



# HoustonBusiness

*A Perspective on the Houston Economy*

FEDERAL RESERVE BANK OF DALLAS • HOUSTON BRANCH • SEPTEMBER 2003

## Is There Life After Oil in Midland and Odessa?

*The Odessa–Midland economy remains very much in the grip of oil. However, it is apparent that the oil funds have been invested wisely in education, infrastructure and housing and that efforts are ongoing to improve the business climate through better roads, rail connections and industrial diversification.*

**T**he Odessa–Midland metropolitan statistical area (MSA) consists of Ector and Midland counties, with a population of 237,068 divided almost equally between the two (*see Table 1*). The cities of Midland (population 94,996) and Odessa (90,943) are located only nine miles apart, and together they dominate their part of the West Texas economy. The two cities share a common location, have a similar history and respond to the same broad economic forces. Because these two cities are located in the heart of the Permian Basin, oil has been their most important economic force for 80 years, and—like Houston during this same period—Midland and Odessa have repeatedly ridden the boom and bust cycles of the oil and natural gas industry.

This article examines these two important oil cities: their past, their recent economic performance and their prospects for continued growth as the

Permian Basin oil and natural gas fields decline. Their strong dependence on oil also provides insight into how current expansion in the oil sector affects the Houston economy.

### Common Past

Midland and Odessa began as neighbor cities of the same age and remarkably similar economic histories.<sup>1</sup> Both were products of the entry of the Texas and Pacific Railway into West Texas in 1881. Midland was originally named Midway by the railroad for its location halfway between Fort Worth and El Paso. But because other Texas locations were already called Midway, the name was changed to Midland in 1884 to secure a local post office. Railroad workers named Odessa for its resemblance to their native Odessa, Russia.

Land companies based in Ohio in the 1880s were separately organized to attract settlers to each city. To promote a denser population along its route, the Texas and Pacific Railway offered free freight for farm equipment and household goods to those willing to relocate. West Texas proved to be better suited to raising cattle and sheep than

**Table 1**  
**Ector and Midland Counties Compared**

	Ector	Midland	Texas
Population	120,926	116,142	21,370,983
Per capita income	\$22,671	\$33,384	\$28,472
Employment	58,845	61,395	10,331,605
Unemployment rate	8.1%	5.1%	7.5%
African American	4.6%	7.0%	11.5%
Hispanic	42.4%	29.0%	32.0%
Other white	51.3%	62.1%	52.4%

SOURCES: Population and per capita income (2001), Bureau of Economic Analysis; employment and unemployment rate (June 2003), Bureau of Labor Statistics; African American, Hispanic and Other white population (2000), Census Bureau.

to farming, however, and by 1910 Ector County was home to 84 farms and ranches and 24,000 cattle, while Midland County held 178 farms and ranches and 29,000 cattle. The area became one of the most important cattle-shipping points in Texas, well known for the high quality of its Hereford cattle. In 1910, the combined population of the two counties—measured in people—was still only 4,645.

Farming was generally more successful in Midland County than in Ector, further to the west. Irrigation arrived in 1911 and gradually provided some relief from periodic droughts. Corn, sorghum and especially cotton spread rapidly. By 1920, Midland County boasted 4,600 acres of cotton, while only 363 acres were planted in Ector.

Then oil changed everything. Oil was first discovered in the Permian Basin in Mitchell County, near Westbrook, in June 1920. By the end of 1922, modest but commercially viable amounts of oil were being shipped out of the region on the Texas and Pacific Railway to a refinery in El Paso. Geologists continued to doubt the potential of the Permian Basin region until May 1923, when Santa Rita 1 gushed oil near Big Lake, and a series of subsequent wells proved that the area contained the first major field in the Permian Basin. Later discoveries were mostly to the west, in Crane, Upton, Ward and Ector counties, including two major

discoveries in 1926—the Yates field in Pecos County and the Hendricks field in Winkler County.

