92	0.75	0.93
Real Estate & Rental & Leasing	2.06	0.59	3.13	0.62	0.89
Professional & Technical Services	0.93	0.51	0.81	0.42	0.21
Management of Companies & Enterprise	0.01	0.87	0.03	0.11	0.05
Administrative & Waste Services	1.12	0.18	1.23	0.20	0.17
Educational Services	0.08	0.07	0.07	0.12	0.05
Health Care & Social Assistance	0.89	1.22	0.85	0.91	0.29
Arts, Entertainment & Recreation	0.92	0.41	0.06	0.17	0.13
Accommodation & Food Services	1.05	0.94	0.98	1.05	0.80
Other Services, ex. Public Administration	2.41	1.29	1.79	0.81	0.71
Unclassified	0.37	0.34	4.77	0.55	0.03
Total	2.23	0.92	1.92	0.87	0.70

BBER calculations, data on taxable gross receipts from NM Taxation and Revenue Department, and on aggregate income from the Census Bureau, *American Community Survey*, 2009-2013.

pulling in dollars from elsewhere in their retail sectors. While less directly due to exports, other sectors in Lea County that are indicated to be very strong relative to the state and to the neighboring counties are agriculture, utilities, construction and real estate. Taxation and Revenue does not audit the self-defined industry classifications, and many service businesses take the easy route of classifying themselves in “other services”.

Table 1.2 presents the comparisons between Hobbs and the other major cities within this region of the state. Note that the total pull factor for Hobbs is higher than any of the other cities. Hobbs dominates with strengths particularly in mining, in wholesale trade, retail trade, transportation, real estate and accommodation and food services. Artesia, also strong in mining, has the highest pull factor for manufacturing, and the second highest for both wholesale trade and transportation, with an overall total that puts it second among the cities. Carlsbad is next with an overall score of 1.5, led by mining, manufacturing, wholesale and retail trade, transportation, real estate, and health care (1.8), where it is highest amongst the cities. Roswell is a disappointing fourth, with an overall pull factor of 1.0. Relatively strong sectors are retail trade (1.5),

Table 1.2. Pull Factor Comparisons by Industry, Hobbs and Other Major Cities in Southwestern New Mexico

	Hobbs	Artesia	Carlsbad	Roswell	Clovis	Portales
Industry						
Ag. For. Fish. & Hunting	0.87	1.41	0.03	0.61	0.62	3.79
Mining	14.35	4.73	2.25	0.41	0.00	
Utilities	1.37	1.47	0.91	0.87	1.04	1.55
Construction	1.93	2.25	0.99	0.81	0.92	1.27
Manufacturing	4.23	5.40	2.12	0.28	0.12	0.24
Wholesale Trade	4.83	3.73	1.67	0.51	0.41	0.16
Retail Trade	2.18	1.42	1.73	1.48	1.43	1.79
Transportation & Warehousing	3.74	2.60	2.44	0.33	0.27	2.25
Information	1.00	1.14	0.98	0.91	0.86	0.74
Finance & Insurance	1.02	1.31	1.36	1.07	0.87	1.78
Real Estate & Rental & Leasing	2.84	1.37	2.61	0.69	0.78	1.56
Professional & Technical Services	0.71	0.82	0.87	0.66	0.38	0.32
Mgt of Companies & Enterprises	0.01	0.01	0.02	1.04	0.12	0.07
Administrative & Waste Services	1.23	0.54	1.11	0.22	0.18	0.27
Educational Services	0.08	0.26	0.03	0.09	0.14	0.10
Health Care & Social Assistance	1.61	0.44	1.78	1.62	1.16	0.55
Arts, Entertainment & Recreation	1.81	0.03	0.07	0.55	0.21	0.22
Accommodation & Food Services	1.68	1.09	1.64	1.24	1.34	1.52
Other Services, ex. Public Admin	2.78	1.48	1.55	1.36	0.81	0.96
Unclassified	1.72	1.65	0.47	0.41	0.59	0.65
Total	2.72	1.72	1.49	1.02	0.89	1.08

BBER calculations, data from TRD and 5-year 2013 ACS

health care and social assistance (1.6) and accommodation and food services (1.2). Clovis with a total pull factor of 0.9 is strongest in retail trade (1.4), health care (1.2) and accommodation and food services (1.2). Portales, with an overall pull factor of 1.1, evidences strength in agriculture (2.8), utilities (1.6), retail (1.8), transportation (2.3), finance & insurance (1.8), real estate (1.6), and accommodation and food services (1.5).

Unfortunately, pull factors cannot be calculated for County Census Divisions (CCDs), only for incorporated municipalities. Hobbs is the major business and commercial center and has a concentration of oil and gas activity, and this dominance is evident in the pull factor comparisons in **Table 1.3**. Eunice, with an overall pull factor of 1.7 compared to Hobbs’ 2.7, has the highest pull factor for manufacturing¹³ and is found to be a big draw compared to the state in mining, utilities, construction, wholesale trade, transportation, and administrative and waste services. Lovington, with an overall pull factor of 1.22, is very strong in mining, wholesale trade, and transportation and warehousing. Jal’s greatest strength shows up in agriculture and in transportation and warehousing, but its overall pull-factor is less than 1. Tatum, with a total pull factor of 1.0 has pull factors that indicate relative strength in agriculture, utilities and transportation.

Table 1.3. Pull Factor Comparisons by Industry, Lea County Municipalities

Industry	Hobbs	Eunice	Jal	Lovington	Tatum
Ag. For. Fish. & Hunting	0.87		9.53	0.21	8.54
Mining	14.35	3.57	0.57	2.49	0.69
Utilities	1.37	1.84	1.01	0.88	0.48
Construction	1.93	3.12	1.05	1.12	1.38
Manufacturing	4.23	6.11	0.20	0.61	1.17
Wholesale Trade	4.83	4.62	0.29	3.37	0.05
Retail Trade	2.18	1.05	0.60	1.18	1.14
Transportation & Warehousing	3.74	6.23	6.76	4.13	3.11
Information	1.00	0.73	0.41	1.13	1.06
Finance & Insurance	1.02	0.27	0.24	1.26	0.14
Real Estate & Rental & Leasing	2.84	0.69	0.73	1.04	0.72
Professional & Technical Services	0.71	0.88	0.07	0.31	0.11
Mgt of Companies & Enterprises	0.01			0.01	
Administrative & Waste Services	1.23	3.25	0.04	0.14	
Educational Services	0.08	0.00	0.22	0.02	
Health Care & Social Assistance	1.61	0.00	0.16	0.39	0.01
Arts, Entertainment & Recreation	1.81			0.05	0.78
Accommodation & Food Services	1.68	0.44	0.24	0.99	0.42
Other Services, ex. Public Admin	2.78	1.61	2.57	1.86	1.31
Unclassified	1.72	0.21	0.17	5.89	64.90
Total	2.72	1.71	0.81	1.22	0.99

BBER calculations, data from TRD and 5-year 2013 ACS

¹³ Only in-state manufacturing sales are subject to the gross receipts tax.

Employment Forecast for Lea County

Developing an employment forecast for Lea County posed a number of challenges:

- **Historically, the county's economy has been on the oil and gas roller-coaster and is currently feeling the pinch of low oil prices.** The spot price for oil (West Texas Intermediate), which had spiked as high as \$138 per barrel briefly in 2008 before plunging below \$40, and was above \$100 through the first half of 2014, is now hovering close to \$40 per barrel. Lea County has been favored as a low cost producing area within the Permian Basin and has recently attracted considerable interest in new investment, including investments in both an oil refinery and a gas plant as well as in transload facilities, but the current oil price is having an adverse impact on drilling and related activity.
- **Lea County has diversified its economy over the past few years** to focus on alternative energy sources – nuclear, with the National Enrichment Facility in Eunice, wind and solar, with developments encouraged both by XCEL and by the Coop, and diesel, with exciting new technologies developed by Joule and others. Lea County is attracting other investments, including International Continental Potash Corporation's \$1.0 billion investment in a mine and processing plant to produce potassium sulfate from its Ochoa deposit near Jal.
- **Lea County communities are making major investments in amenities to improve the quality of life and to encourage more housing development.**
- **Lea County historically has been a retail center for the larger area, including many small communities in West Texas, and the evidence indicates it is still drawing in dollars from other communities.**
- **While the current low oil prices may be creating slack, Lea County has been an area of labor shortage and historical data series on employment may often understate overall labor demand.** Attracting qualified workers has been made more difficult by a severe housing shortage and an unresponsive housing industry. As a result of difficulties in finding and keeping qualified workers, many employers have often had substantial vacancies with current employees putting in much overtime.

