

# Southwest Economy

## Texas Feels Energy Drain

- ▶ **State Facing Economic Headwinds in 2015**
- ▶ **Lower Oil Prices Weaken Prospects for Job, Economic Growth**
- ▶ **Metros' Rapid Growth Likely to Slow Following Energy Price Drop**





► *Our collective story involves a lot more than the recent oil and gas boom.*

**A**s my 10 years leading the Federal Reserve Bank of Dallas draw to a close, I find myself reflecting on the creative and innovative spirit of Texas.

Nature's endowments and Texans' ingenuity—the shale exploration revolution arrived during my tenure—have contributed to a period of tremendous growth: Texas output has increased \$331 billion, or 31 percent, in real terms from 2005 to 2013. To put that in context, Texas' economic capacity has grown by the equivalent of Norway, one of the world's wealthiest countries and the home of my maternal ancestors.

In fact, our collective story involves a lot more than the recent oil and gas boom. Texas has outperformed the rest of the U.S. in the pace of job creation by a greater than 2-to-1 margin for more than two decades. Since 1990, 68 net new jobs have been created in Texas for every 100 that existed in 1990. That compares with 10 new jobs in New York and seven in Michigan.

There are justifiable concerns following recent, sharp oil price declines. For those predicting a repeat of the economic calamity that followed the 1980s Texas bust, I would recommend this issue of *Southwest Economy*. The Texas economy relies less on the oil and gas sector than before, Michael Plante reports in this issue.

Nonetheless, lower oil prices, if they are sustained, will dampen state employment growth, though not uniformly across our economically diverse metropolitan areas, Amy Jordan writes. And after a year of record economic growth, including new highs in income per capita and home price appreciation, Texas' streak of outperforming the nation may be challenged, Keith Phillips and Christopher Slijk anticipate in our annual economic outlook.

Texas may face some near-term uncertainties, but I don't fret for the longer-term future of our great economic powerhouse or its people—Texas' underlying strength.

I'm reminded of the lyrics from one of my favorite country ballads:

*Never knowin' if believin' is a blessin' or a curse  
Or if the going up was worth the coming down.*

I depart the Dallas Fed knowin' that believin' has been a blessin', and no matter the ups and downs, our prospects remain bright.

A handwritten signature in black ink that reads "Richard W. Fisher". The signature is fluid and cursive, with a large initial "R" and "F".

Richard W. Fisher  
President and CEO  
Federal Reserve Bank of Dallas





# Texas Facing Economic Headwinds in 2015

By Keith R. Phillips and Christopher Slijk

**ABSTRACT:** Texas job growth is likely to slow in 2015 from last year's rapid pace as the state economy absorbs the impact of collapsing energy prices that have curtailed oil patch activity.

**A**fter expanding strongly in 2014, the Texas economy faces significant economic challenges in 2015. They include a sharp decline in the oil and gas industry, tight labor markets and weakening exports. Texas job growth is projected to slow to between 1 and 2 percent for the year.

State employment grew 3.4 percent last year, according to Federal Reserve Bank of Dallas data. That is well above the previous year's 2.7 percent and more than a full percentage point above the national average of 2.3 percent. Growth in 2014 was broad based, with jobs in most industries picking up significantly over 2013. Employment in oil and gas, professional and business services, construction, and leisure and hospitality led overall growth.

Texas ranked second in job growth in 2014, behind only North Dakota, according to Current Employment Statistics data released by the Bureau of Labor Statistics (*Chart 1*). While oil and gas-producing states led the U.S. in the early years of the recovery, the rankings of

these states in recent years have become more dispersed, with Oklahoma and Louisiana falling below the national average. Meanwhile, Sunbelt states hard hit by the housing crisis—such as Florida, Arizona and Nevada—have rebounded and are above the national average.

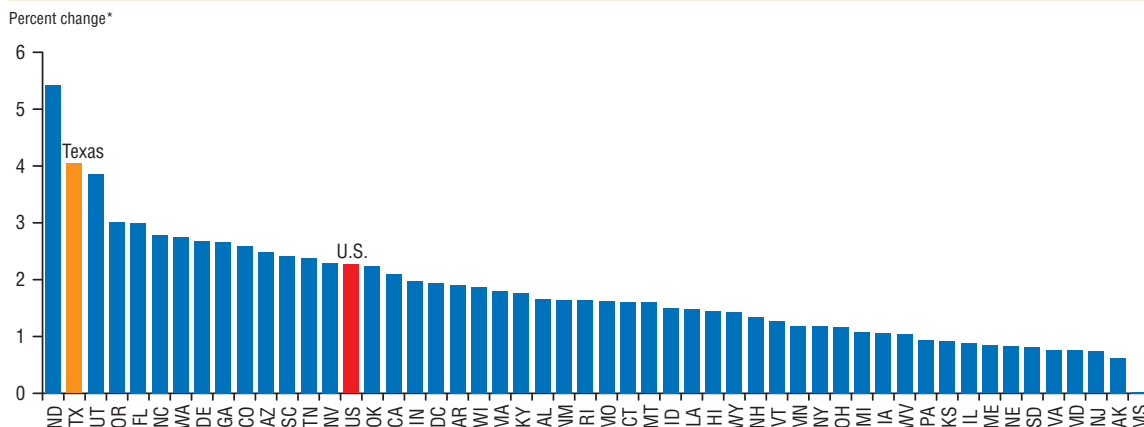
The Texas unemployment rate fell sharply last year, to 4.6 percent in December 2014 from 5.6 percent a year earlier. The decline occurred despite steady increases in the labor force, which grew 1.3 percent. The unemployment rate at year-end was the lowest since May 2008 and well below the long-term average of 6.1 percent.

Industry contacts noted that labor market tightness grew throughout the year, with firms encountering difficulty finding qualified workers in a broad range of industries and sectors. In the Federal Reserve Bank of Dallas' November 2014 Texas Business Outlook Survey (TBOS), 77.1 percent of manufacturing respondents and 71.9 percent of service sector respondents reported difficulty finding qualified workers.

While many sectors of the Texas

**Chart 1**

Texas Posts Second-Fastest Job Growth in U.S. in 2014



\*December over December, adjusted for seasonality and comparison purposes.

SOURCE: Bureau of Labor Statistics.

economy remain strong, headwinds will likely damp growth in 2015. The energy sector has begun losing significant numbers of jobs following the recent sharp decline in oil prices. This will, over time, ripple through other sectors of the economy, such as truck, pipeline and rail transportation; warehousing; equipment manufacturing; hospitality; construction; and retail.

Although layoffs in the oil and gas sector may ease labor market tightness this year, the skills of oil and gas workers will not match those demanded by such industries as health care. Additionally, laid-off oil patch workers will need time to find jobs and relocate to areas where labor is in short supply. Thus, labor market tightness will likely dissipate somewhat this year, although in many occupations and regions, it will continue restraining job growth. Finally, the recent strength of the Texas value of the dollar is putting downward pressure on Texas exports.

### Texas Growth Strong in 2014

Texas growth was on the higher end of the Dallas Fed's 2.5 to 3.5 percent interval forecast for 2014, published a year ago. While a pickup in activity was anticipated, mining and construction jobs in particular accelerated faster than expected. Employment growth was faster than the national average for the 11th consecutive year. Since attaining its pre-recession employment peak in late 2011,

Texas has added 1.1 million jobs, a 10.2 percent expansion (*Chart 2*). By comparison, the U.S. matched its prerecession employment peak in April 2014; at year-end, the nation was just 1.6 percent (2.3 million jobs) above the previous high.

Job growth increased in most Texas industries in 2014 (*Chart 3*). Oil and gas employment, driven by gains in energy prices through midyear, picked up the most and grew 10 percent last year from 5.4 percent in 2013. Due to gains in both residential and nonresidential building activity, construction employment accelerated from 4.5 percent in 2013 to 7.7 percent last year.

Professional and business services added the largest number of net new jobs, accounting for one-fifth of the total 389,000 jobs gained in 2014. This came in large part from a strong increase at employment agencies, which expanded 6.2 percent. Other notable areas of activity included accounting services and computer systems design.

Job growth in the government sector picked up slightly to 1.2 percent last year. Sector expansion has been light over the past several years compared with the historical average as budget cuts led to cutbacks first at the state and local level and then at the federal level. With less federal fiscal uncertainty in 2014, federal government employment in Texas fell 0.4 percent, compared with a 2.8 percent decline in 2013. Growth among state and local governments remained steady at

1.3 percent in 2014, still well above 0.4 percent nationally.

Fiscal stability also affected private industries that rely on government funding. This was particularly true in private education and in health services, which increased nearly a percentage point to 3.1 percent after several years of lagging activity.

### Construction Surge

Construction accelerated significantly in 2014 after moderating in the prior year. Growth was broad based, with healthy expansion in nonresidential and residential construction. Multiple billion-dollar manufacturing plant projects, such as a new Dow Chemical facility in Freeport, Texas, broke ground in the second half of the year, pushing nonresidential contract values to record highs.<sup>1</sup>

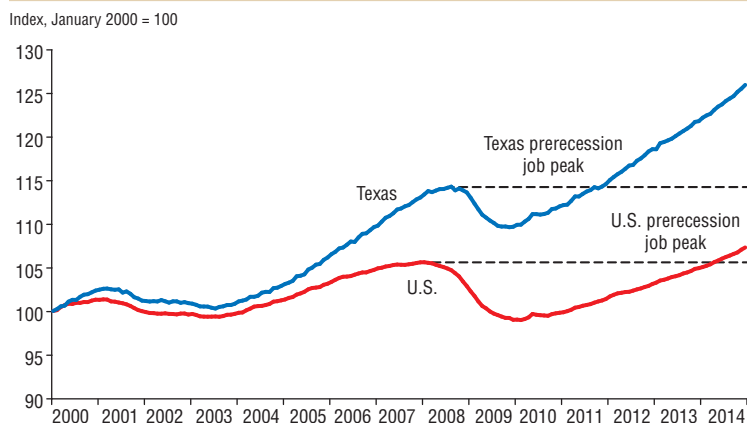
Meanwhile, residential housing construction picked up steadily through the year, with average monthly contract values up 13.4 percent, slightly less robust than the very strong 14.1 percent growth in 2013. Multifamily construction increased 23.6 percent, while single-family home construction rose 11.7 percent. Still, low lot supply, tight lending for land development and higher input costs constrained single-family activity.<sup>2</sup>

The 2015 outlook for construction generally remains positive, although falling energy prices add an element of uncertainty. Continued low mortgage rates and record low existing-home inventories of 3.4 months—well below the standard 6 months considered healthy—means that new building is needed to meet demand. Similarly, a low average office vacancy rate of 14.3 percent across the five largest Texas metros indicates that new construction is likely in areas that are tight on space and won't be hit hard by the weaker energy sector.

