Dallas Fed
Energy Survey

Second Quarter | June 29, 2016

Oil and Gas Slump Moderates, Outlook Improves

Business activity improved in the second quarter, according to oil and gas executives responding to the Dallas Fed Energy Survey. The business activity index—the survey's broadest measure of sentiment among Eleventh District energy firms—turned positive at 13.8, up sharply from -42.1 in the first quarter. The majority of respondents reported business activity was stable from first-quarter levels, while nearly a third reported activity expanded. Most other survey indicators were less negative, suggesting some moderation of the strong declines reported in the first quarter. Outlooks improved or held steady for most firms, in a marked shift from last quarter.

Exploration and production (E&P) firms reported oil and natural gas production fell again in the second quarter, but at a slower pace than in the first. The oil production index was -19.7, up from -49.4, and the natural gas production index rose 23 points to -24.7.

Oil and gas (O&G) support services firms reported that declines in equipment use largely abated in the second quarter, with the equipment utilization index rising more than 50 points to come in just below zero, at -1.2. The prices received for services index pushed up over 25 points to -32.1, but the still-negative reading suggests demand for oil and gas support services remained depressed.

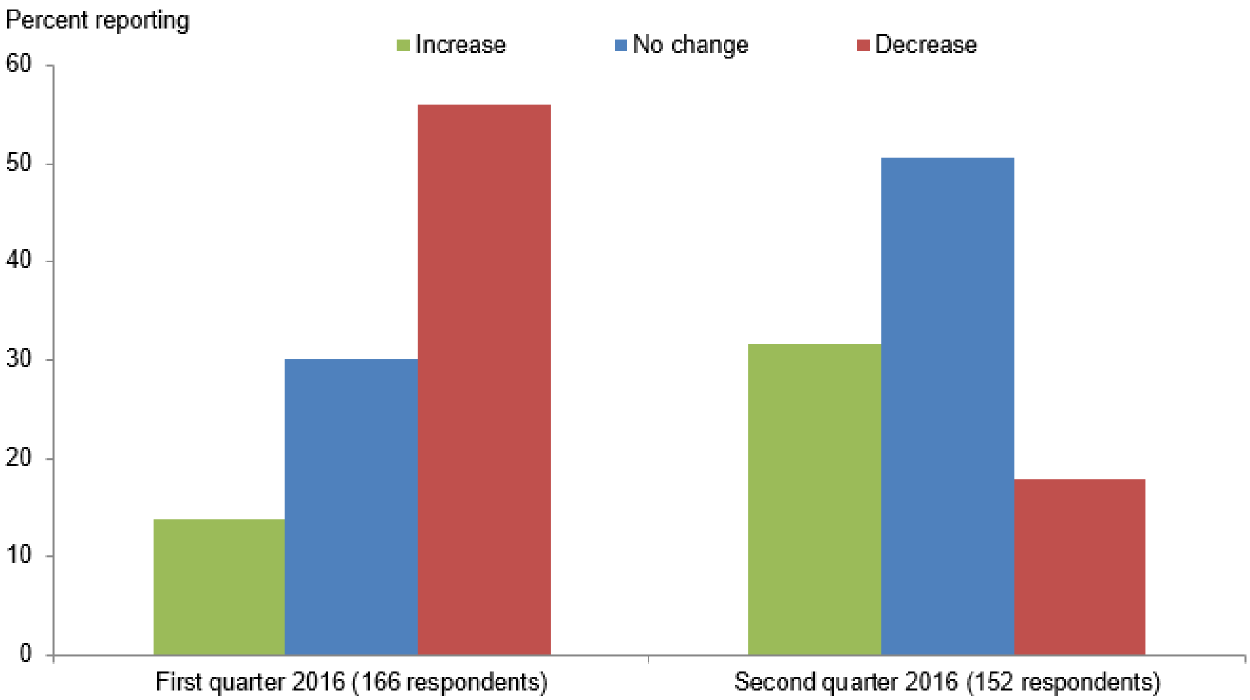
Labor market indicators suggested cuts to jobs, hours and compensation continued this quarter, but were less widespread. The employment index moved up to -19.7, with 11 percent of firms noting net hiring and 31 percent noting net layoffs. The employee hours and wages and benefits indexes also rose but remained contractionary at -16.5 and -18.4, respectively.