To deal with these challenges, BBER developed a multi-pronged approach to forecasting employment. First, we developed a multiple regression model to estimate actual wage and salary employment from the Quarterly Census of Employment and Wages. We then forecast baseline employment using this model on forecasts for the independent variables. Second, we conducted interviews with major stakeholders, as a basis for add-factoring to capture

employment impacts during construction as well as the on-going impacts associated with operations. Third, we conducted a survey of Lea County employers that collected information on their current vacancies and the positions they intend to fill as well as their future plans. The results of this survey are presented in a separate report. A list of the new businesses and business expansions for which adjustments seemed reasonable is provided in **Exhibit 1.1**. This list was vetted with Melinda Allen of the EDC and with the Lea County Community Improvement Corporation. Finally, we used a regional economic model, IMPLAN, to estimate the additional employment that would be supported by these new investments and export-oriented business expansions.

Exhibit 1.1 Major New Employers or Business Expansions

<p style="text-align: center;">Intercontinental Potash</p> <p style="text-align: center;">Intrepid Potash</p> <p style="text-align: center;">Oil Refinery (near Jal)</p> <p style="text-align: center;">Agave Mid-Stream Gas Plant</p> <p style="text-align: center;">Transload Facilities , Jal & Eunice</p> <p style="text-align: center;">New Tech Facility</p> <p style="text-align: center;">Health Care Jobs (Expansions, New Clinics)</p>

The best specification of the model came from equations that included New Mexico employment, a four quarter average of the price of oil (WTI) lagged one quarter, employment growth in the larger region, a dummy to capture the period when NM languished during and after the Great Recession and a variable to capture the new energy economy. This equation had an R Square of .987 and an adjusted R Square of .986 so the overall fit of the equation was very good and all explanatory variables had the expected signs. P-values are included under each coefficient. With the exception of the intercept, all were significant at the 5% level.

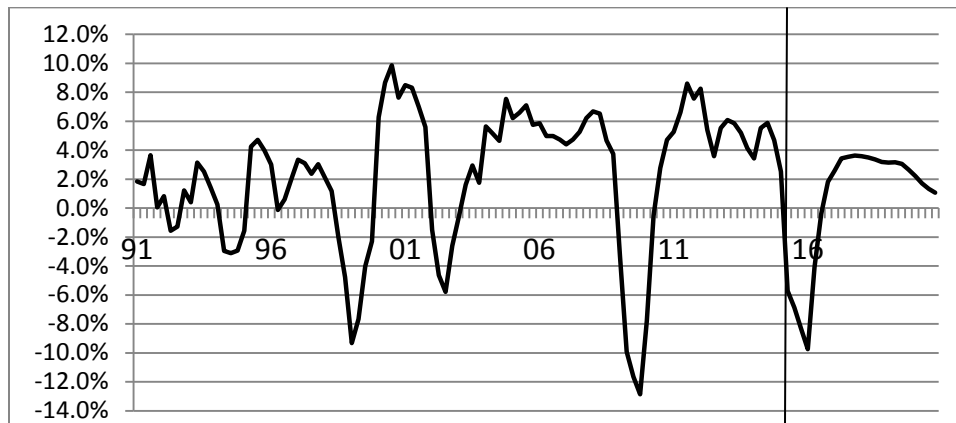
$$\begin{aligned}
 \text{Lea Co Emp} = & - 2140.4 + 0.0178^* \text{ NM Emp} + 0.2630^* \text{ Region Emp}^1 + \\
 & \quad \quad \quad 0.108 \quad \quad \quad 0.000 \quad \quad \quad 0.000 \\
 & \quad \quad \quad 57.058^* \text{ Lagged Ave Oil P}^1 - 454.31^* \text{ GR Dum} \\
 & \quad \quad \quad 0.000 \quad \quad \quad 0.018 \\
 & \quad \quad \quad + 1565.6 \text{ NE Dum} \\
 & \quad \quad \quad 0.000
 \end{aligned}$$

Where,

- Lea Co Emp = Lea County quarterly total wage and salary employment from the NM Department of Workforce Solutions, *Quarterly Census of Employment and Earnings (QCEW)*, 1990Q1-2015Q1
- NM Emp = NM quarterly employment from the QCEW, same period, same source
- Region Emp = Quarterly private employment in larger region (Eddy County and the Texas rural counties of Andrews, Cochran, Gaines, Hockley, Loving, Terry, Winkler, and Yoakum. All figures from the QCEW. No forecasts are available.
- Lagged Ave Oil P = Four quarter average of West Texas Intermediate price adjusted for inflation using the Consumer Price Index excluding food and energy (CORE). Variable is lagged one quarter.
- GR Dum = Dummy 0-1 variable to capture economic collapse during NM's prolonged recession 09Q1 to 12Q3 as reflected in QCEW.
- NE Dum = New Energy variable based on acceleration of mining and Construction dating from 2013 Q1.

The quarterly history and baseline forecast of Lea County employment growth quarter over same quarter a year ago is given in **Figure 1.10**

Figure 1.10. Lea County Covered Employment History and BBER Modeled Forecast



Some discussion is needed on the assumptions behind the forecast. First, the forecast of NM employment is based on BBER's July forecast using the FORUNM forecasting model. NM employment is forecast to accelerate slightly from 0.9% in 2014 to 1.3% in 2015, 1.4% in 2016 and 2017, then slowing to 1.3% in 2018 and further to 1.1% in 2020.

The oil price forecast is based on the September 2015 forecast of oil prices (West Texas Intermediate) from IHS Global Insight. This forecast assumes that the benchmark, West Texas Intermediate, will average \$45 in the third quarter and will fall further below \$40 to average \$36.88 in the fourth quarter. Thereafter, the WTI rises slightly to average just under \$50 in 2016, \$62 in 2017, \$74 in 2018, \$84 in 2019 and 2020. It also assumes that core inflation will hover just below 2.0% in 2015, at 2.0% in 2016-17, and thereafter rising slightly in 2019 and 2020, basically staying at the higher end of the Federal Reserve target range. The sensitivity of the forecast to changing oil price assumptions needs to be addressed. An oil price remaining at \$50 per barrel in 2016 basically pushes the baseline employment growth down by 1.3% in 2017 and close to 2% in 2018, with Lea County employment growth settling down to about 1.4% in the longer term. A price falling to \$40 per barrel, depresses growth by about 3% in 2017 to less than 1.0%. A price increase to \$70 would accelerate growth in 2017 to 6%. Not included in these simulations are the potentially compounding effects on the surrounding region.

Figure 1.12 reproduces this modeled baseline since 2010 and shows the effects of making various adjustments discussed above. The overall effect of the base adjustments is a permanent upward shift in the forecast to accommodate the employment associated with the on-going operations after new plant construction and planned expansions. BBER does not typically include the impacts of construction associated with these types of investments but the situation in Lea County is unique in some respects. Specifically, from the data and well as from stakeholder accounts, the oil industry appears able to suck workers out of other industries, most notably construction. With the predicted decline in oil activity and Lea County employment, projects which have been delayed as a result of difficulties in finding and keeping work crews may now proceed. Slackness in the labor market is also good news for major projects like the construction of the potash mining facilities near Jal. Note, however, that we only add the construction jobs through the first half of 2017, when work on the new potash mine and processing plant will be completed.