Overall construction will moderate in metros such as Houston, where jobs have grown strongly the past several years due to direct and indirect effects of oil and gas industry expansion. The effect will be greater in areas even more heavily dependent on the energy sector, such as Midland–Odessa.

Nevertheless, help-wanted advertising across the state for construction

**Chart 2** | Texas Jobs Continue to Grow Beyond 2008 Peak



SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

and maintenance workers was up 10.6 percent in the fourth quarter, and as of February, was at all-time highs. A need to ease tight home and office space inventories should buffer the impact of the energy sector declines. In areas less affected by the loss of energy jobs, the inflow of workers from that sector may help the construction sector expand at a faster pace.<sup>3</sup>

### Health Care Bounce-Back

Employment in health care and social assistance picked up sharply in 2014 and looks ready to continue growing rapidly in 2015. Sector employment grew at a 2.1 percent annualized rate in first quarter 2014, a weak pace that typified the sector over the past several years and was well below the long-term average of 3.5 percent. However, jobs picked up sharply, particularly at physicians' offices, home health care agencies and hospitals, in the last nine months of 2014.

In second quarter 2014, Medicaid enrollments in Texas began climbing rapidly and grew 13.4 percent last year. This rise, along with the rollout of the Affordable Care Act, likely contributed to a significant increase in demand for health services even though Texas opted out of the federal government's proposed expansion of Medicaid eligibility.

One notable area of growth the past year has been in home health care. This field faced significant weakening in 2013 due to cutbacks in government funding, which were particularly felt in Texas metros along the Mexico border, where up to 10 percent of all employment is in home health care. More stable government spending in 2014 and a higher percentage of people with insurance drove demand for home health aides and enabled employment in the field to bounce back.

Manufacturing activity picked up substantially in 2014 after an anemic 2013. The Dallas Fed's manufacturing barometer, the Texas Manufacturing Outlook Survey (TMOS), indicated robust manufacturing output growth. The TMOS production and volume of new orders indexes reached their highest annual levels since 2006, indicative of a

strong pickup in activity relative to the past several years.

Manufacturing employment was predominantly driven by the strength of chemical and construction-related industries (*Chart 4*). Jobs in construction-related manufacturing (wood products, cement and concrete products, architectural and structural metals, and furniture) and chemical production grew more than three times faster than the rest of the manufacturing sector in 2014.

Manufacturing prospects in 2015 look less positive. The business outlook of companies participating in TMOS turned sharply downward the first two months of 2015, dipping into negative territory for the first time since May 2013. Production and new orders data also declined, suggesting that manufacturing output may decelerate in coming months.

There are several reasons for this softening outlook. The oil price decline will likely lead to a significant reduction in demand for oil and gas equipment. Also, the recent rise in the value of the dollar has increased the cost of Texas exports (*Chart 5*). Recent appreciation in the Texas trade-weighted value of the dollar is likely behind some of the 12.8 percent decline in the state's exports from last August through January. Energy price declines—particularly in gasoline and diesel fuel—have also contributed to the falling value of Texas exports.

### Energy Sector Boom and Bust

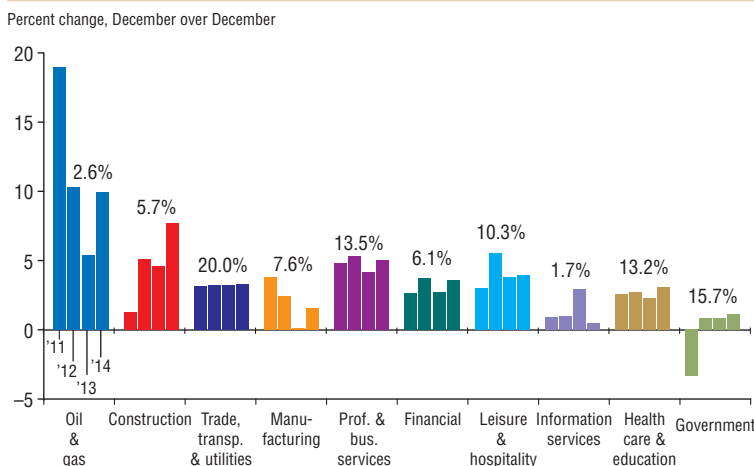
The energy industry accelerated in 2014, thanks in large part to continued expansion in shale drilling. Employment grew 10 percent, and the annual average rig count expanded 5.6 percent. However, weaknesses in this industry will ripple throughout the economy in 2015. (See *"Lower Oil Prices Weaken Prospects for Job, Economic Growth in Texas,"* p. 10.)

Over the past several years, the average price of West Texas Intermediate (WTI) crude oil has been relatively stable at around \$95 per barrel. The high prices and success of hydraulic fracturing exploration spurred a flurry of drilling that has expanded state oil production more than 50 percent since year-end 2012.

However, after peaking at \$107 per barrel in June 2014, WTI fell below \$50 in January (*Chart 6*). The initial decline—from the peak to \$80 at the end of October—likely positively influenced the regional economy. Because the break-even point for most oil drilling in the state is below \$80, mining activity changed very little while consumer spending picked up, reflecting households' lower cost of energy.

The further decline to between \$45 and \$50 is likely to more greatly affect the oil and gas sector. The rig count is off 41 percent, from a high of 906 in late November to 538 at the beginning of March. Further reductions are expected.

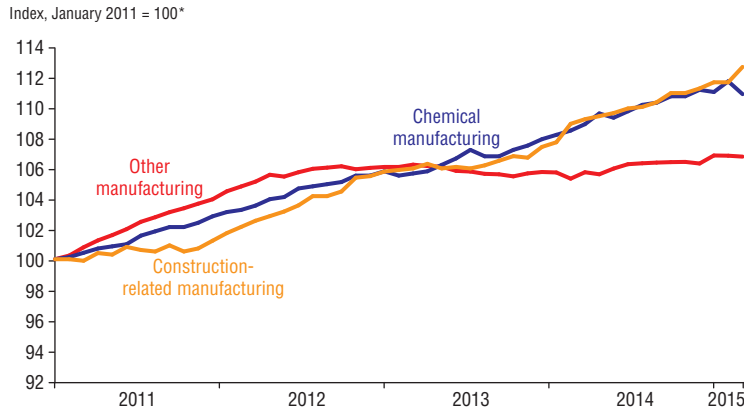
**Chart 3** Most Texas Industries Advance in 2014  
(Annual job growth by year, 2011–14)



NOTES: Figures above bars represent each industry's share of total nonfarm employment in December 2014. The financial category includes financial services, insurance and real estate.

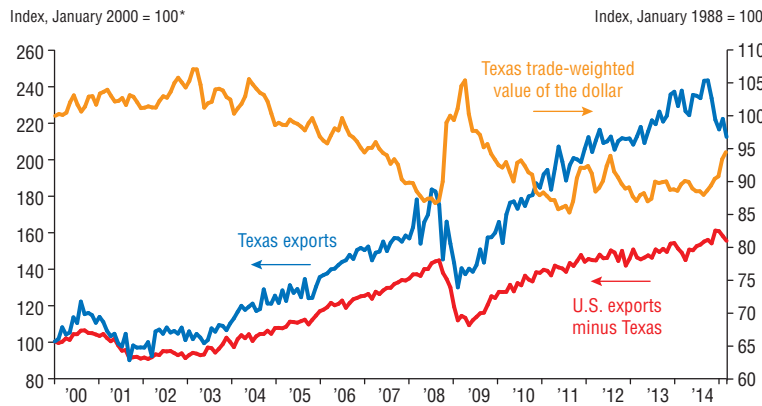
SOURCES: Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

## Chart 4 | Chemical, Construction Manufacturing Jobs Surge in 2014



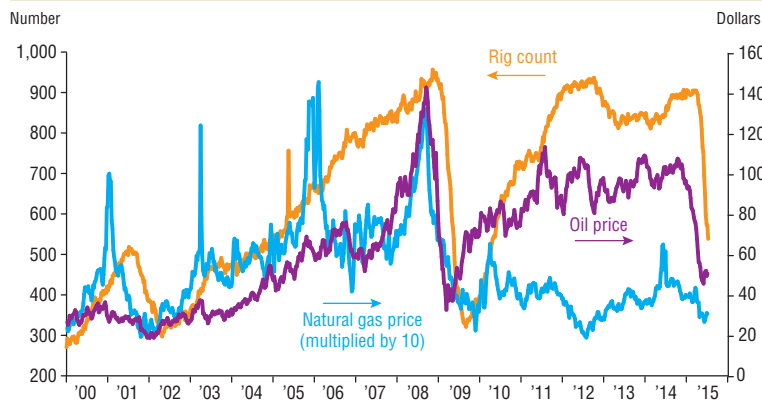
\* Seasonally adjusted.  
SOURCE: Bureau of Labor Statistics.

## Chart 5 | Texas Exports Decline Sharply Since August 2014



\* Seasonally adjusted; real.  
SOURCES: Census Bureau; WISERTrade; Bureau of Labor Statistics; Federal Reserve Bank of Dallas.