Capital spending declines also moderated in the second quarter, particularly among services firms. The aggregate capital expenditures index came in at -9.3, up markedly from -46.6 last quarter when nearly 60 percent of firms reported trimmed spending. This quarter that share was cut in half, to roughly 30 percent.

Outlooks six months out improved, with the index coming in at 19.0, a pronounced reversal from -24.5 last quarter. Outlooks were particularly optimistic among E&P firms, with nearly half reporting their view had improved. Reflecting this, the index of expected E&P capital spending in 2017 jumped 40 points to 25.4, suggesting producers have revised upward their expenditure estimates for next year.

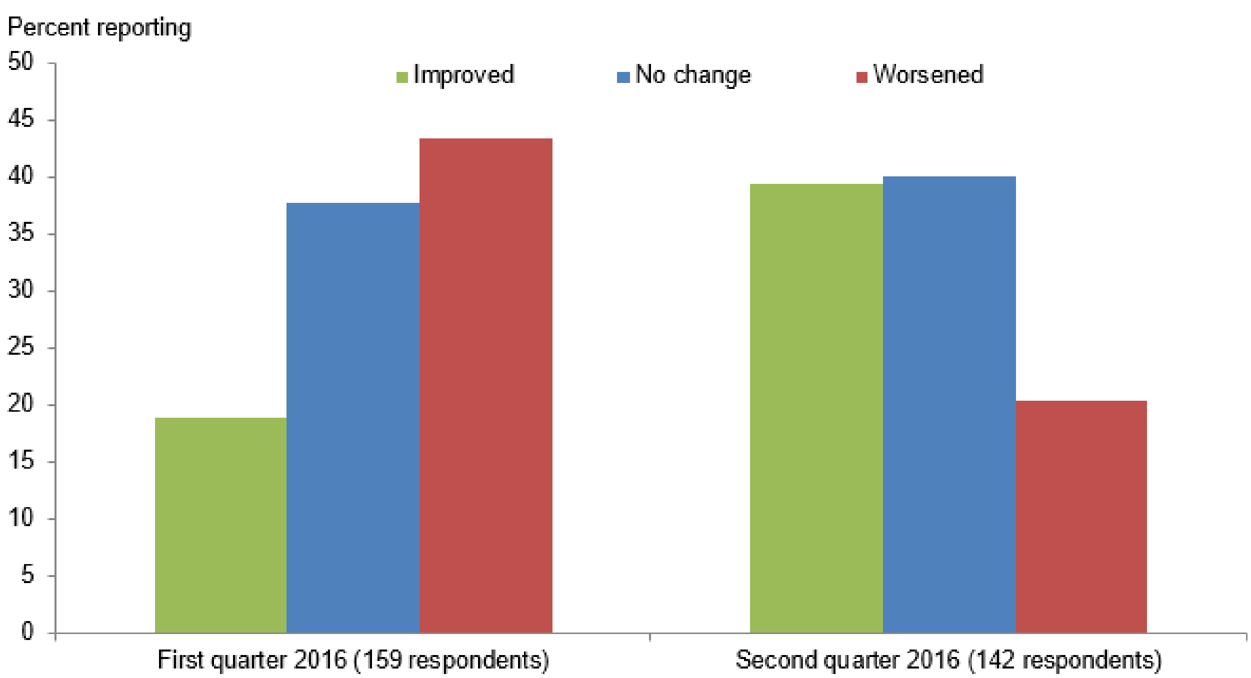
Respondents remained bullish on prices. Over 70 percent of firms expect oil will fetch a higher price one year from now, and more than 50 percent expect higher natural gas prices.

In the current quarter vs. the prior quarter:
Has your firm's level of business activity increased, not changed or decreased?



NOTE: Oil and gas executives responded from March 16-24 and from June 15-23.
SOURCE: Federal Reserve Bank of Dallas.

In the current quarter vs. the prior quarter:
Has your company outlook improved, not changed or worsened?



NOTES: Company outlook was defined as "your firm's outlook for the next six months." Oil and gas executives responded from March 16-24 and from June 15-23.
SOURCE: Federal Reserve Bank of Dallas.

