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ENERGY HIGHLIGHTS

Federal Reserve Bank of Dallas January 1983

Drilling Increase To Continue?

The U.S. rig count began an upward climb in the last week of October that has continued through the last report in December. As of December 24, 2,768 rigs were active. This turnaround follows the greatest rotary drilling decline in U.S. history, during which the rig count plunged from a high of 4,530 on December 28, 1981, to a low of 2,379 on October 18 of this past year. Despite recent increases, the year-end rig count remained 38.9 percent below the final count in 1981.

The November monthly average U.S. rig count of 2,499.8 was 4.1 percent over the October low of 2,401.5. The December figure of 2,695.8 showed a 7.8 percent monthly growth. Impending lease expirations and tax advantages have traditionally spurred drilling at year-end, but seasonal factors alone cannot explain the current comeback. On a seasonally-adjusted basis, the rig count still rose 7.4 percent in December and 2.7 percent in November.

Energy prices cannot explain the rebound. Gas producers now have difficulty finding attractive contract prices for newly-drilled gas supplies. And on the world oil market, the glut and the threat of a price break continue. Furthermore, in early December the major oil companies reversed a move they made in early September, and withdrew the $1 increase in the prices they pay for crude oil at domestic refineries.

An unusually large number of impending lease expirations may explain some of the activity, but the major factor appears to be softer prices and increased productivity in drilling services. A fixed budget can support more drilling now than in late 1981 and early 1982. And since drilling costs are now lower than can be expected if oil prices were to rise again, some current drilling may be substituting for future drilling. But without an oil price recovery, the oil drilling comeback is unlikely to continue. Gas drilling continues to languish, despite the drop in drilling costs, because gas producers face a very difficult time marketing new supplies.

While the uptick in oil field activity is evident in Texas, continued doldrums in natural gas drilling—particularly deep gas—are evident in Oklahoma. On a seasonally adjusted basis, the Texas rig count fell only 0.1 percent in October. It increased 6.9 percent in November and 9.3 percent in December. Meanwhile the Oklahoma rig count continued dropping, declining a seasonally-adjusted 18.0 percent in October, 4.4 percent in November, and 0.3 percent in December.

The January U.S. rig count must have an average above 2,654.1 to evidence a seasonally-adjusted increase over December.

—Stephen P. A. Brown

Changing Price Expectations Cloud Energy Industry Outlook

The current worldwide glut characterizing the oil market has severely depressed the U.S. energy industry. Drilling rigs in service are 40 percent below the December 1981 level, and domestic oil producers have been forced to discount prices. Continued recession in Europe and the United States and the failure of OPEC's members to agree upon a satisfactory means to share cuts in production suggest further problems for the U.S. oil and gas extraction and services industries.

One of the major effects of the oil glut has been a revision of price expectations. Before the glut, oil prices were expected to rise faster than inflation. Experts now forecast declining real (inflation-adjusted) oil prices through 1985. As a result, marginal projects deemed profitable before the downward revision in price forecasts are now less attractive investments.

Persistence of the glut, which has generated the decline in oil prices, can be traced to changes in the market shares of oil producing countries. While total oil production has declined

(Continued on back page)

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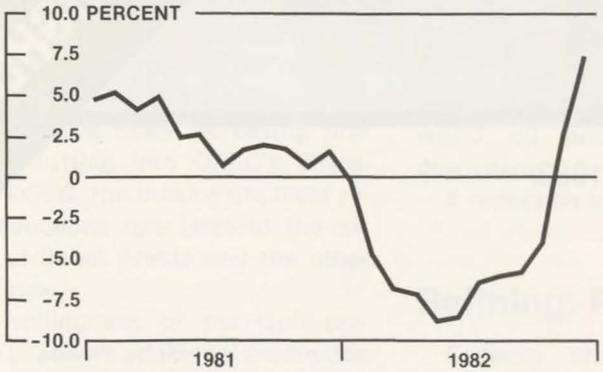
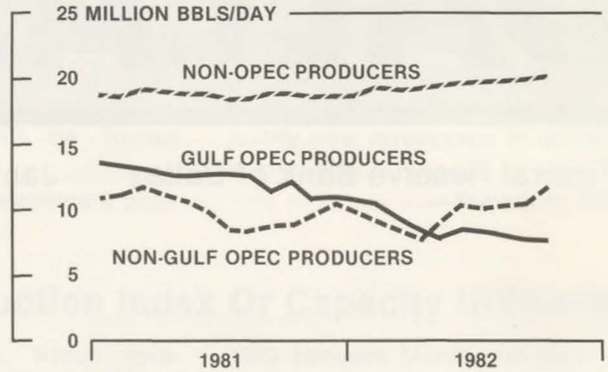
Chart 1
RATE OF CHANGE IN SEASONALLY ADJUSTED U.S. RIG COUNT