## Chart 6 | Rig Count, Oil Prices Begin Plunge in Last Half of 2014



SOURCES: Oil and Gas Journal; Baker Hughes; Wall Street Journal.

Large oilfield service companies such as Schlumberger, Halliburton and Baker Hughes recently announced they will lay off thousands of workers over the next several quarters. Layoffs began appearing in January oil and gas employment data, which fell an annualized 5 percent. Natural gas prices, which have been low the past several years, have also recently fallen, further damping drilling activity.

To better understand the effects of this sharp price decline on Texas in 2015, it helps to look at past oil price shocks and job growth in the state relative to the nation (Chart 7). By examining Texas' relative job growth (the difference between state and national rates of growth), we factor out broader macro influences that may be affecting both economies, such as interest rates and national consumer spending.

For example, in the late 1990s, a high-tech boom positively influenced growth in Texas and the U.S. When oil prices declined to very low levels in late 1998 and early 1999, Texas job growth fell below that of the nation (although it remained positive). In general, the chart shows a strong relationship between the inflation-adjusted price of oil and the relative growth in Texas jobs, suggesting that Texas employment growth may slip below the national average this year.

### Job Growth Likely to Slow

The Texas Leading Index declined sharply in the three months ended in January, a sign of impending weakening in the state's economy. The index incorporates changes in key indicators that have historically led movements in Texas job growth (Chart 8). Among them, oil prices, well permits and the Texas value of the dollar had a large negative influence on the change in the index.

In this three-month period, the real (inflation-adjusted) price of WTI crude oil and permits issued to drill oil and gas wells each plunged by more than 50 percent. These are strong indicators that the recent slowdown in drilling activity will continue for the foreseeable future.

The rise in the Texas value of the dollar also was a weakness over this period, making Texas exports to the rest of the world more expensive. This may be



pressuring Texas manufacturers, which, as previously noted, have experienced sharp reductions in new orders since October and more recently lowered their outlooks. The negative contributions from broader economic indicators, such as initial claims for unemployment insurance and average weekly hours worked, were more modest.

Other leading indicators have been modestly positive. Lower energy prices are a stimulus for the nation, where energy consumption far outweighs energy production. The price decline is likely an important factor behind the recent rise in the U.S. leading index. A pickup in the national economy increases the demand for goods and services made in Texas.

Despite a decline in the stock prices of energy companies, overall share prices have risen for Texas-based firms—pointing to continued sales and profit growth in the months ahead. And finally, online and print help-wanted advertising increased over the period, suggesting continued demand for workers.

### Mixed Outlook for 2015

The Texas economy picked up last year after a more moderate performance in 2013. Broad-based expansion across all major industries, led by energy, construction, business services and health care, pushed Texas job growth to the second-fastest in the nation.

2015 looks to be a year of mixed

growth. Low oil prices, though bad for Texas energy producers, benefit consumers in the form of lower gasoline and other prices that free up real disposable income and increase real spending. The U.S. economy is likely to benefit on net, fueling further demand for Texas goods and services. Health care appears poised for further growth as more people become insured. Housing demand remains strong across much of the state, suggesting that construction will continue to grow at a pace similar to that in 2014.

However, low oil prices and a high value of the dollar are risk factors. Energy sector companies will continue experiencing sharp cutbacks in capital expenditures and jobs, with ripple effects across the rest of the economy. International exports likely will continue falling with a strong dollar, putting pressure on manufacturing activity.

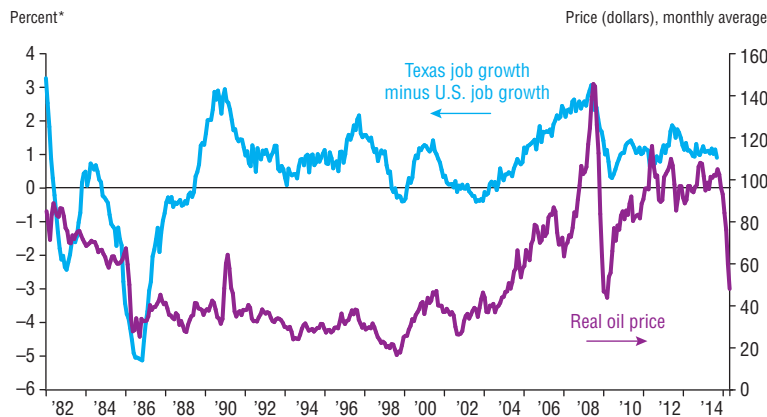
Recent declines in the Texas Leading Index suggest slowing growth. This is consistent with weakening projections reported in the Dallas Fed's Texas Business Outlook Surveys. A forecasting model that uses past changes in job growth and the leading index finds that Texas job growth will be 1 to 2 percent—an increase of 117,000 to 235,000 jobs—between December 2014 and December 2015. Last year, job growth nationally was 2.3 percent. If the national figure remains constant or picks up slightly in 2015, there is a good chance that Texas will trail the nation in job growth for the first time in 12 years.

*Phillips is a senior economist and research officer and Slijk is an economic analyst in the San Antonio Branch of the Federal Reserve Bank of Dallas.*

### Notes

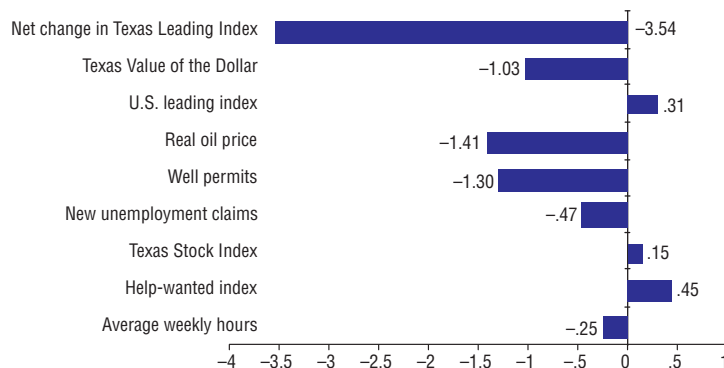
- <sup>1</sup> The value of construction contracts, measured by F.W. Dodge, is a measure of the value of construction contracts that are awarded and expected to start within 60 days. Data include new construction, additions and major alterations and exclude repairs and maintenance.
- <sup>2</sup> For more information, see "Single-Family Housing Squeeze Eases in Texas; Multifamily Soars," Federal Reserve Bank of Dallas *Southwest Economy*, Fourth Quarter, 2014.
- <sup>3</sup> See "Laid Off from Oil Field? Contractors Want You; Construction Industry in Texas Is in Hiring Mode," by David Hendricks, *San Antonio Express News*, Jan. 24, 2015.

**Chart 7** Texas Job Growth Slows Relative to U.S. as Oil Prices Slump



\*Difference in Texas and U.S. job growth; 12-month centered moving average.  
SOURCES: *Wall Street Journal*; Bureau of Labor Statistics.

**Chart 8** Texas Leading Index Components Point to Slowing Growth (Weighted contribution of components to index change, November 2014–January 2015)



SOURCE: Federal Reserve Bank of Dallas.

*A Conversation with Pia Orrenius*

## Immigrant Legalization Offers Range of Economic Gains, Some Fiscal Costs

*Pia Orrenius is a vice president and senior economist at the Federal Reserve Bank of Dallas. She has written extensively on the economic effects of immigration and coauthored the book *Beside the Golden Door: U.S. Immigration Reform in a New Era of Globalization*. She discusses the Obama administration's recently announced plans to legalize the status of several million unauthorized immigrants.*

### **Q. What is the status of unauthorized immigrants in the U.S.?**

Demographers at the Pew Research Center estimate that there are around 11.2 million undocumented immigrants in the U.S.—about 3.5 percent of the population and 5.1 percent of the labor force. Lawmakers have long debated what to do about this population. The last broad-based legalization was the Immigration Reform and Control Act in 1986. It legalized 2.7 million unauthorized immigrants, giving them permanent resident status (green cards). About one-third have since become naturalized U.S. citizens.

There have been smaller legalization programs since 1986, but bills proposing comprehensive immigration reform were defeated in 2006, 2007 and 2013.

State and local governments have been more successful than the federal government in passing immigration legislation in recent years. Many of the laws seek to discourage undocumented immigrants, such as E-Verify laws mandating businesses to electronically confirm that their newly hired workers are authorized for employment. Texas recently implemented an E-Verify law but limited it to state agencies and their contractors. Conversely, some jurisdictions have provided relief to immigrants, such as sanctuary city laws mandating that city employees not ask residents about their immigration status and not report unauthorized immigrants to the Department of Homeland Security.

### **Q. What are the provisions of the president's executive action?**

The executive action the president announced in November has several provisions. All are currently blocked by a federal court ruling, so none has been implemented.

The centerpiece is Deferred Action for Parents of Americans and Lawful Permanent Residents (DAPA), which would temporarily legalize the status of up to 3.7 million unauthorized immigrants in the U.S., including around 560,000 in Texas. Undocumented immigrants are eligible if they have a child who is a U.S. citizen or lawful permanent resident. They also must have been continuously present in the U.S. since 2010 and cannot have committed any serious crimes that would deem them a “removal priority.” Eligible immigrants whose applications are approved can expect to receive a three-year work permit and protection from deportation. They will be assigned Social Security numbers and can get a driver's license in most states. The action does not grant permanent residence or a path to citizenship; beneficiaries could not sponsor their relatives for permanent residency. According to the president's plan, DAPA status would be temporary but renewable every three years.

DAPA is similar to DACA, Deferred Action for Childhood Arrivals, a separate executive action implemented in fall 2012. DACA targets undocumented immigrants brought here as children and gives them benefits similar to DAPA—de-

ferred deportation and renewable work permits. To date, about 102,000 Texas youth have applied for and received DACA. Among Texas' estimated 1.7 million undocumented immigrants, 54 percent would likely be eligible for relief under DAPA and/or DACA. This estimate from the Migration Policy Institute includes expansions to DACA announced as part of the November executive action.