Oil was first found in Ector County on the W. E. Connell ranch in 1926. A boom followed in 1929–30 with the discovery of the Penn and Cowden fields. In 1925, prior to the discovery of oil, Odessa’s population was 750, but by 1929 it had swelled to over 5,000. Although Midland County would not see major oil discoveries until the 1950s, it grew as oil developed in surrounding counties. San Angelo had been the city closest to the initial discovery of oil in Mitchell County, but as later discoveries moved west, so did the logical center of oil-field supply and management. Midland and Odessa divided the oil-related work between them in a way that shaped the character of the two cities for decades to come.

Odessa became the logistical center for providing labor, oil services, supplies and equipment to the oil fields. Its western location on the Texas and Pacific provided an initial geographic advantage over Midland, and Ector County commissioners furthered matters with a program to build roads from Odessa into the oil fields. Midland became the headquarters city for oil companies operating in the region. A large modern office building (the Petroleum Building) and an up-to-date, 150-room hotel (the Scharbauer) seemed to be the initial catalyst for this growth. By 1929, 36 oil companies had offices in Midland.

The division of labor has continued to this day. The Permian Basin still pumps more than 1 million barrels of oil per day, or 68 percent of Texas’ production. It produces 4 billion cubic feet of gas per day

and regularly accounts for 8 to 10 percent of U.S. drilling activity.<sup>2</sup> Midland made the decisions that shaped the Permian Basin fields, and Odessa carried them out. The split between the cities is white-collar/blue-collar, brains versus muscle, and over the years it bred a fierce civic rivalry. The cities have battled over naming the airport (it is the Midland Airport), the location of the four-year university (now in Odessa), hospital funding, wastewater discharge and many other issues. But in recent years a new spirit of civic cooperation has broken out, and we will see below some of the economic logic upon which this cooperation is based.

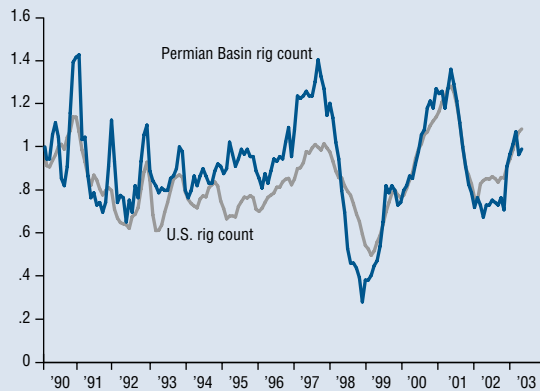
### Current Developments in the Oil Fields

The current expansion under way in the U.S. oil sector is the third since 1997. Deep declines in oil-field activity came in 1998–99 after the Asian financial crisis and again in 2001–02 on the heels of the U.S. recession. The Permian Basin has generally followed the pattern set by the U.S. rig count (*Figure 1*) but has been somewhat more volatile, with higher peaks and deeper valleys. Natural gas has become the primary driver of drilling activity in both the United States and the Permian Basin, with 85 percent of nationwide drilling in recent years devoted to natural gas. *Figure 2* shows the number of workover rigs operating in West Texas at the peak and trough of recent oil cycles. Workover activity, one measure of the maintenance being done on these 80-year-old fields, relates more closely to the price of oil than natural gas.

The latest expansion in the oil fields has been more moderate than might have been expected, especially with the price of oil over \$30 per barrel for most of this year and natural

**Figure 1**  
**Number of Working Rigs in United States and Permian Basin**

Index, January 1990 = 1



SOURCE: Baker Hughes, Inc. The Permian Basin is defined as Texas Railroad Districts 8, 8a and 7c.

gas near \$5 per thousand cubic feet. The rationale for the oil industry's tempered response to these price incentives is not entirely clear, but several reasons can be offered.

First, this is the third cycle since 1997. The ups and downs of the oil industry have come so fast it would be difficult to forget the serious lessons learned from past downturns. Because both recent declines were closely associated with economic events—the Asian crisis and the 2001 U.S. recession—the industry has waited for clear signals that the U.S. economy will strengthen and not fall into a double-dip recession.