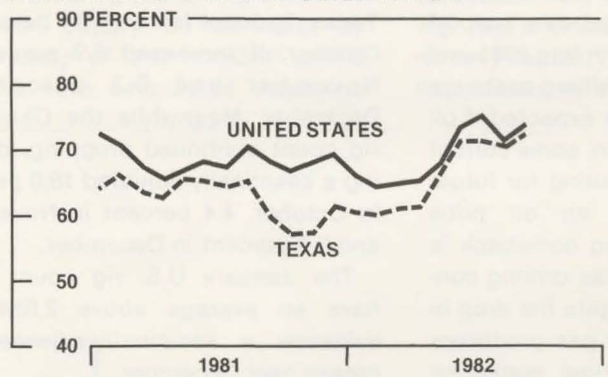
SOURCES: Hughes Tool Company.
Federal Reserve Bank of Dallas.

Chart 2
MONTHLY OIL PRODUCTION



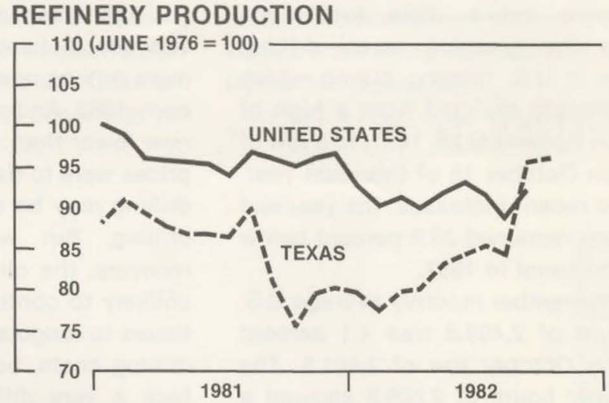
SOURCE: Oil and Gas Journal.

Chart 3
REFINERY CAPACITY UTILIZATION



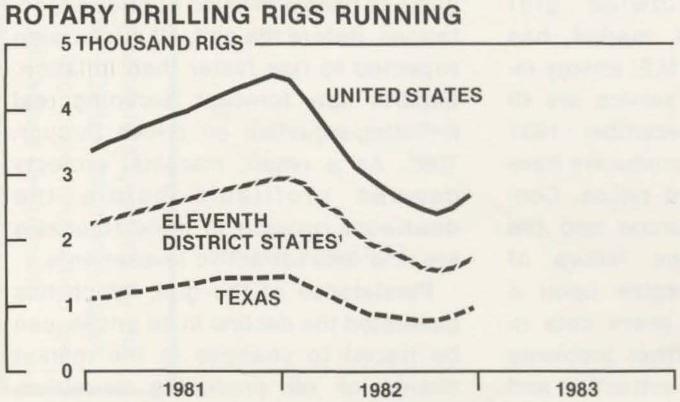
SOURCES: U.S. Department of Energy.
Federal Reserve Bank of Dallas.