### **Q. What are the likely economic effects of DAPA on immigrants?**

Work permits will increase undocumented immigrants' access to better jobs. Initially, turnover may increase as workers quit their existing employment to look for better opportunities. Beneficiaries' wages are likely to rise as the quality of job matches improves and because the penalty on employment has been lifted. After all, employers who hire undocumented workers are subject to a fine if they are caught; this depresses the wages of illegal immigrant workers. Under DAPA, the threat of a fine and other penalties is removed and, since job matches are also expected to improve, immigrants' wages should rise.

Although the great majority of undocumented men work despite their unauthorized status, many unauthorized women do not. DAPA can be expected to increase labor force participation among these women as the threat of apprehension and deportation is removed.

### **Q. What can we learn from other similar programs?**

While theory suggests wages and labor force participation should rise among immigrants who benefit from DAPA, empirical studies can quantify those effects. My coauthor, Professor Madeline Zavodny of Agnes Scott College, and I conducted a study that addresses this question using the experience of immigrants from El Salvador and the Temporary Protected Status (TPS) program. (*See Dallas Fed Working Paper no. 1415.*)

In 1990, Congress authorized the president to grant citizens of some troubled nations “temporary protected status” while in the U.S. TPS is designed to provide a safe haven to migrants who





would otherwise return to potentially dangerous situations in their home countries. Unlike refugees, migrants with TPS do not receive legal permanent resident status. They are supposed to return home when the TPS designation for their country expires.

Most TPS beneficiaries are unauthorized immigrants who were subject to removal and could not work legally. A TPS designation was implemented for Salvadorans in March 2001 after two earthquakes rocked their country. It has been extended 10 times since, most recently in January 2015. As a result, many Salvadoran migrants present in the U.S. in early 2001 have been allowed to live and work here since. About 290,000 Salvadorans were initially granted TPS, and some 212,000 currently have it.

Our study compared less-educated Salvadorans who likely received TPS with those who did not. We found that the employment rate of TPS eligible men fell 6 percentage points as many workers quit existing jobs to search for better ones once they had work permits. There were no changes in hours worked or weeks worked among male workers who remained employed, but their wages rose 13 percent on average compared to the control group.

We also looked at TPS eligible women. While their wages did not increase, they greatly increased their work effort. Among less-educated, TPS eligible women, labor force participation rates soared 15 percentage points relative to the control group.

#### **Q. How are other workers affected?**

Most undocumented immigrants are already in the labor force and em-

▶ *Most undocumented immigrants are already in the labor force and employed despite the fact that they are not allowed to work under the law.*

ployed despite the fact that they are not allowed to work under the law. They get around the law by using fake Social Security numbers or numbers that belong to someone else. They may also work for employers who don't check their work authorization and/or pay them cash. These are often not the same employers who hire native workers, which limits the extent of labor market competition between some unauthorized immigrants and natives.

Once immigrants receive work permits, they can better access jobs with employers who also hire natives, and this may increase direct labor market competition, putting downward pressure on native workers' wages in the short run. This effect should be quite modest. Even when competing in the labor market, immigrants and natives have different skills that set them apart. Language and education are two of the most important. Legal immigrants are much closer substitutes for the newly legalized than are natives.

Another mitigating factor could be that employers switch to hiring legal workers once they become relatively plentiful. If the labor demand moves with the worker to the "legal market," there are few, if any, adverse wage effects. To facilitate this process, laws such as DAPA should grant employers one-time immunity from prosecution.

#### **Q. Do you believe undocumented immigrants will apply for the new program?**

The effects of DAPA on the labor market and other areas could be limited by low take-up among eligible immigrants. The group targeted under DAPA, particularly the parents of U.S. citizen children, can be sponsored for permanent residence when their children turn 21.<sup>1</sup> Green cards are a far more favored option by immigrants than deferred deportation. It is telling that DACA, implemented in 2012, has had a take-up rate of only 59 percent. Youth likely put it

off for a number of reasons, including the fear of exposing unauthorized relatives, lack of knowledge about the program, its high costs (at least \$465) and temporary status.

#### **Q. Who would be left out?**

Despite their broad reach, the DAPA and expanded DACA provisions leave out an estimated 5.8 million unauthorized immigrants who would be ineligible.

#### **Q. What other economic effects of legalization might arise?**

Legalization of unauthorized workers has effects outside labor markets. A number of these are positive for natives and immigrants. Once unauthorized immigrants are legalized and have proper identification cards and Social Security numbers, their improved economic status will increase their demand for goods and services. There will be increased demand for homes and cars and related financing and insurance services, for example. Research also shows that the children of legalized immigrants benefit in terms of higher educational attainment and other measures.

The tax contributions of legalized immigrants should also increase, although whether such increases are sufficient to offset additional spending depends on the details of the program. In its current form, DAPA would allow beneficiaries access to federal welfare programs such as the Earned Income Tax Credit, an expense unlikely to be offset by taxes on higher wages.

Effects of legalization are not limited to the U.S. Origin countries are likely to benefit as immigrants are able to return there for visits. This will translate into more travel, tourism and remittances—all positively affecting countries such as Mexico and nations in Central America.

#### **Note**

<sup>1</sup> Sponsorship is encumbered by the three- and 10-year readmission bars for most unauthorized immigrants who try to adjust their status to lawful permanent resident.

# Lower Oil Prices Weaken Prospects for Job, Economic Growth in Texas

By Michael D. Plante

**ABSTRACT:** Although the relative importance of oil and gas to the Texas economy has grown in recent years, lower energy prices are unlikely to halt net job growth statewide.

**T**he oil and gas sector in Texas has boomed in recent years due to high oil prices and surging production from new drilling technologies. However, with prices down sharply since last summer, the sector's outlook has dimmed (*Chart 1*). The economic fallout is especially important in Texas, the leading producer of crude oil in the U.S. and home to the nation's major oil and gas companies.

Lower oil prices are a boon and a bane for oil-producing economies. Falling prices reduce the cost of energy, generally viewed as a positive for economic activity. Conversely, lower oil prices negatively affect economic activity in oil-producing states as drilling activity is cut back, royalty payments are reduced and government revenues are adversely affected. Whether the overall effect of lower oil prices is positive or negative depends on the relative importance of the energy sector to the economy.

While several metrics suggest the Texas economy is less reliant on the oil

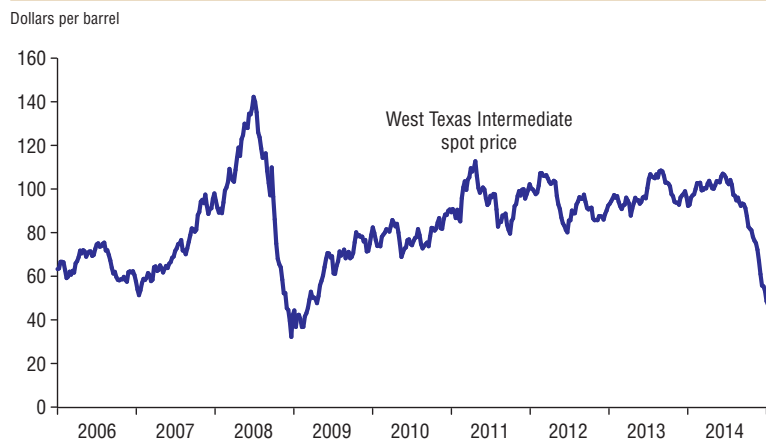
and gas sector than in the early 1980s, research suggests that the decline in oil prices will depress net job growth in the state. The effects by themselves are not expected to halt job creation in Texas in 2015, but will, nonetheless, be felt in areas heavily dependent on oil production and employment related to the sector. (See "Texas Metros' Rapid Growth Likely to Slow Following Energy Price Drop," page 16.)

## Oil and Gas Riding High

The oil and gas sector's relative importance to the Texas economy has varied dramatically as oil prices and production have evolved. By several metrics, the sector's heyday occurred in the late 1970s and early 1980s, a period of extremely high prices. The sector crashed as oil prices subsequently plunged, contributing to a statewide banking crisis. Years of stagnation followed, with a seemingly irreversible decline in production.

Over the past decade, Texas—and more generally, the Eleventh Federal Reserve District—has greatly benefited

**Chart 1** Oil Prices Plummet in Second Half of 2014



SOURCES: Energy Information Administration; CME Group.

from the shale boom. The district is home to four major basins where hydraulic fracturing and horizontal drilling have been successfully applied (*Chart 2*). These new technologies have revitalized oil and natural gas output. Crude production exceeded 3.4 million barrels per day in late 2014, up from 1.1 million in 2008, and natural gas production is at levels not seen since the 1970s.

Booming production and high prices have increased the oil and gas sector's relative importance to the state economy. The proportion of all jobs in the state attributable to the sector has been growing, reaching about 2.5 percent in 2013, up from a low of 1.4 percent in 2000 (*Chart 3*).<sup>1</sup> The current high remains well below the peak in 1982, when almost 4.7 percent of all jobs were in the oil and gas sector.

The share of total income generated in the state due to the sector has also grown.<sup>2</sup> As of 2013, the share was estimated to be about 13 percent, up from the recent low of 4.1 percent in 1998. Like employment, the share of income remains well below its boom-era peak, 19.1 percent in 1981.

### Government Revenue Source

For many oil-producing economies, the government revenue the sector generates is particularly important. Falling prices may have additional negative economic impacts because officials are often forced to raise taxes or reduce spending to make up for budget shortfalls.

In recent years, oil and gas taxes have provided a boon to Texas coffers. Oil- and gas-related taxes provided about 3 percent and 1.5 percent, respectively, of total state revenue in 2013. Their total share of 4.5 percent is up from 2 percent in 2010 and more than double the recent low of 1.5 percent in 1999. Because Texas taxes oil on its market value, recent price declines will reduce this source of revenue and could crimp government spending.