Figure 1.12. Lea County Employment Growth Forecast to 2020 Q4: Modeled and as Adjusted for Announced New Activity and Business Expansions

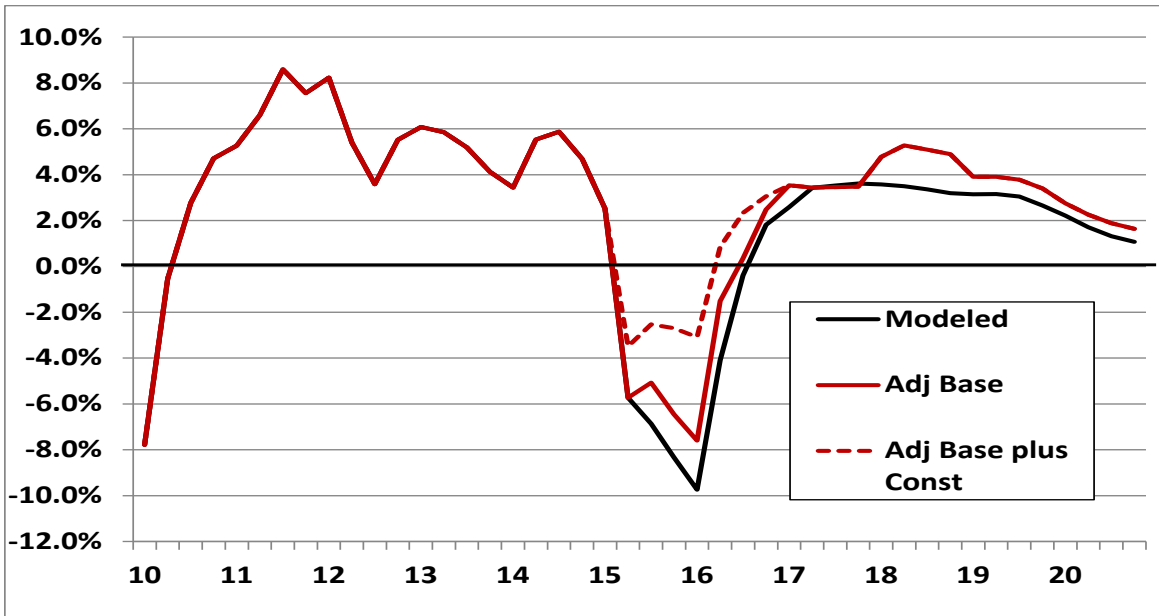
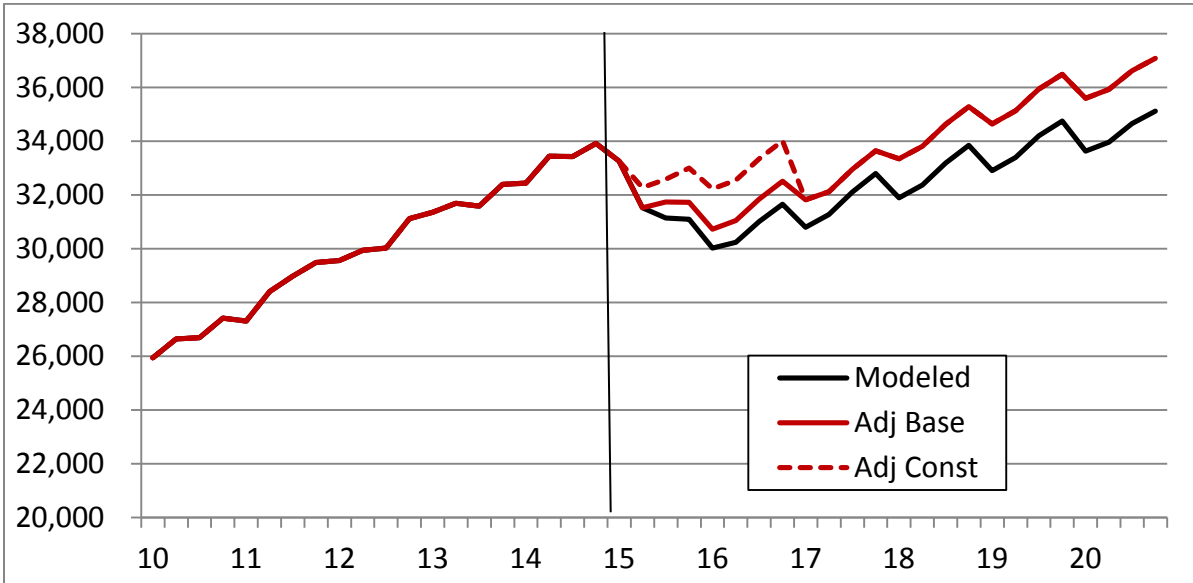


Figure 1.13 looks at total employment as originally modelled and as impacted by the same investments as in Figure 1.12. The vertical distance between the modeled forecast and the adjusted indicates the number of new jobs added as a result of the new investment.

Figure 1.13. Lea County Employment Forecast to 2020 Q4: Modeled and as Adjusted for Announced New Activity and Business Expansions



The scenario just discussed may be viewed as optimistic and particularly if oil prices fall further as some forecast. Above we examined how employment in Lea County varies depending upon the real price of oil and noted that from the 1987 through 2003, employment grew at an annual rate of 0.9% despite oil prices below \$40 per barrel. Suppose we treat this as a floor. This creates a fourth scenario which is included in **Figure 1.14**. **Figure 1.15** includes this scenario in forecasts of future employment in Lea County under these alternative scenarios.

Figure 1.14. Lea County Employment Growth Forecast to 2020 Q4: Modeled, Adjusted for Announced New Activity and Business Expansions, 0.9% Growth

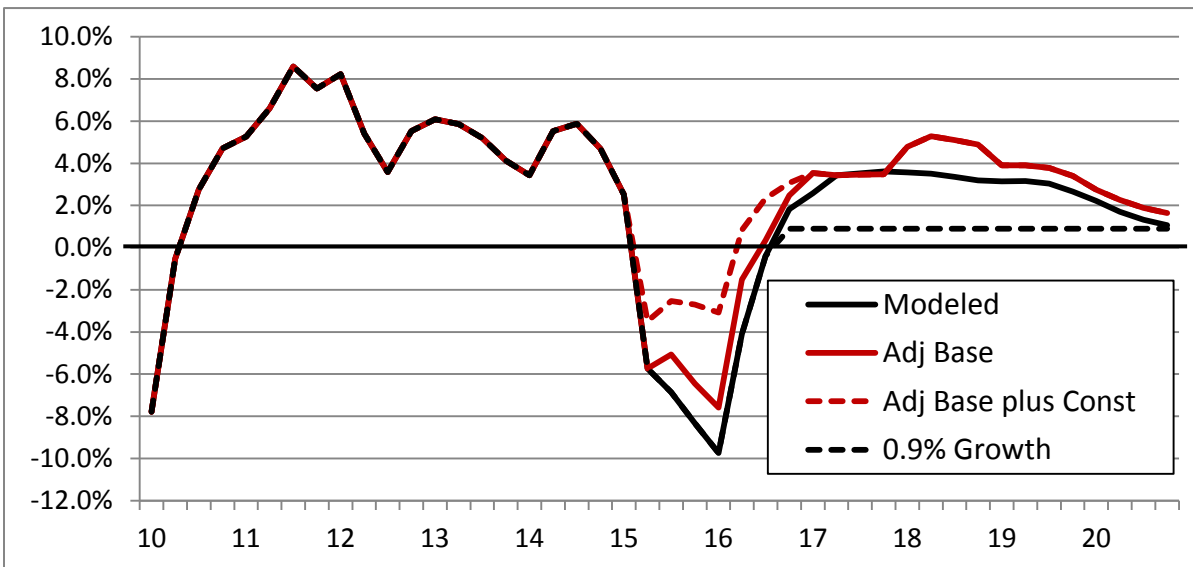
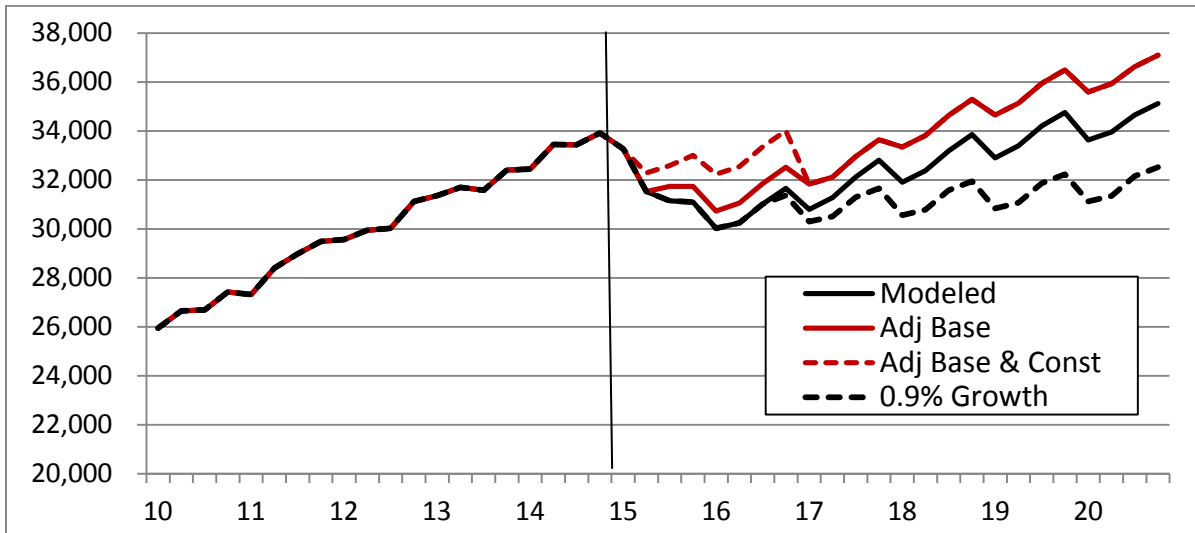