Second, the fall of Enron and subsequent accounting and financial scandals put every corporate balance sheet under close scrutiny, but companies in Houston or the energy business were more scrutinized than most. The stock market has not rewarded oil and natural gas producers for current high commodity prices, leaving them in a defensive position financially. Continued low stock prices maintain the pressure on companies to fund pension plans and generally to keep the balance sheet strong, all of which detracts from new capital spending programs.

Third, for the Permian Basin with its aging oil fields, the

trend toward more natural gas production and less oil reduces the need for service and maintenance work. Gas wells are less complicated and require less ongoing attention, for example, than the pumps that bring oil to the surface.

Finally, the Permian Basin is a declining field, and that means progressively higher costs per barrel of production over time. The major companies, and increasingly the large independents, find themselves dissatisfied with the return on these properties, and sales of these properties have become common. Looking beyond the Permian Basin and comparing the behavior of U.S. drilling with the better-performing international rig count, it is clear that U.S. properties in general are drawing less and less interest from many oil companies.

In response to the rig count, oil-related employment in the Odessa–Midland MSA has increased from 10,300 jobs in April 2002 to 11,200 at present, an 8.7 percent increase. Total employment has risen only 0.6 percent over the same period. The oil-related job response has been mild partly because of the weak overall oil-field response, but also because of the sale of producing properties by major companies and the consolidation of administrative and technical work into Houston.

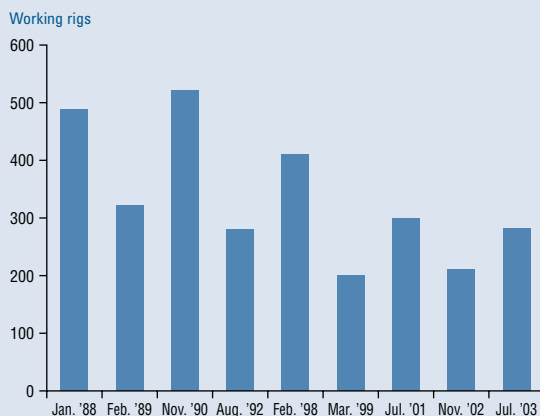
A decade ago, the stellar list of oil companies operating in the Permian Basin included such major firms as Arco, Chevron, Exxon, Mobil, Phillips and Shell. Through combinations of these com-

panies into super-majors and a continuous grading and weeding out of less profitable properties in their portfolio, these companies have all either left the region or greatly reduced their presence. Oil and natural gas are still being produced, but today the company names have changed to independent producers such as Apache Corp., Anadarko Petroleum Corp., Occidental Petroleum Corp., Pioneer Natural Resources Co. and Pure Resources.

Over the past 80 years, Odessa has traditionally taken the brunt of the ups and downs of oil-field activity, while Midland's white-collar workforce remained stable. In recent years, however, the exodus of major companies and the reduction of technical and administrative work done locally have put unrelenting downward pressure on Midland's oil-related employment. The pressure has continued into 2003 with recent announcements of headquarters cuts by Anadarko and Oxy Permian.

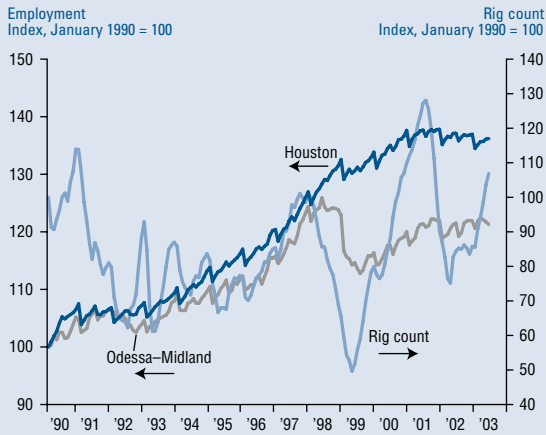
In the current round, oil-driven expansion has come largely in Odessa, with additional work being mostly added in the fields. But the rapid shifts from boom to bust have taken a toll even there because workers have left the area or have been increasingly difficult to

**Figure 2**  
**Peaks and Troughs in Workover Rigs Operating in West Texas**



SOURCE: Baker Hughes, Inc.