Next release: September 28, 2016

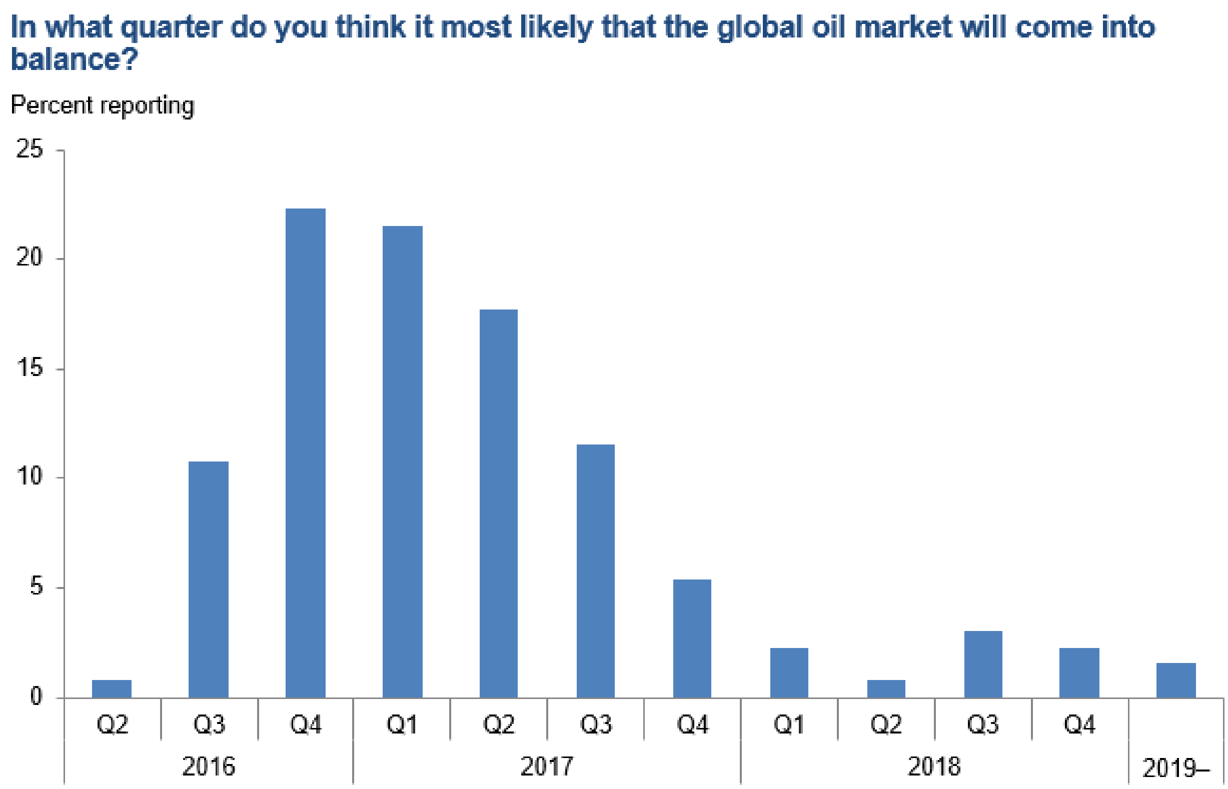
Data were collected June 15–23, and 152 energy firms responded to the survey. Of the respondents, 67 were E&P firms and 85 were O&G support services firms.

The Dallas Fed conducts the Dallas Fed Energy Survey quarterly to obtain a timely assessment of energy activity among oil and gas firms located or headquartered in the Eleventh District. Firms are asked whether business activity, employment, capital expenditures and other indicators increased, decreased or remained unchanged compared with the prior quarter and with the same quarter a year ago. Survey responses are used to calculate an index for each indicator. Each index is calculated by subtracting the percentage of respondents reporting a decrease from the percentage reporting an increase. When the share of firms reporting an increase exceeds the share reporting a decrease, the index will be greater than zero, suggesting the indicator has increased over the previous quarter. If the share of firms reporting a decrease exceeds the share reporting an increase, the index will be below zero, suggesting the indicator has decreased over the previous quarter.

Special Questions

Data were collected June 15–23, and 147 oil and gas firms responded to the special questions survey.

In what quarter do you think it most likely that the global oil market will come into balance?
For this question, balance was defined as the quarter when global supply equals global demand, i.e., when global inventories stop growing. Around a third of respondents think balance will likely occur this year, and over 70 percent believe it will be reached by second quarter 2017. Ninety percent indicated balance would take place by year-end 2017, with 10 percent expecting balance in 2018 or later.



NOTES: One hundred thirty oil and gas firms answered this question from June 15–23, 2016. Balance was defined as the quarter when global supply equals global demand, i.e. when global inventories stop growing.
SOURCE: Federal Reserve Bank of Dallas.