Figure 1.15. Lea County Employment Forecast to 2020 Q4: Modeled, Adjusted for Announced New Activity and Expansions, 0.9% Growth



Conclusion

The Lea County economy has slowed after a period of rapid growth. Oil prices are lower – in the neighborhood of \$40, well below the \$100 levels seen a little over a year ago. Gone is the excitement, the frenzy of activity that characterizes a boom, but Lea County’s economy is still in great shape and it’s prospects are excellent. Oil and gas are no longer the only game in town. The economy has matured; it has diversified its economic base, realizing the vision of being part of an energy corridor that includes nuclear and alternative energy development. Urenco’s National Enrichment Facility is finishing a major upgrade. This industry anticipates major investment by International Isotopes, now that all the requisite permits are in place. And there are future investments – in the Moly99 technology and perhaps by Holtec—that could create additional jobs.

The county has seen major investments in wind and in solar power that will literally help to fuel future growth. Bio diesel is alive and with Joule there are prospects for development of a whole new technology that grows bugs in water, feeding them carbon dioxide, sunlight, and nutrients so they can directly produce fuel.

The manufacturing industry, with nationally known brands like Boca Burger, is poised for further growth.

The county and Hobbs remain strong as a commercial and retail center that serves a much larger market in West Texas and the surrounding area.

The area continues to attract investments by national chains from hotels and restaurants to big box retailer, like CostCo.

Moreover, what is striking and what has undoubtedly contributed to making all of the above happen is the “can do” attitude of local residents willing to tackle one problem after another, all in an effort to make Lea County a better place in which to live and to do business.

The prospects for this area cannot be dimmed by low oil prices, should they persist. The area had almost 1% annual employment growth between the dark days of 2006-07 and 2003 when oil prices in real terms (2015 dollars) remained well below \$40 per barrel. And today, there are many other things going on. International Continental Potash is investing \$1.0 billion in a potash mine and processing plant near Jal that will employ some 400 in high paying permanent full time jobs, and Intrepid is expanding its operations in Lea County near Carlsbad similarly to produce a high grade of fertilizer from the rich potash deposits found in the area. A new oil refinery is in the works for the Lovington Hobbs area, and Lea County will get its own gas plant. There are transload facilities coming in that will improve efficiency in getting oil and gas to market. There is interest from a high tech firm...

Were the oil boom to continue, finding the workforce to construct all these new facilities and to operate the new plants one they open would be a challenge. From the survey we know that employers continue to rank as their number one concern, “ finding good workers and keeping them.” It might even be said that Lea County needs a pause, a respite from the oil boom, so that it can further diversify and move its economy to a new level

This is in no way to diminish the future role of Lea County in oil and gas production. The county has a tremendous advantage as a low cost production site. The big names in the industry are coming back to Lea County after their forays elsewhere and making investments. Higher prices will bring forth more activity. Hopefully by then Lea County will taken the steps to further diversify its economy and to grow, educate and train its workforce and to build the housing so critical to its future.

Appendix A. Employment Trends within Lea County and Lea County Places

Table A.1 presents the history of employment by industry in Lea County between 2004 and 2014. On a compound annual basis, total employment increased a 3.4% rate, with private sector employment growing at a 3.8% annual rate and government increasing at a 0.7% annual rate. The fastest growing sectors over the 10 year period were manufacturing with an annual rate of growth of 11.3%, transportation and warehousing (7.9%), mining and construction (both 6.8%), professional and technical services (4.8%), the very small industry, management of companies and enterprises (4.7%), and accommodations and food services (3.5%). The slow growth in government employment (0.7%) reflected a 2.8% reduction in federal government employment and a 0.7% decline in state employment.

Table A.2 presents the changes in employment by industry and by year between 2004 and 2014. The Lea County economy had been growing at over 5% per year between 2004 and 2008, but with the Great Recession employment plummeted by 9.5% in 2009 and by another 0.4% during the course of 2010 before rebounding by 7.0% in 2011. Growth since then has been above or in the neighborhood of 5%. Among the major sectors, mining has had the strongest performance year-after-year since 2009, while construction, transportation and real estate have been more volatile. Data on health care and social assistance were suppressed to avoid disclosure until 2009, with the sector then shrinking for three years. Accommodation and food services employment has evidenced strong growth in every year since 2010.

Table A.3 reports the jobs by industry in the County and in each municipality or place captured by the Census Bureau, *On-the-Map* for 2013. The source of both the County totals and the jobs reported for individual communities is the same, the *Quarterly Census of Employment and Wages*, but *On-the-Map* allocates government jobs to the appropriate NAICS codes, while the QCEW here classifies by ownership only – federal, state or local government. Thus employment in the public schools show up in the QCEW primarily as local government¹⁴, while the series for individual communities lumps the public school employment with other education. Note that all the places listed account for 88% of QCEW Lea County employment and that Hobbs accounts for two thirds of the County total employment. Lovington is next, at 12%, followed by Eunice, 5%, North Hobbs CDP and Jal, both 2%, and Tatum and Nadine CDP, both 1%. Table A.4 examines the industrial composition of jobs in each of the geographies. Mining accounted for one quarter of all the jobs in the county in 2013, 29% of jobs in the North Hobbs CDP, 20% of jobs in Hobbs, 11% of jobs in Eunice and only 5.5% and 3.5% respectively of jobs in Tatum and Jal. With the big project at the uranium enrichment facility in Eunice, construction absorbed 40% of employment there versus

¹⁴ The data on private education for Lea County is suppressed but it would include employment in any charter schools as well as private colleges or other schools.

13% in Lovington and North Hobbs and only 4% in Hobbs. Similarly, the large percentage of jobs reported for manufacturing employment in Eunice can also probably be attributed to the National Enrichment Facility. Hobbs has the largest percent of its workforce in retail trade – over 15% --, followed by Jal, with 11%. Hobbs also has almost 10% working in jobs in accommodations and food services – by far the largest percentage amongst Lea County places.

Tables A.5 and A.6 look at where all those working in different communities in 2013 actually lived. Thus, of the 20,915 who are indicated to have worked in Hobbs in 2013, 9,440, or slightly under half (45.1%) were actually living in Hobbs in that year, with 1,671, or 8.0%, commuting in from North Hobbs, 1,102 coming in from Lovington, and over 600 (3.0%) journeying in respectively from Carlsbad and Roswell. Some 374 of those working in Hobbs were residents of Albuquerque and another 383 were from El Paso. What is always surprising is the large number of people working in local communities who come from “all other locations”, and this category, no longer broken out in detail, can include many communities that are out of state and frequently a great distance away. For Lea County communities in the midst of an energy boom, it is hardly surprising to find that many in the workforce live elsewhere. However, this fact does complicate getting an accurate count of the population.

Significantly, this “all other category” can also include workers who identify with the community in which they work and who may live just a block or two outside the municipal boundaries in the unincorporated area. For this and other reasons beginning with Table A7, we have included tables that replicate the analysis by place for employment in all jobs in each of the Census County Divisions (CCDs).

The final table in this section looks by CCD at worker characteristics. Several characteristics stand out. The workforce is generally younger, less educated, more highly paid, and more likely male.