Chart 4
REFINERY PRODUCTION



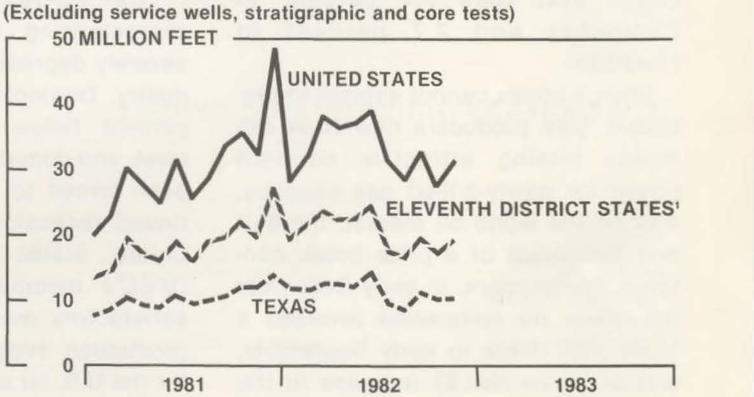
SOURCES: Board of Governors, Federal Reserve System.
Federal Reserve Bank of Dallas.

ROTARY DRILLING RIGS RUNNING



1. Louisiana, New Mexico, Oklahoma, and Texas.
SOURCE: Hughes Tool Company.

FOOTAGE DRILLED
(Excluding service wells, stratigraphic and core tests)



1. Louisiana, New Mexico, Oklahoma, and Texas.
SOURCE: American Petroleum Institute.

ENERGY BRIEFS

- Weakness in the U.S. economy and the decline in world oil prices have continued to hold natural gas extraction below last year's production.
- U.S. oil production again posted slight gains from four quarters earlier, although production has declined in Texas and the four Eleventh District states.
- In the three months ending December 17, U.S. refinery operations fell 10.4 percent. This contrasts with a 3.8-percent increase in production over the same period in 1981. In Texas, refinery operations dropped 15.7 percent in the three months ending December 17. Over the same period in 1981, a gain of 9.7 percent was achieved.
- In Texas, manufacturers of oil field durable goods still have large inventories of unsold goods and are continuing to lay off workers and cut production schedules. Although Texas employment in the manufacture of fabricated metal products (which includes oil storage tanks and drill pipe) and oil field machinery fell for most of 1982, the rate of decline slowed toward year-end.
- Total footage drilled in oil and gas wells completed since July has remained below the high levels reported between March and June. This reflects both a lagged response to the decline in drilling activity as evidenced by the rig count, and a move to shallower wells.
- The U.S. seismic crew count, which is considered a leading indicator of drilling activity, has fallen in all but one month since reaching its peak of 744 in September 1981. In November of 1982, the number of active crews fell to 502, 2.7 percent below its October value, and 31.5 percent below its value in November 1981. Nearly all of the decline has been in land crews.

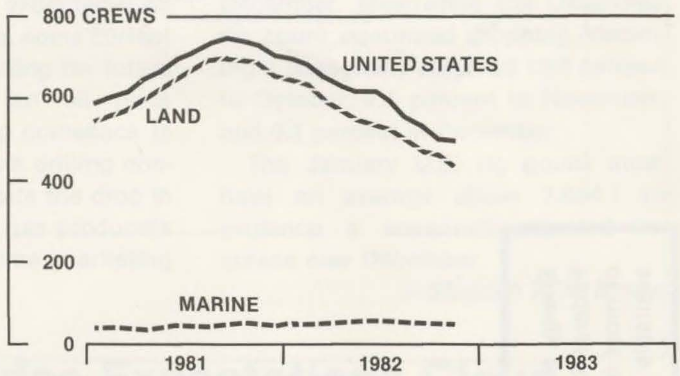
CRUDE OIL PRODUCTION AND NATURAL GAS EXTRACTION

	Percent change from four quarters earlier				Daily average 1982:Q3
	1981	1982			
Oil	Q4	Q1	Q2	Q3	Thousands of barrels
Texas	-3.5	-3.6	-6.1	-6.5	2,403
District states[1]	-2.4	-2.1	-3.0	-2.5	4,286
United States	.4	.8	1.2	1.5	8,694
Gas					Millions of cubic feet
Texas	-4.4	-1.8	-6.3	-11.0[2]	17,049[2]
District states[1]	-3.7	-2.4	-5.6	N.A.	N.A.
United States	-2.5	-1.9	-5.7	-11.5[2]	48,550[2]

1. Louisiana, New Mexico, Oklahoma, and Texas.
2. Preliminary figures.

SOURCES: American Petroleum Institute.
Texas Railroad Commission.
U.S. Department of Energy.
Federal Reserve Bank of Dallas.