**Figure 3**  
**Total Employment in Houston and Odessa–Midland, 1990 to Present**



SOURCES: Bureau of Labor Statistics; Baker Hughes, Inc.

attract back into the industry. The rapid growth of the Hispanic population in Odessa, drawn there by the availability of these oil-field jobs, helps explain the growing gap in the ethnic mix of Ector and Midland counties in Table 1.

**The Odessa–Midland Economy**

We don't know of any precise estimates, but several people we interviewed in Midland and Odessa offered estimates that the two cities remain 70 to 80 percent dependent on oil and natural gas. In Houston, about 50 percent of local jobs depend on upstream and downstream energy, given the multiplier effect of oil as it ripples through the economy. Figure 3 contrasts the behavior of Odessa–Midland employment with Houston's. Clearly in recent years the smaller cities have been much more responsive to swings in the rig count than Houston, especially during the severe 1998–99 decline.

Table 2 shows another way to look at the Odessa–Midland MSA's dependence on oil. It shows the percentage of local personal income generated by oil and gas extraction and compares it with other oil cities from 1969 to 2000.<sup>3</sup> Odessa–Midland runs away with the comparison for highest share

among these cities, consistently at 18 percent or higher; only Houma–Thibodeaux comes close, in 1969–79. Further, Odessa–Midland has held this share consistently through the 31-year period, again unmatched by any other city except Houston, where the share has actually increased slightly. Houston has been able to capitalize on consolidation of oil

industry jobs from other oil cities, stealing white-collar employment in particular, an option unavailable to Odessa–Midland. Bakersfield, another oil city with very close ties to nearby oil fields, has also done a good job of maintaining its share of income.

Oil still matters in Odessa–Midland, and the current oil upturn seems to be carrying the rest of the economy once more. Wage and salary employment has begun to rise, and the unemployment rate has been falling slowly since late last year. Sales taxes rose above year-earlier levels in the second quarter of this year, after a substantial decline throughout 2002. New and existing home sales have been strong since the summer of 2000, driven more by low interest rates than by economic momentum.

The dependence of the region on oil raises concern in both cities about a future without oil. While oil and natural gas will not disappear tomorrow, the fields have reached the tertiary stage of production and are in decline. Fortunately for the region, both cities have invested in strong assets to build a more diversified economic base. Pri-

mary and secondary education is strong in both cities, as are the local community colleges, at least partly a product of past civic rivalry. The University of Texas of the Permian Basin arrived in 1973, originally as a two-year institution to complement the community colleges. It has been a four-year school for over a decade.

Important in West Texas, both cities have secured a long-term water supply. The cost of living in both cities is 90 percent or less of the national average.<sup>4</sup> Housing in the two cities has tended to reflect their white collar/blue collar split, with the majority of the housing priced above \$175,000 concentrated in Midland. Odessa has opened several developments in higher price ranges in recent years to try to break out of the blue-collar box it feels locked into. Medical care has strengthened substantially in recent years, especially in Odessa, where a growing community of physicians from India has brought a variety of new medical specialties to the region. A new \$37.5 million Alliance Hospital, the third in Odessa (along with one in Midland), brings breakthrough, less invasive methods for heart surgery. Medical office buildings have been a staple of Odessa's construction figures in recent years, and an adjacent hotel is now being built to complement the medical complex.

One success story for the region has been the growth of retail trade in the past decade.

**Table 2**  
**Five Oil Cities, 1969–2000**  
**Share of Personal Income Earned in Oil and Gas Extraction**

City	Percent			
	1969	1979	1989	2000
Odessa–Midland	20.8	18.2	18.1	18.9
Houston	4.4	7.0	7.3	8.0
Tulsa	7.5	8.2	5.9	4.6
New Orleans	5.4	5.2	4.5	2.9
Bakersfield	5.8	6.9	6.7	4.6
Houma–Thibodeaux	14.8	16.4	9.2	8.7

SOURCE: Bureau of Economic Analysis.