Table A.1. Lea County Employment and Annual Growth Rate, 2004-2014

Sector	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Annual Growth
Grand Total	23,851	25,378	26,680	28,058	29,566	26,769	26,675	28,548	30,161	31,776	33,323	3.4%
Total Private	20,462	21,994	23,288	24,636	26,070	23,178	23,091	25,076	26,716	28,225	29,692	3.8%
Ag. For. Fish. & Hunting	383	418	406	383	368	313	327	361	401	444	501	2.7%
Mining	4,594	5,435	6,246	6,683	7,043	5,554	5,851	6,292	7,481	8,029	8,836	6.8%
Utilities	235	242	242	432	479	285	318	328	335	335	339	3.7%
Construction	1,660	1,697	1,765	2,155	2,823	2,411	2,092	2,562	2,476	3,011	3,217	6.8%
Manufacturing	336	338	493	655	722	830	884	955	1,039	1,029	976	11.3%
Wholesale Trade	882	933	1,092	1,119	1,117	1,012	919	983	1,082	1,072	1,040	1.7%
Retail Trade	2,680	2,721	2,691	2,588	2,608	2,656	2,693	2,896	2,963	3,022	3,228	1.9%
Transportation & Warehousing	837	916	1,139	1,158	1,235	1,079	1,020	1,348	1,595	1,596	1,790	7.9%
Information	224	246	262	314	333	319	303	307	314	311	267	1.8%
Finance & Insurance	624	644	648	611	639	654	674	671	592	626	626	0.0%
Real Estate & Rental & Leasing	376	405	369	391	426	356	353	442	470	525	531	3.5%
Professional & Technical Services	391	373	437	539	565	586	550	556	589	617	627	4.8%
Mgt of Companies & Enterprises	76	52	83	104	115	116	122	115	116	118	121	4.7%
Administrative & Waste Services	1,401	1,460	1,340	1,477	1,539	1,424	1,520	1,631	1,589	1,596	1,554	1.0%
Educational Services	D	D	D	D	D	112	116	108	D	D	D	
Health Care & Social Assistance	D	D	D	D	D	2,531	2,417	2,388	2,303	2,387	2,399	
Arts, Entertainment & Recreation	159	391	376	429	439	371	356	352	D	D	D	
Accommodation & Food Services	1,713	1,842	1,886	1,914	1,950	1,952	1,972	2,074	2,153	2,324	2,417	3.5%
Other Services, Unclassified	834	873	854	703	788	617	604	707	771	768	824	-0.1%
Total Government	3,390	3,384	3,392	3,422	3,497	3,592	3,584	3,472	3,445	3,551	3,631	0.7%
Federal	114	114	109	106	105	106	121	94	88	88	86	-2.8%
State	284	285	287	280	281	284	276	265	263	261	266	-0.7%
Local	2,991	2,985	2,996	3,037	3,111	3,202	3,187	3,113	3,094	3,202	3,279	0.9%

Source of data: NM Department of Workforce Solutions, *Quarterly Census of Employment and Wages*

Table A.2. Percent Changes in Employment Over Previous Year, 2004-14

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Grand Total	5.7%	6.4%	5.1%	5.2%	5.4%	-9.5%	-0.4%	7.0%	5.7%	5.4%	4.9%
Total Private	6.6%	7.5%	5.9%	5.8%	5.8%	-11.1%	-0.4%	8.6%	6.5%	5.6%	5.2%
Ag. For. Fish. & Hunting	-16.7%	9.1%	-2.9%	-5.7%	-3.9%	-14.9%	4.5%	10.4%	11.1%	10.7%	13.0%
Mining	7.0%	18.3%	14.9%	7.0%	5.4%	-21.1%	5.3%	7.5%	18.9%	7.3%	10.1%
Utilities	0.4%	3.0%	0.0%	78.5%	10.9%	-40.5%	11.6%	3.1%	2.1%	0.1%	1.1%
Construction	10.7%	2.2%	4.0%	22.1%	31.0%	-14.6%	-13.2%	22.5%	-3.4%	21.6%	6.8%
Manufacturing	-6.7%	0.6%	45.9%	32.9%	10.2%	15.0%	6.5%	8.0%	8.8%	-1.0%	-5.1%
Wholesale Trade	-5.0%	5.8%	17.0%	2.5%	-0.2%	-9.4%	-9.2%	7.0%	10.1%	-0.9%	-3.0%
Retail Trade	8.5%	1.5%	-1.1%	-3.8%	0.8%	1.8%	1.4%	7.5%	2.3%	2.0%	6.8%
Transportation & Warehousing	9.7%	9.4%	24.3%	1.7%	6.6%	-12.6%	-5.5%	32.2%	18.3%	0.0%	12.2%
Information	0.0%	9.8%	6.5%	19.8%	6.1%	-4.2%	-5.0%	1.3%	2.3%	-1.0%	-14.2%
Finance & Insurance	2.8%	3.2%	0.6%	-5.7%	4.6%	2.3%	3.1%	-0.4%	-11.8%	5.7%	0.1%
Real Estate & Rental & Leasing	3.3%	7.7%	-8.9%	6.0%	9.0%	-16.4%	-0.8%	25.2%	6.3%	11.7%	1.2%
Professional & Technical Services	8.9%	-4.6%	17.2%	23.3%	4.8%	3.7%	-6.1%	1.1%	5.9%	4.8%	1.6%
Mgt of Companies & Enterprises	10.1%	-31.6%	59.6%	25.3%	10.6%	0.9%	5.2%	-5.7%	0.9%	1.9%	2.1%
Administrative & Waste Services	66.0%	4.2%	-8.2%	10.2%	4.2%	-7.5%	6.7%	7.3%	-2.6%	0.4%	-2.6%
Educational Services							3.6%	-6.9%			
Health Care & Social Assistance							-4.5%	-1.2%	-3.6%	3.6%	0.5%
Arts, Entertainment & Recreation	42.0%	145.9%	-3.8%	14.1%	2.3%	-15.5%	-4.0%	-1.1%			
Accommodation & Food Services	7.7%	7.5%	2.4%	1.5%	1.9%	0.1%	1.0%	5.2%	3.8%	7.9%	4.0%
Other Services, Unclassified	4.6%	4.7%	-2.2%	-17.7%	12.1%	-21.7%	-2.1%	17.1%	9.1%	-0.4%	7.3%
Total Government	0.9%	-0.2%	0.2%	0.9%	2.2%	2.7%	-0.2%	-3.1%	-0.8%	3.1%	2.3%
Federal	-2.6%	0.0%	-4.4%	-2.8%	-0.9%	1.0%	14.2%	-22.3%	-6.4%	-0.3%	-2.0%
State	-0.4%	0.4%	0.7%	-2.4%	0.4%	1.1%	-2.8%	-4.0%	-0.8%	-0.7%	1.8%
Local	1.1%	-0.2%	0.4%	1.4%	2.4%	2.9%	-0.5%	-2.3%	-0.6%	3.5%	2.4%

Source of data: NM Department of Workforce Solutions, *Quarterly Census of Employment and Wages*

Table A.3. Jobs by Industry in Lea County Places, 2013

	Lea County	All Places	Hobbs city	Lovington city	Eunice city	N. Hobbs CDP	Tatum town	Jal city	Nadine CDP	Monument CDP
	QCEW	On-the-Map Jobs by NAICS Industry Sector with Public Sector Jobs Attributed to Industries								
Total Jobs	31,776	28,110	20,915	3,949	1,509	602	273	534	310	18
% of Total in Lea County	100%	88%	66%	12%	5%	2%	1%	2%	1%	0%
Ag. For. Fish. & Hunting	444	61	7		2	3	1		48	
Mining	8,029	6,495	5,209	497	181	376	62	71	94	5
Utilities	335	413	365	30			8	8	2	
Construction	3,011	2,609	1,286	527	566	67	14	80	68	1
Manufacturing	1,029	815	458	12	329	15	1			
Wholesale Trade	1,072	1,040	873	126	15	12	13	1		
Retail Trade	3,022	2,836	2,419	258	63	14	27	43	12	
Transportation & Warehousing	1,596	1,078	589	147	69	58		149	66	
Information	311	318	237	19	42		3	17		
Finance & Insurance	626	592	501	75	3	1	3	9		
Real Estate & Rental & Leasing	525	526	416	85	9	13		3		
Professional & Technical Services	617	651	543	54	28	1	7		18	
Mgt of Companies & Enterprises	118	95	68	12	13		1	1		
Administrative & Waste Services	1,596	1,067	887	121	43	4	5	1	1	5
Educational Services	D	2,333	1,590	561	29		72	81		
Health Care & Social Assistance	2,387	2,889	2,201	626	12	7	17	19		7
Arts, Entertainment & Recreation	D	363	329	23	2	1		8		
Accommodation & Food Services	2,324	2,304	1,929	293	46	18	6	12		
Other Services, Unclassified	768	749	629	62	41	12	4	1		
Government/Public Administration	3,551	876	379	421	16		29	30	1	

Note: On-the-Map does not distinguish private and public ownership, so government jobs are distributed across industries unless public administration, which properly includes only government.