SEISMIC CREW COUNT



SOURCE: Society of Exploration Geophysicists.

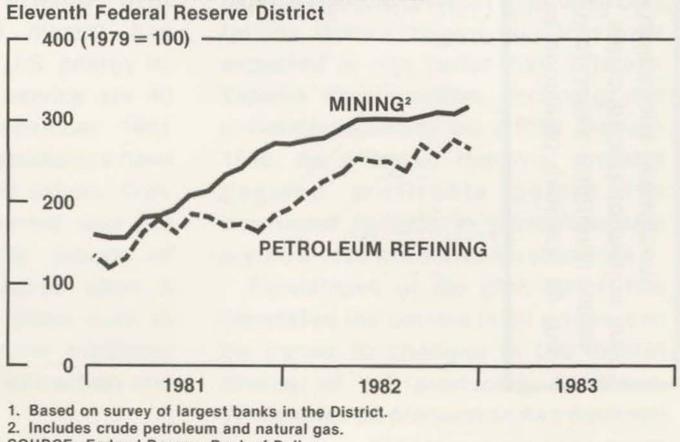
TEXAS ENERGY INDUSTRY EMPLOYMENT

	Percent change from preceding month			Number of employees November 1982	
	1982			Thousands of persons	Percent change from Nov. 1981
Industry	Sept.	Oct.	Nov.		
Oil and gas extraction	-2.1	-2.0	-.7	270.0	-8.1
Petroleum refining	9.0	-1.2	.0	42.1	-3.2
Oil field machinery	-7.7	-8.9	-4.8	49.7	-42.2

SOURCE: U.S. Bureau of Labor Statistics.
Federal Reserve Bank of Dallas.

ENERGY LOANS OUTSTANDING[1]

Eleventh Federal Reserve District



1. Based on survey of largest banks in the District.
2. Includes crude petroleum and natural gas.

SOURCE: Federal Reserve Bank of Dallas.

Energy (cont.)

over the last two years, the burden of the reduction has not been evenly distributed. Oil production by the Persian Gulf countries, non-Gulf OPEC countries, and producers outside OPEC are shown in Chart 2. Non-OPEC countries have been increasing production, cutting into OPEC's share. Within OPEC, the bulk of the most recent reductions has been at the expense of Saudi Arabia and the other Gulf states.

The willingness of the Gulf producers to absorb additional production cuts to defend the $34/barrel benchmark price determines whether any further downward revisions in price expectations will occur over the next six months. Saudi Arabia's resolve to maintain the current price structure is likely to be severely tested. An expected world-wide seasonal decrease in demand during the Spring will force additional supply curtailments by OPEC. Many of the non-Gulf OPEC members have announced intentions to increase production next year to meet balance of payments commitments. Realization of these plans will force Saudi Arabia to further reduce its production and draw down its foreign exchange reserves. Should the Gulf countries be unwilling to absorb these reductions in production, world oil prices will be forced downward.

A reduction in the benchmark price would further depress domestic oil and gas industry earnings and investment plans. The threat of an oil price reduction already has been cited as a cause of the recent relatively poor performance of oil-related equities. Further downward revisions in price expectations will make it even more difficult to justify new investment in drilling and exploration.

—Ronald H. Schmidt

Refining: Production Index Or Capacity Utilization?

Capacity utilization, which measures the percentage of operating capacity in use, is widely reported and easily understood conceptually. But the recent wave of shutdowns has left it lacking as an indicator of the state of the refining industry.

Closing facilities can increase capacity utilization even though actual production may be stagnant or declining. This is evident upon inspection of refinery capacity utilization in Chart 3. Reductions in capacity occurring in 1982 between March and June cause capacity utilization to give the impression that the industry is healthier than is actually the case.

A different gauge of the state of the refinery industry is a production index (Chart 4), which measures actual industry activity. Because the production index is not artificially increased by reductions in available capacity, it provides a more accurate picture of recent trends in the industry.

—Gary M. Ziegler

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