Overlooked by many marketers because Odessa–Midland had been treated as two separate metro areas, the combination of the two into a single MSA in 1993 attracted a host of big box stores and restaurant chains.<sup>5</sup> On marketers' computer screens, the metro area population seemed to double overnight. Most were initially attracted to the higher per capita income of Midland (*see Table 1*), but many later opened facilities in Odessa as well. Just as Odessa's western location allowed it to serve the oil fields, an Odessa location allows retailers to draw customers from the same fields as well as from the nearby cities of Monahans, Kermit, Pecos and Fort Stockton. While total employment grew 9.9 percent from 1990 to 1999, retail employment grew 13.9 percent.

Both cities sought diversification in recent years. Odessa passed a 0.25 percent sales tax in 1997 for funds devoted to economic development. Midland followed in 2001. The most recent success has been location of a Family Dollar Store distribution center in a new Odessa industrial park, providing 500 new jobs and serving 2,300 stores in four states. Both Midland and Odessa have scored a chain of successes in call-center and back-office operations, attracting companies such as Cingular Wireless, Sitel Corp., SBC Communications and Accu-Tel.

In their development efforts, the two cities have found reason to set aside their traditional rivalry and cooperate. Like most pairs of successful urban rivals—Houston–Dallas, Dallas–Fort Worth and Minneapolis–St. Paul—the cities are economic complements more than competitors. If they really did the same thing, one would have won out sometime during the last century to dominate the

other. Their persistence indicates they really play different roles and serve different interests. In their economic development efforts, the cities offer a much more complete package by marketing themselves jointly, whether it is excess office space and upscale neighborhoods in Midland or high-quality machine shops and excess wastewater capacity in Odessa.

The Midland–Odessa Transportation Alliance (MOTRAN) has been a vehicle for a number of successful cooperative efforts. The only rail service in the region is still the same east–west line on which the cities were founded, now operated by the Union Pacific. Because every major U.S. metro area is located on a rail crossroads, MOTRAN has worked with the state to try to secure north–south service as well. It has also promoted a trade corridor through West Texas called La Entrada al Pacifico, connecting Odessa–Midland and much of West Texas to Ciudad Chihuahua and perhaps ultimately to Mexican ports on the Pacific Ocean.

### Conclusion

The Odessa–Midland economy remains very much in the grip of oil. However, it is apparent that the oil funds have been invested wisely in education, infrastructure and housing and that efforts are ongoing to improve the business climate through better roads, rail connections and industrial diversification. Odessa–Midland has wisely prepared for life after oil. The cities clearly complement each other, playing very different roles in the regional economic system, and cooperation allows them to market a much more complete product to the rest of the world.

There is a more specific lesson for other oil cities as well. The current moderate recovery

in the oil patch is not being felt very strongly, even in Odessa–Midland. Of all major oil centers, this is the most sensitive to upstream activity, but it is seeing only slow but sure improvement in the local economy. There is no sign of the boom that current high prices for energy might suggest. The lesson for Houston, New Orleans, Tulsa and other oil cities is that the local impact of this oil expansion should be even more moderate than in Midland and Odessa.

— Robert W. Gilmer  
Timothy K. Hopper  
Scott Schwaizberg

*Gilmer is a senior economist and vice president and Hopper a senior economist at the Federal Reserve Bank of Dallas's Houston Branch. Schwaizberg was a summer intern from the University of Texas.*

### Notes

- <sup>1</sup> This section draws from the following articles in *The Handbook of Texas Online* ([www.tsha.utexas.edu/handbook/online](http://www.tsha.utexas.edu/handbook/online)): “Midland County,” “Midland, Texas,” “Ector County” and “Odessa, Texas.” Also, Roger M. Olien and Diana Davids Olien, *Oil in Texas: The Gusber Age, 1895–1945* (Austin: University of Texas, 2002), pp. 149–64.
- <sup>2</sup> From Permian Basin Oil Statistics on the University of Texas of the Permian Basin web site, [www.utpb.edu/PBDPL/Statistics/main\\_permian\\_basin\\_petrolium\\_statistics.htm](http://www.utpb.edu/PBDPL/Statistics/main_permian_basin_petrolium_statistics.htm).
- <sup>3</sup> The share shown here is for all mining employment because of disclosure problems. Mining, however, is an excellent proxy for oil and gas extraction in all of these cities.
- <sup>4</sup> American Chamber of Commerce Researchers Association, data for the second quarter of 2003.
- <sup>5</sup> The Office of Management and Budget has recently announced yet another sweeping set of changes to the definition of metropolitan areas that would once more separate the Odessa–Midland MSA into two metro areas. All metro area data used here are based on the combined-county definition, which is still in use for most statistical reports.