Source of Data: Lea County: NM Department of Workforce Solutions, *Quarterly Census of Employment and Wages*; Places: US Census Bureau, *On-the-Map, 2015*

Table A.4. , Percent Share of Total Jobs by Place, Lea County, 2013

	Lea County	All Places	Hobbs city	Lovington city	Eunice city	N. Hobbs CDP	Tatum town	Jal city	Nadine CDP	Monument CDP
	QCEW On-the-Map Jobs by NAICS Industry Sector with Public Sector Jobs Attributed to Industries									
Total Jobs	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Ag. For. Fish. & Hunting	1.4%	0.7%	0.1%	2.5%	0.5%	10.4%	5.5%	-	-	-
Mining	25.3%	19.0%	20.2%	16.1%	11.4%	29.3%	24.0%	3.5%	28.2%	-
Utilities	1.1%	1.3%	1.2%	2.0%	0.1%	-	1.6%	7.9%	-	-
Construction	9.5%	8.4%	4.4%	12.9%	40.1%	12.5%	-	-	2.8%	14.3%
Manufacturing	3.2%	3.0%	2.4%	0.1%	16.6%	0.3%	-	-	-	-
Wholesale Trade	3.4%	3.3%	4.0%	1.1%	1.6%	1.0%	8.7%	-	1.4%	-
Retail Trade	9.5%	13.0%	15.4%	7.2%	4.6%	5.3%	-	10.5%	-	-
Transportation & Warehousing	5.0%	3.4%	3.1%	3.9%	2.6%	7.4%	-	8.8%	62.0%	85.7%
Information	1.0%	1.1%	0.9%	1.9%	1.7%	-	0.5%	1.8%	-	-
Finance & Insurance	2.0%	1.8%	2.1%	1.4%	0.3%	0.5%	2.2%	-	-	-
Real Estate & Rental & Leasing	1.7%	1.6%	1.8%	1.0%	0.5%	2.0%	-	2.6%	-	-
Professional & Technical Services	1.9%	2.4%	2.7%	1.0%	2.5%	0.8%	-	-	5.6%	-
Mgt of Companies & Enterprises	0.4%	0.5%	0.3%	1.4%	0.6%	-	-	-	-	-
Administrative & Waste Services	5.0%	6.3%	7.6%	13.0%	3.5%	1.5%	4.4%	24.6%	-	-
Educational Services	D	8.6%	7.9%	13.6%	4.4%	1.3%	37.7%	-	-	-
Health Care & Social Assistance	7.5%	9.8%	9.5%	14.1%	1.4%	22.1%	-	14.0%	-	-
Arts, Entertainment & Recreation	D	1.4%	1.7%	0.8%	0.5%	0.5%	-	1.8%	-	-
Accommodation & Food Services	7.3%	8.6%	9.6%	7.0%	3.9%	5.1%	1.6%	-	-	-
Other Services, Unclassified	2.4%	2.7%	3.3%	1.4%	1.2%	-	-	-	-	-
Government/Public Administration	11.2%	3.2%	1.9%	9.3%	2.2%	-	13.7%	24.6%	-	-

Note: On-the-Map does not distinguish private and public ownership, so government jobs are distributed across industries unless public administration, which properly includes only government.

Source: NM Department of Workforce Solutions, *Quarterly Census of Employment and Wages*; US Census Bureau, *On-the-Map*

Table A.5. Where Workers Are From Who Work in Lea County Communities, 2013 (All Jobs)

Community Where Local Workers Live	Community Where Jobs Are Located						Major Places	Other Lea County	Lea County
	Hobbs	Lovington	Eunice	Jal	Tatum	N. Hobbs CDP			
Hobbs city, NM	9,440	562	375	29	24	260	10,690	950	11,640
Lovington city, NM	1,102	1,564	59	23	42	54	2,844	569	3,413
North Hobbs CDP, NM	1,671	119	69	7	10	90	1,966	186	2,152
Carlsbad city, NM	629	62	56	18		13	778	123	901
Roswell city, NM	628	86		8	5	12	739	174	913
Eunice city, NM	261	85	198	56	12	10	622	146	768
El Paso city, TX	383	80	26	35	6	7	537	109	646
Albuquerque city, NM	374	92			5	5	476	67	543
Artesia city, NM	260		20				280	72	352
Jal			42	137			179	138	317
Alamogordo city, NM	178						178		178
Tatum town, NM		68		13	9		90		90
Andrews city, TX			57				57		57
Clovis city, NM		36					36		36
Midland, Tx			23				23		23
Loving				8	5		13		13
Portales					10		10		10
Nadine CDP, NM						6	6		6
Semirole						4	4		4
All Other Locations	5,989	1,195	584	200	145	141	8,254	1,654	9,908
	20,915	3,949	1,509	534	273	602	27,782	4,188	31,970

Source of Data: US Census Bureau, *On-the-Map 2013*

Table A.6. Percentage Breakdown of Where Workers Are From Who Work in Lea County Communities, 2013 (% of All Jobs)

Community Where Local Workers Live	Community Where Jobs Are Located						Major Places	Other Lea County	Lea County
	Hobbs	Lovington	Eunice	Jal	Tatum	N. Hobbs CDP			
Hobbs city, NM	45.1%	14.2%	24.9%	5.4%	8.8%	43.2%	38.5%	22.7%	36.4%
Lovington city, NM	5.3%	39.6%	3.9%	4.3%	15.4%	9.0%	10.2%	13.6%	10.7%
North Hobbs CDP, NM	8.0%	3.0%	4.6%	1.3%	3.7%	15.0%	7.1%	4.4%	6.7%
Carlsbad city, NM	3.0%	1.6%	3.7%	3.4%		2.2%	2.8%	2.9%	2.8%
Roswell city, NM	3.0%	2.2%		1.5%	1.8%	2.0%	2.7%	4.2%	2.9%
Eunice city, NM	1.2%	2.2%	13.1%	10.5%	4.4%	1.7%	2.2%	3.5%	2.4%
El Paso city, TX	1.8%	2.0%	1.7%	6.6%	2.2%	1.2%	1.9%	2.6%	2.0%
Albuquerque city, NM	1.8%	2.3%			1.8%	0.8%	1.7%	1.6%	1.7%
Artesia city, NM	1.2%		1.3%				1.0%	1.7%	1.1%
Jal			2.8%	25.7%			0.6%	3.3%	1.0%
Alamogordo city, NM	0.9%						0.6%		0.6%
Tatum town, NM		1.7%		2.4%	3.3%		0.3%		0.3%
Andrews city, TX			3.8%				0.2%		0.2%
Clovis city, NM		0.9%					0.1%		0.1%
Midland, TX			1.5%				0.1%		0.1%
Loving				1.5%	1.8%		0.0%		0.0%
Portales					3.7%		0.0%		0.0%
Nadine CDP, NM						1.0%	0.0%		0.0%
Semieole						0.7%	0.0%		0.0%
All Other Locations	28.6%	30.3%	38.7%	37.5%	53.1%	23.4%	29.7%	39.5%	31.0%
	100.0%	100.0%	100.0%	100.00%	100.0%	100.0%	100.0%	100.0%	100.0%

Source of Data: US Census Bureau, *On-the-Map 2013*

Table A.7. Employment by Industry in Lea County Census County Divisions (CCDs), 2013

Jobs by NAICS Industry Sector

	Lea County	Hobbs	Lovington	Eunice	Jal	Tatum
Total All Jobs	31,970	23,565	5,475	2,060	547	323
Agriculture, Oth Natural Resources	472	219	238	3	0	12
Mining, Quarrying, Oil & Gas Extract	7,705	6,127	1,091	334	79	74
Utilities	450	371	30	12	8	29
Construction	2,925	1,490	602	737	80	16
Manufacturing	992	515	144	332	0	1
Wholesale Trade	1,168	933	168	50	1	16
Retail Trade	3,281	2,874	269	68	43	27
Transportation and Warehousing	1,516	897	401	69	149	0
Information	328	237	26	45	17	3
Finance and Insurance	594	504	75	3	9	3
Real Estate and Rental & Leasing	563	448	103	9	3	0
Professionals & Technical	697	595	65	29	0	8
Mgt of Companies & Enterprises	170	68	87	13	1	1
Admin & Support, Waste Mgt	1,347	1,118	143	75	6	5
Educational Services	2,407	1,592	561	101	81	72
Health Care & Social Assistance	2,893	2,215	627	15	19	17
Arts, Entertainment & Recreation	418	366	29	15	8	0
Accommodation & Food Services	2,336	1,950	304	64	12	6
Other Services	783	647	90	41	1	4
Public Administration	925	399	422	45	30	29