Participants were next asked how confident they were in their responses. The results, shown in the table below, suggest some uncertainty remains about the exact timing of when the oil market will return to balance. In addition to the 130 respondents who chose a date, 17 answered that they either did not know or that they had no opinion on the timing of market balance.

How confident are you in your answer about when the global oil market is likely to come into balance?

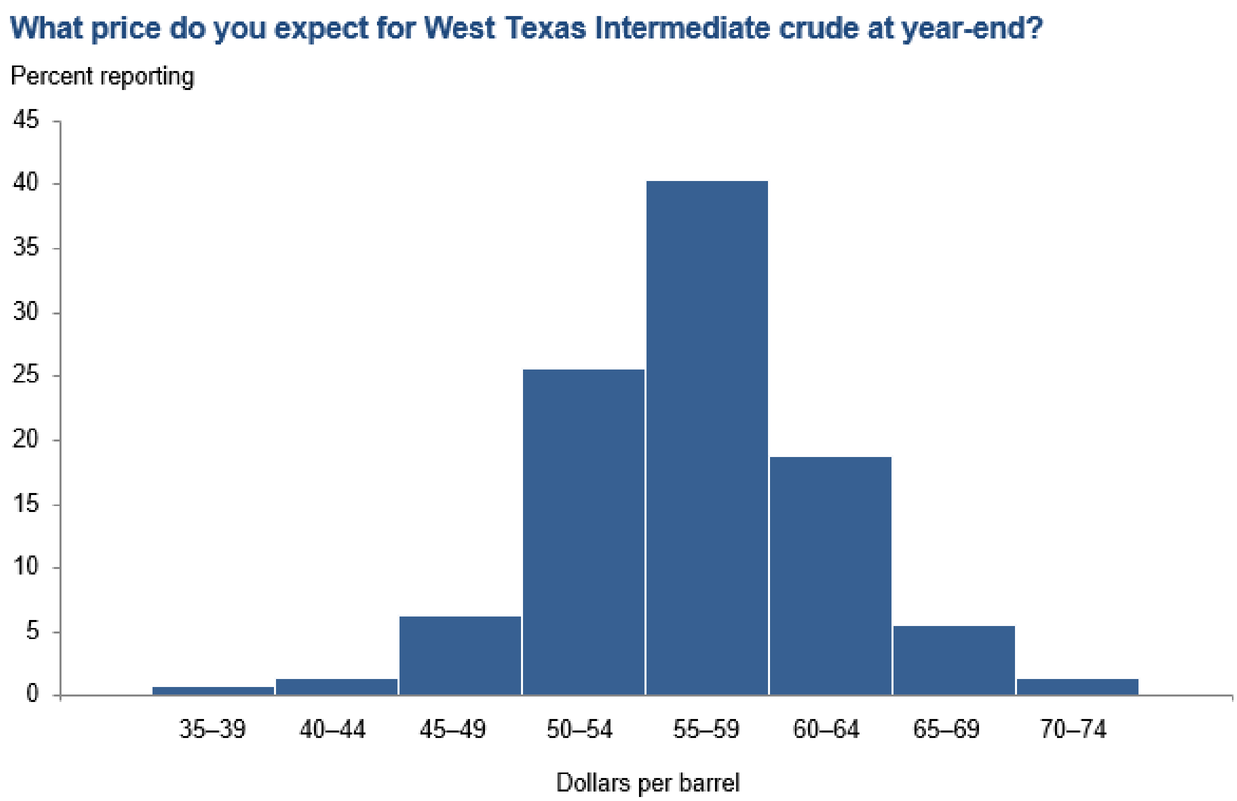
	Percent reporting
Very confident	2
Confident	20
Somewhat confident	47
Unsure	29
Very unsure	2

Finally, respondents chose what factor they believed would be most important in the rebalancing process. The most common response was growing global demand, followed by lower U.S. oil production.

What factor do you believe will be most important in bringing the global oil market into balance?