However, the state is significantly less dependent on these funds than before. For example, in 1982, oil and gas taxes provided over 17 percent of total state revenue. Texas is also not as reliant

on this source of funding as are many other oil producers—states and nations where it can provide one-third or more of total funding (*Chart 4*).

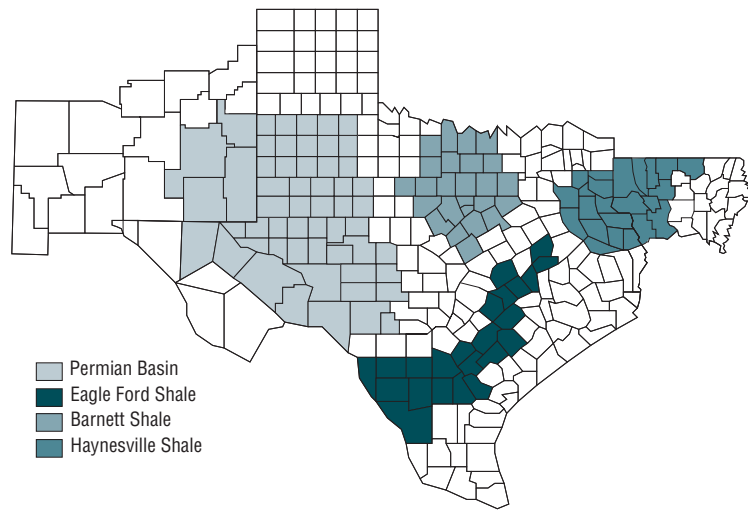
### Different States, Job Impacts

A model developed for a recent Council on Foreign Relations report provides some predictions on how oil price changes affect employment in

each state. The model takes into account a state's overall exposure to the oil and gas sector as of 2012. It also makes other assumptions, such as how responsive employment in various sectors is to changing oil prices.<sup>3</sup>

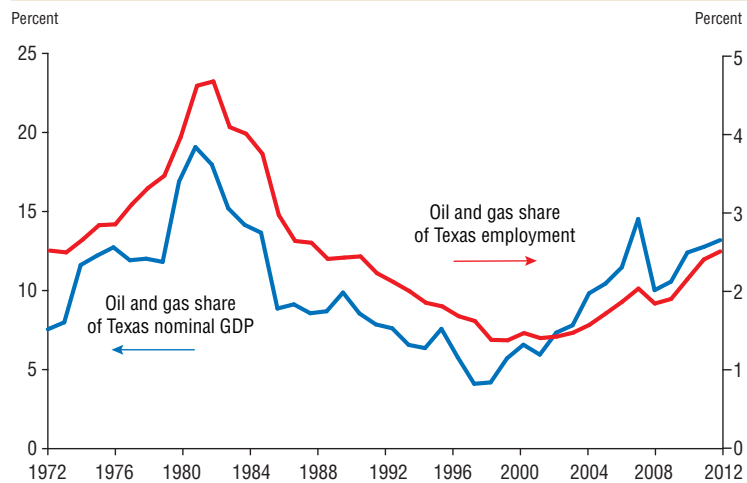
The model predicts that an oil price decline would negatively affect total employment in eight states and positively influence jobs in 42. The

**Chart 2** | Four Shale Plays Dominate Eleventh District Production



SOURCES: The counties in the Permian Basin, the Eagle Ford Shale and the Haynesville Shale are identified based on Energy Information Administration guidelines; the counties in the Barnett Shale are identified based on Texas Railroad Commission guidelines.

**Chart 3** | Importance of Oil and Gas Sector in Texas Varies over Time



NOTES: Standard Industrial Classification used for 1972–96. North American Industry Classification System used for 1997–current.

SOURCES: Bureau of Labor Statistics; Bureau of Economic Analysis; author's calculations.



percentage impact on total employment from a 50 percent oil price drop varies across the states (*Chart 5*). For Texas, the model predicts that the number of jobs eliminated by such a decline would equal 1.2 percent of total nonfarm employment, which averaged about 11.7 million in fourth quarter 2014. That translates to about 140,000 jobs at risk.

### Interpreting the Number

The 140,000 job-loss forecast estimates the number of jobs that currently

exist but would disappear because of lower oil prices. It includes cuts in both oil- and gas-related and non-oil sectors. The latter losses can occur, for example, because employees who lose their jobs in the oil and gas sector may reduce spending on other goods and services such as restaurants, which can lead to reductions in local service sector employment.

The number should not be viewed as a forecast of a jobs contraction in Texas in 2015. Rather, putting the

number into context requires considering the contributions to employment growth from non-oil sectors. In recent years, the state has produced a significant number of jobs across all sectors. For example, the state added 373,000 jobs in 2012; 300,000 in 2013; and more than 380,000 in 2014.

While the disappearance of 140,000 jobs is significant, it pales relative to the number created in recent years. As a result, if one takes the model literally, the prediction suggests that falling oil prices alone will lower the rate of net job growth but will not be detrimental enough to bring employment expansion to a halt. This is in line with a recent forecast produced by Dallas Fed economist Keith Phillips, who anticipates that Texas employment will grow 1 to 2 percent, compared with 3.4 percent growth in 2014. This forecast is based on a model totally unrelated to the one in the Council on Foreign Relations report, though it tells roughly the same story.

### Varying Impacts in Texas

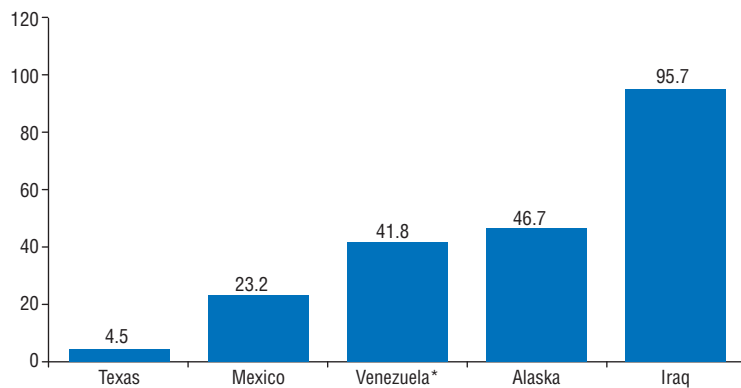
Negative effects of the price decline will probably not be evenly spread across Texas, for at least three reasons. First, oil production is not evenly distributed across the state. Second, some areas are more profitable to drill in than others. Third, the importance of oil- and gas-related employment also varies across metropolitan areas of the state.

Even though Texas has four major basins where production has boomed, oil-related activity is concentrated in the Permian Basin in West Texas and the Eagle Ford in South Texas (*Chart 2*). These two areas account for more than 80 percent of the oil produced in Texas. The Barnett and Haynesville regions, on the other hand, produce primarily natural gas. Low oil prices, therefore, will more significantly impact drilling activity in West and South Texas. They will also negatively affect royalty payments to landowners more significantly in those areas, affecting local residents' incomes and, potentially, reducing spending in the area.

Break-even prices—estimates for what oil prices must reach to provide a reasonable return on investment—also

**Chart 4** Some Governments Rely Heavily on Oil Revenues

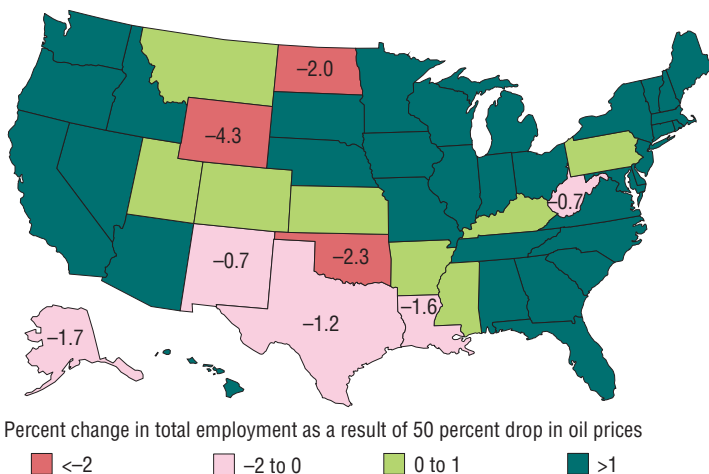
Share of 2013 government revenue (percent)



\*Venezuela data as of fiscal 2012.

SOURCES: Texas Comptroller's Office; Alaska Revenue Sources Book; International Monetary Fund; Bloomberg; Haver.

**Chart 5** Falling Oil Prices Affect Employment Differently Across U.S.



SOURCE: "The Shale Gas and Tight Oil Boom: U.S.States' Economic Gains and Vulnerabilities," by Stephen P.A. Brown and Mine K. Yücel, Council on Foreign Relations, October 2013.

vary across basins, both within Texas and across the U.S. Factors influencing break-even prices include well productivity, drilling costs and the presence of other hydrocarbons besides oil.

Studies tend to find higher break-even prices in the Permian Basin and relatively lower ones in the Eagle Ford and the Bakken Shale in North Dakota. They also find significant variation in break-even prices within a given basin. Although no hard data exist for Texas, a recent study by North Dakota's Department of Mineral Resources showed that break-even prices in different counties in the Bakken ranged from \$28 to \$85 a barrel, with an average of \$56.<sup>4</sup>

These findings suggest diminished drilling in all major plays, since each will have specific areas with high break-even prices. The Permian is most susceptible to a slowdown. Indeed, the basin lost over 200 rigs from the first week of December to the last week of February, significantly more than in the Eagle Ford or the Bakken.