US Census Bureau On-The-Map, 2013

Table A.8. NAICS Sector Shares of Total Employment in Lea County and Lea County Census County Divisions (CCDs), 2013

	Lea County	Hobbs	Lovington	Eunice	Jal	Tatum
Total All Jobs	31,970	23,565	5,475	2,060	547	323
Agriculture, Oth Natural Resources	1.5%	0.9%	4.3%	0.1%	0.0%	3.7%
Mining, Quarrying, Oil & Gas Extract	24.1%	26.0%	19.9%	16.2%	14.4%	22.9%
Utilities	1.4%	1.6%	0.5%	0.6%	1.5%	9.0%
Construction	9.1%	6.3%	11.0%	35.8%	14.6%	5.0%
Manufacturing	3.1%	2.2%	2.6%	16.1%	0.0%	0.3%
Wholesale Trade	3.7%	4.0%	3.1%	2.4%	0.2%	5.0%
Retail Trade	10.3%	12.2%	4.9%	3.3%	7.9%	8.4%
Transportation and Warehousing	4.7%	3.8%	7.3%	3.3%	27.2%	0.0%
Information	1.0%	1.0%	0.5%	2.2%	3.1%	0.9%
Finance and Insurance	1.9%	2.1%	1.4%	0.1%	1.6%	0.9%
Real Estate and Rental & Leasing	1.8%	1.9%	1.9%	0.4%	0.5%	0.0%
Professionnal & Technical	2.2%	2.5%	1.2%	1.4%	0.0%	2.5%
Mgt of Companies & Enterprises	0.5%	0.3%	1.6%	0.6%	0.2%	0.3%
Admin & Support, Waste Mgt	4.2%	4.7%	2.6%	3.6%	1.1%	1.5%
Educational Services	7.5%	6.8%	10.2%	4.9%	14.8%	22.3%
Health Care & Social Assistance	9.0%	9.4%	11.5%	0.7%	3.5%	5.3%
Arts, Entertainment & Recreation	1.3%	1.6%	0.5%	0.7%	1.5%	0.0%
Accommodation & Food Services	7.3%	8.3%	5.6%	3.1%	2.2%	1.9%
Other Services	2.4%	2.7%	1.6%	2.0%	0.2%	1.2%
Public Administration	2.9%	1.7%	7.7%	2.2%	5.5%	9.0%
	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

US Census Bureau On-The-Map, 2013

Table A.9. Worker Characteristics in Lea County and Lea County CCDs and in NM, 2013

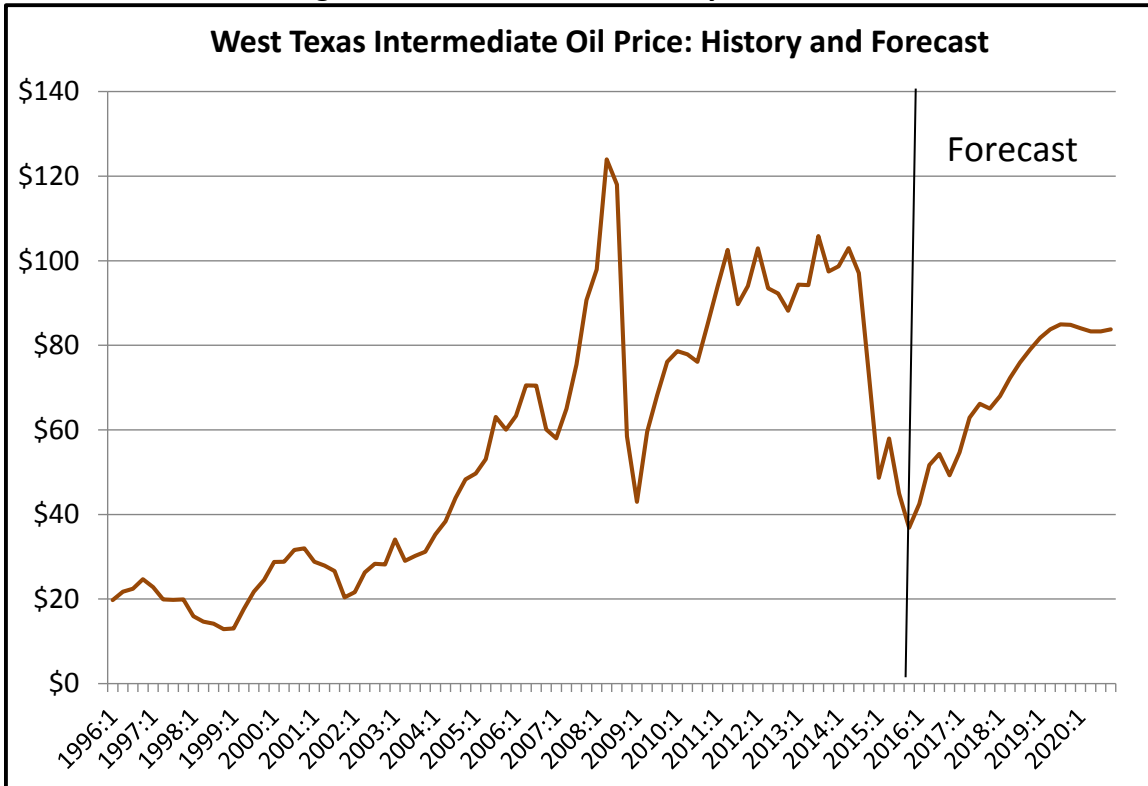
	Lea Co	Hobbs	Lovington	Eunice	Jal	Tatum	NM
Jobs by Worker Age							
Age 29 or younger	25.7%	26.6%	24.2%	22.7%	16.1%	16.1%	22.4%
Age 30 to 54	54.8%	54.3%	55.8%	56.5%	58.7%	58.5%	55.0%
Age 55 or older	19.5%	19.1%	20.1%	20.8%	25.2%	25.4%	22.7%
Jobs by Earnings							
\$1,250 per month or less	21.7%	23.2%	19.7%	11.7%	18.1%	23.8%	26.0%
\$1,251 to \$3,333 per month	30.8%	31.4%	33.0%	19.5%	30.3%	30.0%	38.7%
More than \$3,333 per month	47.4%	45.5%	47.4%	68.8%	51.6%	46.1%	35.4%
Jobs by Worker Race							
White Alone	90.6%	90.3%	91.4%	91.7%	93.1%	92.0%	84.8%
Black or African American Alone	4.3%	4.7%	3.4%	3.4%	3.3%	2.5%	2.7%
American Indian, Alaska Native Alone	2.3%	2.4%	1.8%	1.7%	2.6%	3.1%	8.6%
Asian Alone	1.4%	1.3%	2.1%	1.4%	0.2%	0.3%	2.0%
Native Hawaiian, Other Pacific Alone	0.1%	0.1%	0.2%	0.0%	0.0%	0.3%	0.2%
Two or More Race Groups	1.2%	1.2%	1.2%	1.7%	0.9%	1.9%	1.8%
Jobs by Worker Ethnicity							
Not Hispanic or Latino	55.6%	55.5%	52.6%	64.4%	50.1%	65.3%	57.3%
Hispanic or Latino	44.4%	44.5%	47.4%	35.6%	49.9%	34.7%	42.7%
Jobs by Educational Attainment (Workers 29 and Over Only)							
Less than high school	18.2%	18.0%	19.5%	16.8%	20.5%	16.4%	12.9%
High school or equivalent, no college	21.4%	21.4%	20.1%	22.8%	26.9%	24.5%	22.1%
Some college or Associate degree	23.7%	23.3%	24.7%	24.1%	26.3%	25.7%	26.5%
Bachelor's degree or advanced degree	11.0%	10.6%	11.5%	13.6%	10.2%	17.3%	16.1%
Data not available (Age 29 or less)	25.7%	26.6%	24.2%	22.7%	16.1%	16.1%	22.4%
Jobs by Worker Sex							
Male	60.1%	59.6%	57.3%	73.9%	60.7%	55.1%	49.9%
Female	39.9%	40.4%	42.7%	26.1%	39.3%	44.9%	50.1%

US Census Bureau On-The-Map, 2013

Appendix B. Evidence of Slowdown in the Lea County Economy

Data in Appendix A examined the Lea County economy through the end of 2014, but the collapse in oil prices from \$90 to below \$50 occurred late in that year and it took a few months before the impacts were observable in the emerging economic data. This Appendix captures some of data, much of it unavailable until very recently. **Figure B.1** provides context by showing the history of the West Texas Intermediate (WTI) crude oil price from the first quarter of 1996 forward through the first three quarters of 2015 and the forecast through 2020 from IHS Global Insight, the forecasting service on which BBER relies in preparing our forecast of the New Mexico economy.