	Percent reporting
Growing global demand	44
Lower U.S. oil production	27
Major supply disruption(s)	8
Lower than expected non-OPEC production (excluding U.S.)	8
OPEC supply cut	5
Iran fails to increase production as announced	2
Other	6

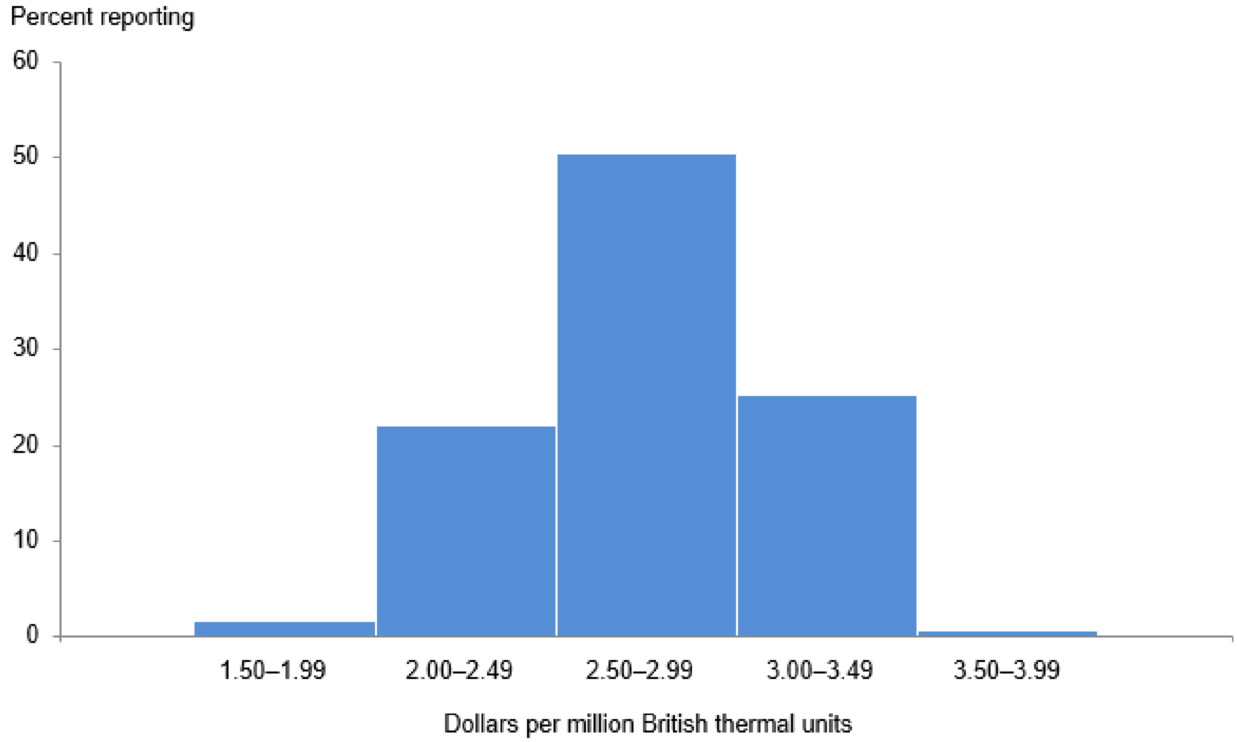
What price do you expect for West Texas Intermediate (WTI) crude at year-end?
The average expected WTI price at year-end was $54.80 per barrel. Price expectations ranged from $35 to $70 per barrel, with most respondents anticipating the price will be higher than its current level. The average price expectation was more optimistic than both the latest Energy Information Administration WTI price forecast for December 2016 ($47 per barrel) and the closing price for the December 2016 WTI futures contract at the end of the survey period ($52.12 per barrel).



NOTE: One hundred forty-four oil and gas firms answered this question from June 15–23, 2016.
SOURCE: Federal Reserve Bank of Dallas.

What price do you expect for Henry Hub natural gas at year-end?
The average expected Henry Hub price at year-end was $2.63 per million British thermal units (MMBtu). Price expectations ranged from $1.50 to $3.50 per MMBtu, with respondents split on whether they think prices will increase or decrease from the prevailing price at the end of the survey period ($2.68 per MMBtu).

What price do you expect for Henry Hub natural gas at year-end?



NOTE: One hundred thirty-one oil and gas firms answered this question from June 15–23, 2016.
SOURCE: Federal Reserve Bank of Dallas.