**T**here was scattered good news from Beige Book respondents this time: improving retail sales, a number of capital projects finally moving forward, more upbeat attitudes among most respondents and continued strong home sales. But the improvement has yet to spill into the job market or into other objective measures of the local economy. We are still waiting for real improvement in the Houston economy. Perhaps the wait may finally be coming to an end in the months just ahead.

### Retail Sales

Retailers were cautiously optimistic that they had reached bottom and business is beginning to recover. Most retailers reported traffic counts similar to last year and sales that had at least turned up, even if they were not yet matching last year's. One complaint was that lower costs, especially for large durable items like furniture, make it difficult to match last year's sales levels. The sales tax holiday was a big success this year for retailers selling back-to-school merchandise.

### Real Estate

Both home resales and new home sales remained strong through July, with many buyers pushing to close before interest rates rise further. Existing home sales in Houston were up 9.2 percent from last July, and new home sales are up by 5 percent year-to-date. The questions being asked are how high mortgage rates will rise and how quickly they will choke off sales.

The overall office market continues to register negative absorption figures and declining rents. Most of the damage is being done in the central business district and Galleria markets. Suburban markets are comparatively strong.

### Energy Prices and Exploration

Crude oil prices moved in a narrow range in recent weeks, as West Texas Intermediate stayed near \$30 per barrel. There was little news to move crude prices, although inventories remain only a couple of percentage points above 27-year lows.

Natural gas prices fell steadily as storage continued to refill at a faster than normal pace. Prices slipped under \$5 per thousand cubic feet in late July, down 60 percent from February. Gas in storage is only 9 percent below the five-year average instead of 35 percent, where it was earlier this year. Reductions by large industrial users—shut-downs or fuel-switching—seem to account for much of the additional gas moving into storage.

The domestic rig count has continued to flatten out in recent weeks, as producers turn conservative in the face of declining natural gas prices. International drilling remains strong, driven by oil prices. Oil service respondents continue to report a market that is good, if not great. They continue to be moderately optimistic about the near-

term outlook for drilling but remain cautious about hiring and vigilant in controlling cost.

### Gasoline and Refining

Refinery outages during the Northeast's blackout came at a particularly bad time, with inventories at an eight-month low, the Labor Day holiday approaching and coming on the heels of a number of other refinery outages in Texas, Oklahoma, California and Venezuela. The seven refineries knocked out of service in the United States and Canada have restarted, but retail price is expected to spike briefly by at least 10 cents a gallon, adding to other recent increases of 5 to 6 cents. Refiners' margins had improved moderately in recent weeks, and the blackout should give them another short-lived boost.

### Petrochemicals

Chemicals face continued weak demand, and prices have fallen again for ethylene, propylene, polyethylene, polypropylene and polyvinyl chloride. The decline in the price of natural gas has moved light feedstock plants (such as most on the Gulf Coast) back into rough parity with naphtha-based plants and has reopened some export markets for regional petrochemicals. Pessimists insist this situation is temporary because the downside risks for oil prices are much greater than for natural gas.



For more information or copies of this publication, contact Bill Gilmer at (713) 652-1546 or [bill.gilmer@dal.frb.org](mailto:bill.gilmer@dal.frb.org), or write Bill Gilmer, Houston Branch, Federal Reserve Bank of Dallas, P.O. Box 2578, Houston, TX 77252. This publication is also available on the Internet at [www.dallased.org](http://www.dallased.org).

The views expressed are those of the authors and do not necessarily reflect the positions of the Federal Reserve Bank of Dallas or the Federal Reserve System.