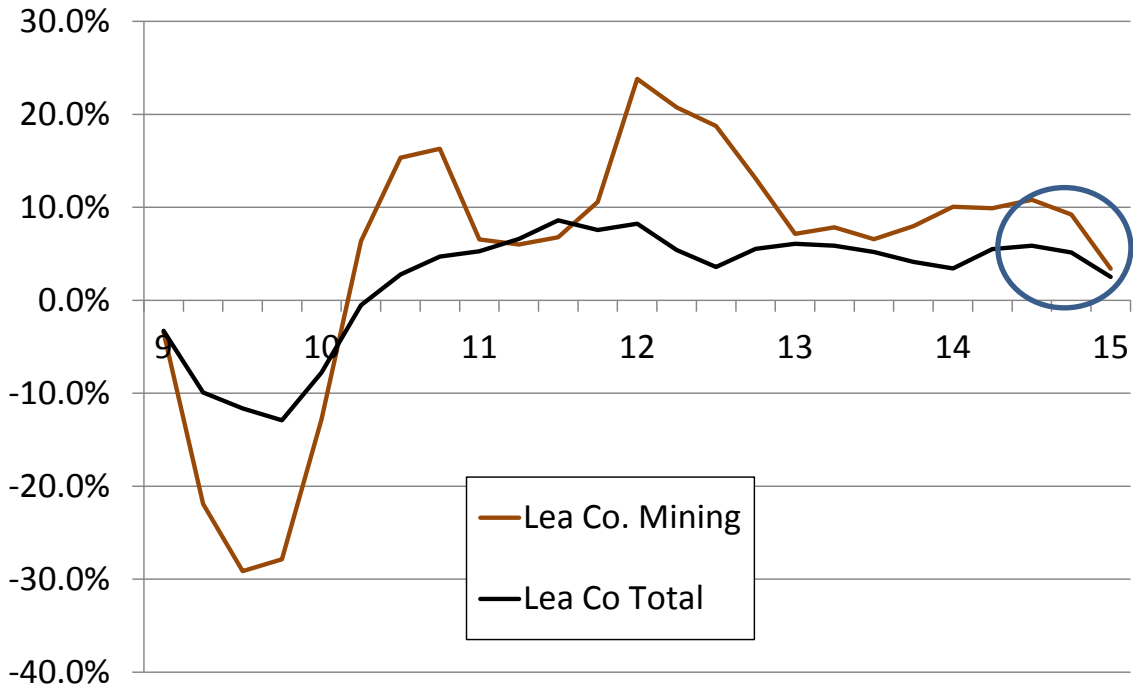
Figure B.1 Price of Oil, Quarterly 1996-2020



Source of data and forecast: IHS Global Insight, September Baseline Forecast

The first indicator is employment. **Figure B.2** records the evidence of slowdown since the third quarter of 2014. Only the first quarter data for 2015 has been released by the NM Department of Workforce Solutions, but year over year growth in both mining and overall employment in Lea County are down sharply.

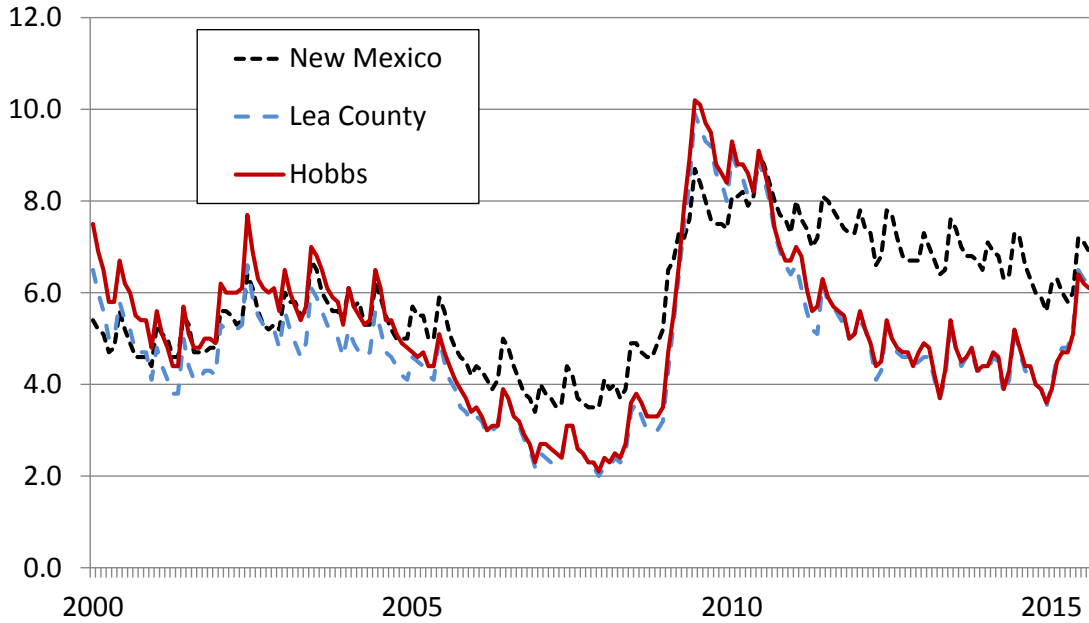
Figure B.2. Lea County Employment, Total Non-Farm and Mining and Extractive Industries, Quarterly, 2009 to 2015



Source of Data: New Mexico Department of Workforce Solutions, *Quarterly Census of Employment and Wages*

Whereas the QCEW numbers are employment as reported by employers on workers covered for unemployment insurance, the second indicator is from a household survey that focuses on whether people are working, and if not, whether they are still actively looked for work. Figure B.3 plots the official unemployment rate for New Mexico, for Lea County, and for Hobbs from 2000 monthly through the first several months of 2015. As can be seen in the graph, Lea County and Hobbs have since mid-2010 had unemployment rates that were well below that for NM as a whole. However, things changed dramatically over the past few months and the unemployment has climbed quickly to be very close to the higher rate in NM.

**Figure B.3. Unemployment Rate, Monthly, 2000 - Present
Hobbs, Lea County, New Mexico**



Source of data: US Bureau of Labor Statistics, LAUS

The third indicator is gross receipt tax data, specifically taxable gross receipts plus food and medical deductions. We use the taxable data because it is likely to be more accurate since this is what businesses actually report for tax purposes. We adjust for the food and medical deductions because these are major areas of activity that otherwise would be missed. The decline in activity as measure by growth quarter over quarter a year ago is evident in the first quarter of 2015 for Lea County as a whole, for Hobbs, for Lovington, and for Jal. The construction at Urenco probably throws off the numbers for Eunice. Tatum is small and more difficult to diagnose.

**Table B.1. Lea County Taxable Gross Receipts plus Food and Medical Deductions
Percentage Growth Quarter over Quarter Year Ago**

	2014Q1	2014Q2	2014Q3	2014Q4	2015Q1
Lea County	18.5%	19.9%	33.7%	32.7%	3.1%
Hobbs	13.8%	11.5%	19.4%	33.3%	-4.0%
Eunice	31.9%	55.5%	15.0%	-7.1%	16.8%
Lovington	-1.7%	242.1%	293.7%	401.8%	-4.4%
Jal	29.8%	-97.6%	71%	26.9%	-7.4%
Tatum	34.0%	41.2%	-24%	-4.2%	17.0%

Source of Data: UNM BBER Calculations from NM Taxation and Revenue Department Report 80, Quarterly, 2013Q1 to 2015 Q1.