Business Indicators: Quarter/Quarter

Business Indicators: All Firms Current Quarter (versus previous quarter)					
Indicator	Current Index	Previous Index	% Reporting Increase	% Reporting No Change	% Reporting Decrease
Level of Business Activity	13.8	-42.1	31.6	50.7	17.8
Capital Expenditures	-9.3	-46.6	21.2	48.3	30.5
Supplier Delivery Time	-11.3	-7.0	4.2	80.3	15.5
Employment	-19.7	-38.0	11.2	57.9	30.9
Employee Hours	-16.5	-26.8	15.1	53.3	31.6
Wages and Benefits	-18.4	-26.0	8.6	64.5	27.0
Indicator	Current Index	Previous Index	% Reporting Improved	% Reporting No Change	% Reporting Worsened
Company Outlook	19.0	-24.5	39.4	40.1	20.4

Business Indicators: E&P Firms Current Quarter (versus previous quarter)					
Indicator	Current Index	Previous Index	% Reporting Increase	% Reporting No Change	% Reporting Decrease
Level of Business Activity	12.0	-38.7	29.9	52.2	17.9
Oil Production	-19.7	-49.4	19.7	40.9	39.4
Natural Gas Wellhead Production	-24.7	-47.8	13.8	47.7	38.5
Capital Expenditures	-21.2	-53.4	15.2	48.5	36.4
Expected Level of Capital Expenditures in 2017	25.4	-14.6	44.8	35.8	19.4
Supplier Delivery Time	-12.9	-8.5	1.6	83.9	14.5
Employment	-28.3	-34.7	7.5	56.7	35.8
Employee Hours	-26.9	-17.3	10.4	52.2	37.3
Wages and Benefits	-18.0	-22.7	10.4	61.2	28.4
Finding and Development Costs	-37.9	-50.0	3.0	56.1	40.9
Lease Operating Expenses	-31.3	-48.7	4.5	59.7	35.8
Indicator	Current Index	Previous Index	% Reporting Improved	% Reporting No Change	% Reporting Worsened
Company Outlook	34.3	-11.1	48.4	37.5	14.1

Business Indicators: O&G Support Services Firms Current Quarter (versus previous quarter)					
Indicator	Current Index	Previous Index	% Reporting Increase	% Reporting No Change	% Reporting Decrease
Level of Business Activity	15.3	-45.0	32.9	49.4	17.6
Utilization of Equipment	-1.2	-52.9	21.7	55.4	22.9
Capital Expenditures	0.0	-41.1	25.9	48.2	25.9
Supplier Delivery Time	-10.0	-5.8	6.3	77.5	16.3
Lag Time in Delivery of Firm's Services	-7.5	-7.2	2.5	87.5	10.0
Employment	-13.0	-40.7	14.1	58.8	27.1
Employee Hours	-8.3	-34.8	18.8	54.1	27.1
Wages and Benefits	-18.8	-28.9	7.1	67.1	25.9
Input Costs	-15.5	-30.7	14.3	56.0	29.8
Prices Received for Services	-32.1	-58.3	9.9	48.1	42.0
Indicator	Current Index	Previous Index	% Reporting Improved	% Reporting No Change	% Reporting Worsened
Company Outlook	6.5	-35.6	32.1	42.3	25.6

Price Expectations

Price Expectations: All Firms

Indicator	Current Index	Previous Index	% Reporting Higher	% Reporting Same	% Reporting Lower
Expected Oil Price a Year from Now	72.4	74.1	73.7	20.4	1.3
Expected Natural Gas Price a Year from Now	51.0	43.3	53.0	38.3	2.0

Price Expectations: E&P Firms

Indicator	Current Index	Previous Index	% Reporting Higher	% Reporting Same	% Reporting Lower
Expected Oil Price a Year from Now	73.1	74.3	76.1	17.9	3.0
Expected Natural Gas Price a Year from Now	60.6	48.6	63.6	28.8	3.0

Price Expectations: O&G Support Services Firms

Indicator	Current Index	Previous Index	% Reporting Higher	% Reporting Same	% Reporting Lower
Expected Oil Price a Year from Now	71.8	73.9	71.8	22.4	0.0
Expected Natural Gas Price a Year from Now	43.4	39.1	44.6	45.8	1.2

Business Indicators: Year/Year

Business Indicators: All Firms Current Quarter (versus same quarter a year ago)					
Indicator	Current Index	Previous Index	% Reporting Increase	% Reporting No Change	% Reporting Decrease
Level of Business Activity	-41.4	-68.9	21.4	15.9	62.8
Capital Expenditures	-53.1	-66.9	16.1	14.7	69.2
Supplier Delivery Time	-20.0	-10.4	6.7	66.7	26.7
Employment	-42.0	-51.2	9.7	38.6	51.7
Employee Hours	-38.5	-41.5	10.5	40.6	49.0
Wages and Benefits	-37.2	-34.4	9.7	43.4	46.9
Indicator	Current Index	Previous Index	% Reporting Improved	% Reporting No Change	% Reporting Worsened
Company Outlook	-17.0	-60.0	31.1	20.7	48.1