Finally, metropolitan areas also will be impacted to different degrees because some rely on energy jobs to a greater extent than others (Chart 6). Places such as Midland, in the Permian Basin, and other areas more reliant on oil and gas employment are more likely to feel the brunt of the negative impacts. Houston, where almost 25 percent of all jobs in Texas are located, is the most exposed among major metropolitan areas, with almost 3.8 percent of area jobs related to mining. On the other hand, cities such as El Paso and Austin have comparatively less exposure and may even benefit from falling oil prices.

### Negative Effects for 2015

The oil and gas sector in Texas has grown in relative importance in recent years, but by most metrics the state is not as dependent on the sector as it was in the early 1980s. Despite this, research suggests that lower oil prices will negatively affect the Texas economy, with one model predicting that about 140,000 jobs could be lost statewide.

Although this is a large number, it is not expected to bring net job growth to a standstill, given recent employment

expansion in other sectors of the economy. Most susceptible to the downturn are areas of the state with high oil production and with numerous oil-related jobs. However, the overall impact will also crucially depend on just how long oil prices remain depressed, a difficult thing to predict given the uncertain and often volatile nature of oil prices.

*Plante is a senior research economist in the Research Department at the Federal Reserve Bank of Dallas.*

### Notes

<sup>1</sup> The employment share is the number of jobs related to oil and gas production divided by total nonfarm employment, which includes all jobs in the private and public sectors except those related to agriculture.

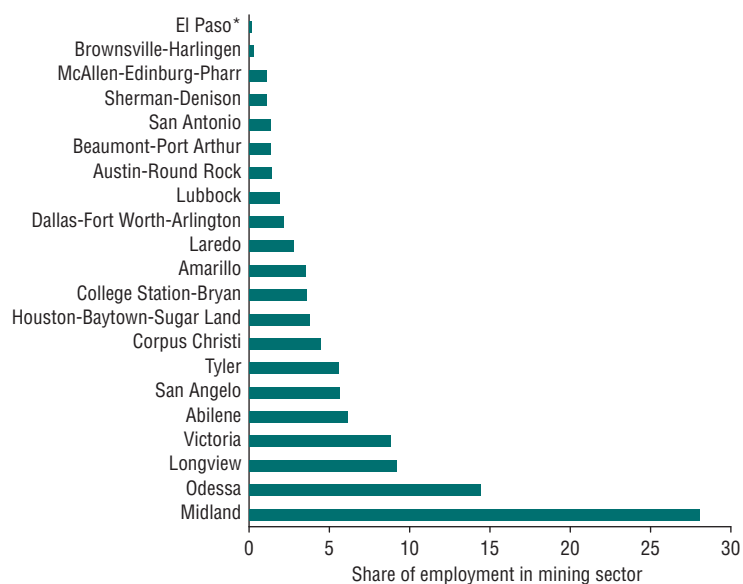
<sup>2</sup> The share is calculated as the sum of nominal gross domestic product (GDP) in oil and gas extraction and support activities for mining divided by total nominal GDP for the state, using publicly available data from the Bureau of Economic Analysis.

<sup>3</sup> Details can be found in "The Shale Gas and Tight Oil Boom: U.S. States' Economic Gains and Vulnerabilities," by Stephen P.A. Brown and Mine K. Yücel, Council on Foreign Relations, October 2013.

<sup>4</sup> See "North Dakota Discloses Break-Even Prices," *Oil Daily*, Oct. 17, 2014.

▶ Negative effects of the oil price decline will probably not be evenly spread across Texas.

**Chart 6** Some Metro Areas Have Greater Exposure to Energy Sector



\*El Paso data as of 2008; all others as of 2012.

NOTE: Mining predominantly represents oil and gas in Texas.

SOURCE: Bureau of Economic Analysis.



## WORKFORCE: Energy Only 3 Percent of Texas Private-Sector Jobs

**M**ore than 290,000 people work in the Texas oil and gas industry, about five times the number in Oklahoma, which has the second-highest total among the states. Still, Texas oil and gas production workers make up only 3 percent of private-sector employment in the state.

The share is higher in other top energy states. In neighboring New Mexico, 3.3 percent of private employees work in oil and gas production, and Oklahoma energy jobs are 4.6 percent of total private employment. The share of energy production workers in North Dakota, home to the Bakken Shale, is nearly 5 percent, and in Alaska, the share is 5.6 percent.

Although Texas only ranks seventh in share of energy production jobs, this figure has risen because of the shale boom. Since 2003, Texas energy employment has increased 108 percent, while total private-sector employment has grown 22 percent. Four major oil- and gas-producing regions are in Texas—the Eagle Ford Shale and Permian Basin, which are the most prolific oil-producing regions in the nation, and the Haynesville and Barnett shale formations, which combined produce 13 percent of U.S. natural gas.

Energy production employment includes jobs in extraction, drilling and mining support. Annual earnings for these jobs in Texas greatly exceed average private-sector earnings—\$122,000 versus \$52,000.

—Kristin Davis



## IMMIGRATION: Methodology Offers Insight on Unauthorized Residents

**T**here are 1.5 to 1.7 million undocumented immigrants in Texas out of a national total of 11.2 million, according to estimates by the Migration Policy Institute, a Washington-based think tank. About 80 percent of Texas' undocumented population is from Mexico, and 51 percent of the undocumented total have been present in the U.S. for 10 or more years, compared with 47 percent nationally.

The institute's data reflect use of a new methodology allowing analysts to impute immigrants' legal status from the Census Bureau's American Community Survey.

The institute found approximately 62 percent of the Texas undocumented population lacked a high school degree or equivalent from 2008 to 2012. That compared with 50 percent of the national undocumented population. About 63 percent in Texas were employed versus 65 percent nationally.

The data also show that during the period, more undocumented immigrants in Texas lived in poverty than across the country—37 percent compared with 31 percent—likely as a result of their lower education levels. An estimated 75 percent lacked access to health insurance in Texas, compared with 63 percent in the nation.

—Emily Gutierrez



## RETIREMENT: Unfunded Texas Health Benefits Add to State Liabilities

**T**exas' unfunded retiree health care benefits for state and local employees, known as “other post-employment benefits” (OPEB), totaled \$55 billion in fiscal 2012, fourth highest in the nation, according to Standard & Poor's. OPEBs have received less attention than pension benefits, but remain a significant liability for states.

Nationally, unfunded OPEB liabilities totaled \$529 billion in fiscal 2012—equal to 29 percent of U.S. state-held debt—although significantly less than the \$833 billion in unfunded pension liabilities, according to S&P. In Texas—as in most states—unfunded liabilities can be attributed to a pay-as-you-go funding strategy, as opposed to prefunding. In 2012, only 11 states had a funding ratio (liabilities/assets) higher than 10 percent.

Before the Governmental Accounting Standards Board, an independent oversight panel, required financial reporting in 2008, OPEB liabilities were largely undisclosed. Unlike pension benefits, OPEBs are not constitutionally guaranteed in most states, and since 2008 many states have attempted to curb benefits in order to decrease liabilities. From fiscal 2011 to 2012, the unfunded liabilities of Texas' largest OPEB funds—State Retiree Health Plan and Teacher Retirement System TRS-Care—declined 3.3 and 10.1 percent, respectively, according to S&P.

—Sarah Greer



# Incentives Draw Firms, but at What Cost?

By Michael Weiss

In the economic development arena, incentives for high-profile corporate relocations signal that a locality is open for business. They draw attention to an area's commercial and economic opportunities with the goal of expanding its depth and breadth of operations. Texas' expansive economy has included its share of such relocations, notably Toyota Motor North America's 4,000-employee 2017 move from Torrance, Calif., to Plano and Exxon Mobil Corp.'s more than 11,000-worker consolidation in 2016 to The Woodlands, north of Houston.

Among government leaders, the implicit expectation is that benefits—generally well-paying jobs with the target company and its suppliers and contractors as well as business-friendly image burnishing—exceed the costs of providing the incentives.

The abatements—though involving significant sums—are often small relative to overall tax receipts. The developer of the 478,000-square-foot property Exxon Mobil will occupy will receive a 10-year, 100 percent abatement on one of two office buildings the company will occupy and 50 percent on the other. Montgomery County's tax assessor estimated the annual forgone taxes at \$400,000. The sum is relatively minor compared to Montgomery County's overall adjusted tax base, which according to the county assessor totaled \$37.3 billion and helped generate \$169.5 million in taxes in 2013.

The Toyota move is pricier, with the company receiving a reported 10-year, 50 percent abatement on \$350 million in real and business property tax in addition to \$40 million from the Texas Enterprise Fund and \$6.75 million from the city of Plano.

## Valuing Abatements

As the number and complexity of abatements has increased—sometimes pitting local governments against one another—researchers have struggled with how to value abatements and incentives. Even assessing the timeframe



over which to measure their impact is difficult. While politicians tend to showcase new arrivals and their immediate impact, their value may arise decades later in the form of a new commercial center that might not otherwise exist.<sup>1</sup>

In the short run, some of the incentives prompt questions about whether economic activity is created or merely displaced from one location to the next. Michael Porter, the noted Harvard Business School competitiveness expert, suggests the answer is mixed.<sup>2</sup> On the one hand, relocation incentives can signal that an area is open for business or highlight its attractiveness to new industries. On the other hand, relocation incentives can reward firms that would have come to the area anyway or be larger than the firm's economic impact would warrant.

Only time will tell whether the Dallas suburb of Frisco gave up too much when it successfully lassoed the Dallas Cowboys practice facility from the city of Irving (which separately claimed its own prize, 7-Eleven Inc.'s North American headquarters from Dallas, in a nearly \$1 million tax abatement deal). Frisco's more than \$100 million plan for the Cowboys—groundbreaking was in August—aims to have the NFL team ensconced by 2016. In turn, other developers subsequently revealed plans for a \$1 billion mixed-use project surrounding the team's facility.

The overall property tax base in Texas is 52.3 percent composed of residential

property, 20.3 percent commercial and industrial property and 27.4 percent of other, suggesting that residential property owners initially make up a larger part of abated taxes, data compiled by the Lincoln Institute of Land Policy indicate. Nationally, the tax base is 59.8 percent residential, 21.6 percent commercial and industrial, and 18.6 percent other. Apart from taxes, there are other costs, such as environmental and congestion concerns and possible pressure on the property tax base that existing property owners may be called upon to absorb.

Some analysts suggest that the success of incentives can be judged simply by whether they bring in business that might not have otherwise relocated.<sup>3</sup> Even then, accurately gauging the economic success of a particular incentive plan can be difficult. The time required to complete many relocations as well as evolving local labor market demand complicate such assessments.

## Notes

<sup>1</sup> "Chasing a Dream: The Use of Tax Abatements to Spur Urban Economic Development," by Michael J. Wolkoff, *Urban Studies*, vol. 22, no. 4, 1985, pp. 305–15.

<sup>2</sup> "Defining Clusters of Related Industries," by Mercedes Delgado, Michael E. Porter and Scott Stern, National Bureau of Economic Research, NBER Working Paper no. 20375, August 2014.

<sup>3</sup> "Bidding for Business: New Evidence on the Effect of Locally Offered Economic Development Incentives in a Metropolitan Area," by Robert W. Wassmer and John E. Anderson, *Economic Development Quarterly*, vol. 15, no. 2, 2001, pp. 132–48.

# Texas Metros' Rapid Growth Likely to Slow Following Energy Price Drop

By Amy Jordan

**ABSTRACT:** Houston and Midland will be most affected by the oil and gas sector's slump. Activity may slow in other Texas metropolitan areas, but they will avoid major fallout because of economic diversification that has occurred in recent decades.

**E**conomic growth across Texas' four major metropolitan areas—Austin, Dallas-Fort Worth, Houston and San Antonio—and two metros on the border has been impressive since the recession, contributing to the state's economic expansion.

Overall Texas nonfarm employment growth has been broad-based, increasing by more than 1 million jobs by January 2015, or 10 percent, from its prerecession peak. However, with crude oil prices down 52 percent in February from year-ago levels, Texas' impressive advances since the recession will moderate in 2015, affecting its metropolitan areas to varying degrees.

Differences among Texas metros have allowed some to emerge far more quickly than others. While Austin has consistently exhibited outsized growth, Houston has experienced the greatest benefit from the energy sector and its rise after the recession. Although

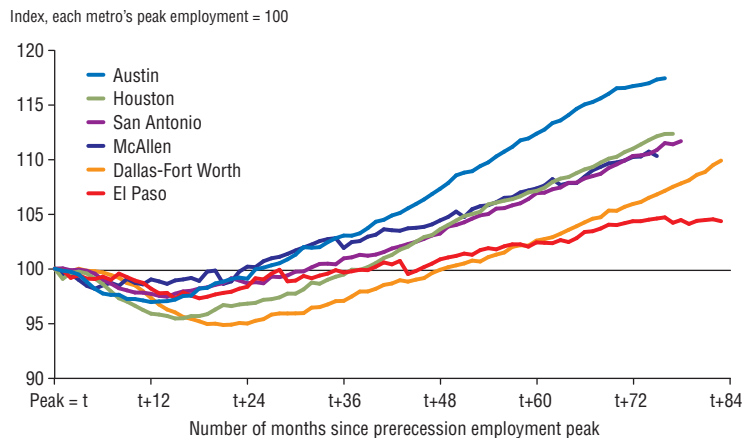
DFW lagged the other metros immediately after the downturn, it will propel the state's expansion in the coming months following the recent oil price decline.

## Recession Shortest in Austin

The Great Recession's impact was not as severe in Texas as nationally, though it still significantly affected job growth. From peak to trough, total nonfarm employment fell 4 percent in Texas, while declining 6 percent in the U.S. The recession's impact varied in timing, duration and intensity across the state.

The metro areas entered the recession at various times. Chart 1 graphs employment growth in the major and border metros, with total employment in each indexed to prerecession employment peaks, depicting the depth of job losses and how many months it took each locality to regain all lost jobs.<sup>1</sup> Shorter lines indicate a lesser

**Chart 1** Most Metro-Area Jobs Surpass Prerecession Peaks in Less than Four Years; North Texas Slightly Slower



NOTE: Data through January 2015.

SOURCES: Texas Workforce Commission; Federal Reserve Bank of Dallas.

number of months between a metro's prerecession peak employment and January 2015.

Austin, which recovered all its lost jobs in 26 months, was the first major metro to bounce back. From its prerecession employment peak in September 2008 to the trough, Austin lost 3.1 percent of total employment, or 23,500 jobs, the third-greatest decline, behind DFW at 5.4 percent and Houston at 4.8 percent (*Table 1*). San Antonio was the second-fastest major metro to regain prerecession employment levels, reclaiming all lost jobs in 32 months, followed by Houston at 39 months and DFW at 49 months.

Not only did Austin most quickly regain all the jobs it lost during the recession, but it also has grown the most over its prerecession employment peak. By January 2015, Austin's total nonfarm employment stood at 926,300, an increase of 17.4 percent over its high before the downturn. Houston has experienced the second-greatest increase, with employment 12.4 percent higher, followed by San Antonio at 11.7 percent and DFW at 9.9 percent.

The North Texas economy has an industrial profile that more closely matches that of the nation than the other Texas metros. As jobs at the national level were slow to recover after the recession, so too was employment in DFW. North Texas is also home to the Barnett Shale, an important natural gas producing region. The collapse of natural gas prices in 2008 caused

a reduction in Barnett Shale exploration, likely contributing to the relative weakness.

Along the border, McAllen surpassed its prerecession employment peak faster than Austin, taking only 24 months. McAllen's job losses were not as severe as those in the larger metro areas, partly because Mexico, with whom it has extensive trade relations, experienced a shorter recession than the U.S. Farther west, El Paso's job losses as a percentage of total employment were also relatively small, only 2.8 percent. However, El Paso is heavily dependent on the federal government and defense spending, which took much longer to recover; El Paso required 40 months to regain its lost jobs, slower than all the major metros except DFW.

### Industry Concentration Diverse

The industries in which a metro area specializes drive its growth. Austin's quick rebound benefited from a concentration of high-tech jobs—both in information services and in professional and business services, sectors in which it has a proportionately greater concentration of employment than the state (*Chart 2*). High-tech also propelled Austin's growth ahead of the other metros.

Energy, benefiting from the shale exploration boom, has been the top-performing sector in recent years, generating jobs in oil and gas extraction and energy support services.

▶ *Not only did Austin most quickly regain all the jobs it lost during the recession, but it also has grown the most over its prerecession employment peak.*

**Table 1**  
**1** Employment Changes by Metropolitan Area

		Prerecession employment peak		January 2015 employment (thousands)	2014 employment growth
	Month	Employment (thousands)	Employment lost (peak to trough)		
<b>Major metropolitan areas</b>					
Austin	Sept. 2008	779.4	3.1%	926.3	3.3%
Dallas-Fort Worth	Feb. 2008	2,989.9	5.4%	3,349.9	4.0%
Houston	Aug. 2008	2,618.5	4.8%	2,972.4	3.6%
San Antonio	July 2008	855.0	2.7%	962.8	3.3%
<b>Border metropolitan areas</b>					
El Paso	Feb. 2008	279.9	2.8%	295.4	0.5%
McAllen	Oct. 2008	220.5	1.9%	244.8	2.3%

SOURCES: Texas Workforce Commission; Federal Reserve Bank of Dallas.



These jobs are concentrated in the construction and mining supersector. Houston, because of the prevalence of energy jobs there, is the only major metro area employing a greater share of people in this supersector than is found statewide. Employment in oil and gas extraction and energy support jobs—referred to below as the energy sector or energy industry—has grown at an annual average of 7.5 percent in Houston since the recession.<sup>2</sup>

However, the energy industry accounts for much more of output than it does employment because this sector is very capital intensive. This is particularly evident in the Houston area in the production of petrochemicals.<sup>3</sup> Whether counting the value of economic activity or jobs, the recent decline in oil prices will likely negatively affect Houston more than the other metros. Indeed, energy job growth slipped in 2014 to 1.4 percent, down from 7 percent in 2013 and 8.1 percent in 2012.

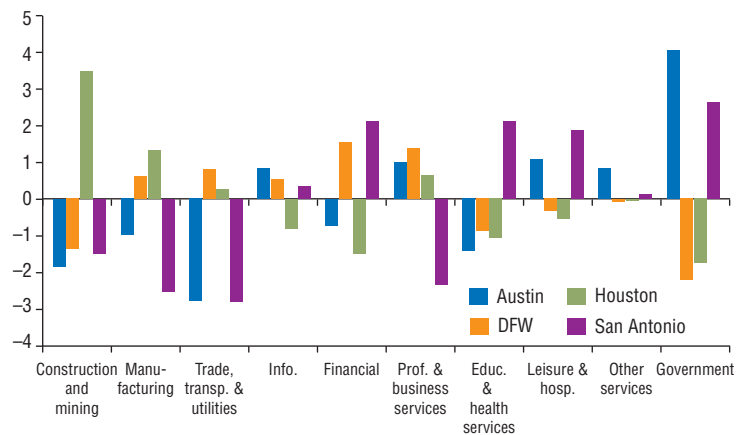
Earlier energy sector strength from the shale boom has benefited areas beyond Houston, such as the Permian Basin in West Texas and the Eagle Ford Shale in South Texas. In addition to employment, other business indicators advanced. Personal income in Midland and Odessa in the Permian Basin shot up—rising in Midland 17.5 percent in 2012 and 5.2 percent in 2013, and advancing in Odessa 14.1 percent in 2012 and 4.2 percent in 2013.

While Houston’s energy share of the workforce is the largest of the major metros, other regions experienced positive job creation spillovers in service industries. DFW and the border metros employ larger shares of workers in trade, transportation and utilities jobs than the state, while Austin, DFW and San Antonio employ greater shares in information services jobs, and Austin and DFW hold larger shares in professional and business services jobs. These sectors have expanded to support energy activity across the state, so the slowdown in the energy sector may affect these metros to varying degrees.

The DFW economy, despite its

## Chart 2 Varying Job Shares Reflect Texas Metros’ Specialization

Percentage points deviation from the sum of state metros’ share, January 2015



SOURCES: Texas Workforce Commission; Federal Reserve Bank of Dallas.

similarities to the national economy, could feel the effects of persistently low oil prices, especially in transportation and business service sectors that expanded to serve the oil industry. San Antonio will see more mixed impacts because workers who moved to the nearby Eagle Ford over the past few years may return to San Antonio, and this could provide a small boost to job growth. Still, some oil companies that set up operations just outside San Antonio will likely experience direct job losses.

Austin is more geographically removed from the oil fields, though anecdotal evidence indicates notable employment in energy support activities, including the manufacture of high-tech instruments and computer equipment for hydraulic fracturing used in the shale formations. As a result, Austin’s growth may be slightly impacted, but less so than Houston and DFW. Depending on the extent of job losses, overall consumer spending may also take a hit, although it will benefit from lower gasoline prices. (See “Lower Oil Prices Weaken Prospects for Job, Economic Growth in Texas,” p. 10.)

San Antonio’s share of employment in the financial activities services sector—which includes jobs in insurance, financial institutions and real

estate—also bears watching. Wages in the sector are the second highest of service-providing industries in the state, and this sector has posted steady growth since the recession, both advantages for San Antonio, whose overall 3.3 percent employment growth closed the gap with Austin in 2014.

### DFW Adds Most Newcomers

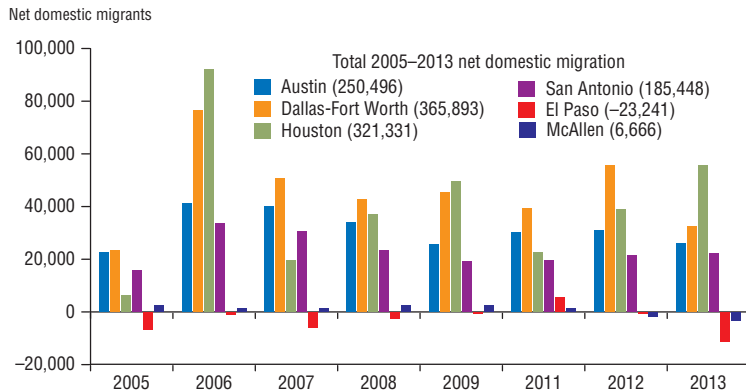
Even though DFW was the slowest to recover after the recession, its correlation with a strengthening U.S. economy was reflected in its growth last year. DFW expanded 4 percent in 2014, surpassing Austin at 3.3 percent and registering the fastest expansion among the metros.

DFW’s net migration—more people arriving than departing—outpaced all other major metro areas in the state in 2011 and 2012 (Chart 3).<sup>4</sup> Economically motivated in-migration helps regions grow by resolving growth bottlenecks, boosting economic efficiency and adding to aggregate demand. DFW has also been one of the top destinations in the state since 2005 and has grown the most since then.

Despite record migration, the newcomers have found jobs. Unemployment rates for the major metros are not at record lows, but all were at six-year lows in January 2015 (Chart 4).

### Chart 3

#### Recent Job Growth Attracts Migration to Metros

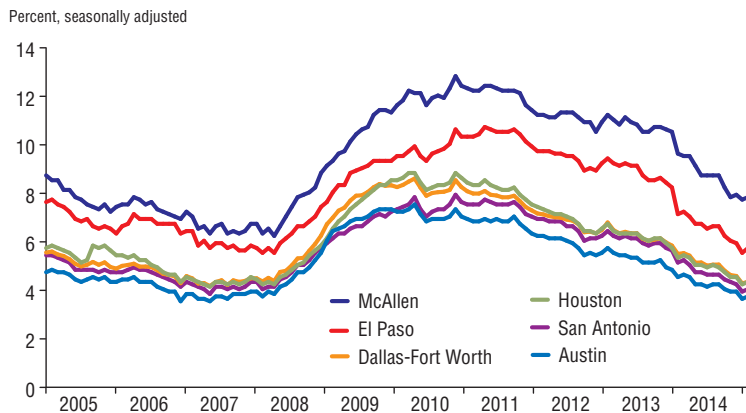


NOTE: Comparable 2010 data not available. Data are for July of previous year to July of year indicated. Hurricane Katrina, which struck New Orleans and the Gulf Coast on Aug. 29, 2005, contributed to the large migration to Texas in 2006.

SOURCE: U.S. Census Bureau.

### Chart 4

#### Despite High In-Migration, Unemployment Rates Trend Down in the Recovery Across the State



SOURCES: Bureau of Labor Statistics; seasonal and other adjustments by Federal Reserve Bank of Dallas.

Austin recorded the lowest unemployment rate at 3.7 percent, followed by San Antonio, 4 percent, and Houston and DFW, both 4.3 percent. Unemployment in the border metros, although higher than in the other major metro areas, has also trended down in the recovery and reached six-year lows. El Paso was at 5.7 percent, McAllen at 7.8 percent in January.

#### Slower Pace of Growth

Even without the oil price collapse, tightening labor and housing markets have recently begun constraining state

growth. Wage pressures have risen for several years, with weekly wages increasing 3 percent in 2012 and 2013; respondents to Dallas Fed surveys have indicated that this trend continued into 2014, noting labor shortages in several sectors.<sup>5</sup> This is consistent with the rapidly falling unemployment rate, which reached 4.4 percent in January.

As employment costs rose, price pressures increased, with those affecting housing markets particularly severe amid record low inventories and sharply higher prices that together have restrained demand.<sup>6</sup>

Lower oil prices will contribute to slower overall growth, which will resolve some of the bottlenecks the state has experienced recently and increase labor market slack. Growth in Houston will slow substantially, while Midland and Odessa will lose jobs. Some other areas may also experience slower expansion, though Austin, DFW and San Antonio should continue growing in 2015 because of their unique industrial compositions. DFW will perform the best while mirroring the U.S. economy, and border metros will benefit from the Mexican economy's projected solid performance this year.

*Jordan is an assistant economist in the Research Department at the Federal Reserve Bank of Dallas.*

#### Notes

<sup>1</sup> The major metros include Austin–Round Rock (Austin), Dallas–Plano–Irving combined with Fort Worth–Arlington (DFW), Houston–Baytown–Sugar Land (Houston) and San Antonio; the two border regions are El Paso and McAllen–Edinburg–Mission (McAllen).

<sup>2</sup> Annual average growth is calculated since 2011.

<sup>3</sup> See “Shale Revolution Feeds Petrochemical Profits as Production Adapts,” by Jesse Thompson, Federal Reserve Bank of Dallas *Southwest Economy*, Fourth Quarter, 2013.

<sup>4</sup> U.S. Census Bureau does not provide migration data for 2010.

<sup>5</sup> Dallas Fed surveys that include data and/or anecdotal evidence on high wage pressures include the Eleventh District Beige Book, Texas Manufacturing Outlook Survey, Texas Service Sector Outlook Survey and Texas Retail Outlook Survey.

<sup>6</sup> See “Single-Family Housing Squeeze Eases in Texas; Multifamily Soars,” by Laila Assanie, Federal Reserve Bank of Dallas *Southwest Economy*, Fourth Quarter, 2014.

## SNAPSHOT

# Juárez Maquiladora Employment Rising

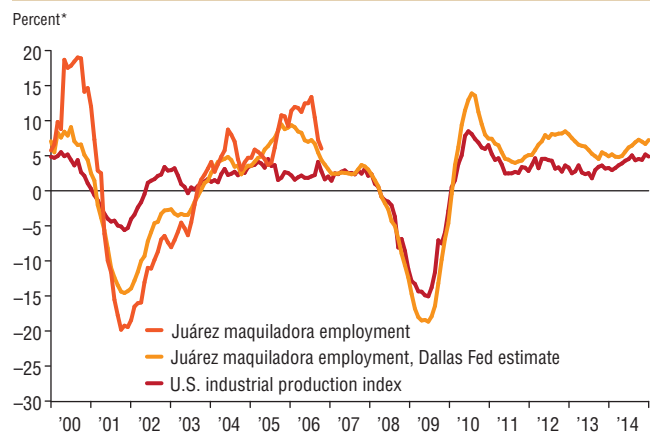
**M**aquiladoras south of the Rio Grande continue to add jobs, according to a Dallas Fed model based on the U.S. industrial production index and state of Chihuahua manufacturing employment. The model has been used to track maquiladora employment in the Chihuahua city of Juárez since Mexico stopped publishing such counts in 2006.

Employment at the plants, which assemble goods for export to the U.S., rose more than 7.2 percent in December over the same month the year before, according to the model. Formal manufacturing employment (for which there is an accounting of taxes and wages paid) also increased 7.2 percent in the Juárez area over the same period.

On an annual basis, U.S. auto and light truck production in January totaled 11.4 million units, while U.S. auto sales amounted to 16.6 million. Auto sales are near historic highs—good news for maquiladoras because roughly half the plants across the Rio Grande are auto related.

—Adapted from *El Paso Economic Indicators*,  
*Federal Reserve Bank of Dallas, February 2015*

U.S. Manufacturing Activity and Juárez Maquiladora Jobs



\*Year-over-year change; seasonally adjusted.

SOURCES: Instituto Nacional de Estadística y Geografía; Federal Reserve Board; Federal Reserve Bank of Dallas.

## DALLAS FED



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is published quarterly by the Federal Reserve Bank of Dallas. The views expressed are those of the authors and should not be attributed to the Federal Reserve Bank of Dallas or the Federal Reserve System.

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