Business Indicators: E&P Firms Current Quarter (versus same quarter a year ago)					
Indicator	Current Index	Previous Index	% Reporting Increase	% Reporting No Change	% Reporting Decrease
Level of Business Activity	-32.3	-67.1	24.6	18.5	56.9
Oil Production	-36.0	-48.7	20.3	23.4	56.3
Natural Gas Wellhead Production	-30.6	-37.1	19.4	30.6	50.0
Capital Expenditures	-55.5	-64.4	15.9	12.7	71.4
Expected Level of Capital Expenditures in 2017	-19.0	-32.9	27.0	27.0	46.0
Supplier Delivery Time	-18.4	-14.5	3.3	75.0	21.7
Employment	-35.4	-50.0	10.8	43.1	46.2
Employee Hours	-25.0	-31.5	14.1	46.9	39.1
Wages and Benefits	-30.8	-23.3	9.2	50.8	40.0
Finding and Development Costs	-57.8	-67.2	3.1	35.9	60.9
Lease Operating Expenses	-53.1	-62.2	7.8	31.3	60.9
Indicator	Current Index	Previous Index	% Reporting Improved	% Reporting No Change	% Reporting Worsened
Company Outlook	-3.2	-47.8	36.1	24.6	39.3

Business Indicators: O&G Support Services Firms Current Quarter (versus same quarter a year ago)					
Indicator	Current Index	Previous Index	% Reporting Increase	% Reporting No Change	% Reporting Decrease
Level of Business Activity	-48.7	-70.4	18.8	13.8	67.5
Utilization of Equipment	-56.4	-76.2	9.0	25.6	65.4
Capital Expenditures	-51.2	-69.0	16.3	16.3	67.5
Supplier Delivery Time	-21.4	-7.1	9.3	60.0	30.7
Lag Time in Delivery of Firm’s Services	-18.7	-13.7	4.0	73.3	22.7
Employment	-47.5	-52.3	8.8	35.0	56.3
Employee Hours	-49.4	-50.0	7.6	35.4	57.0
Wages and Benefits	-42.5	-43.7	10.0	37.5	52.5
Input Costs	-47.4	-45.3	9.0	34.6	56.4
Prices Received for Services	-56.6	-70.9	9.2	25.0	65.8
Indicator	Current Index	Previous Index	% Reporting Improved	% Reporting No Change	% Reporting Worsened
Company Outlook	-28.4	-69.9	27.0	17.6	55.4

These comments are from respondents' completed surveys and have been edited for publication. Comments from the Special Questions survey can be found below.

Exploration and Production Firms

- The market seems to be improving just a bit. Higher prices have at least lifted the mood of many in the industry, and people are starting to drill again, it seems.
- Although acquisition activity has increased, the buyer-seller spread remains. Deal valuations are still above cash flow.
- Increasing regulations, especially those proposed by the Environmental Protection Agency and the Bureau of Land Management, continue to negatively impact our projects and suck the will to continue from many.
- Price instability is still impacting our industry.
- We are hopeful of continued improvement, but 60 percent of our acreage will expire worthless and will take a large loss. However, we are seeking to expand our position in a play where we have drilled continuously through the oil and gas price decline. Our balance sheet and equity commitment remain intact, and we have grown our borrowing base from $78 million in February to $90 million in May with improved prices and reserves. Our cost of debt went up 100 basis points from February to May as our banks increased our London interbank offered rate (LIBOR) grid and added a leverage covenant, anti-cash hoarding and deposit account control to our amended credit facility. We added two banks to the existing two banks in our bank group.
- We are cautiously optimistic that the recent increase in pricing is going to be permanent in nature. But we are not changing activity in response to the recent change until we see the longer-term pricing averages and outlooks improve.
- We see drilling activity slowing in our area, but the wells that are being drilled are much better than a year ago due to only the best locations being drilled and the newer, improved completion techniques. Service costs remain the same when compared with last quarter. We expect oil prices to increase to $60 per barrel by year-end but not go above $65 per barrel in 2017 due to drilling commitments (expiring leases and continuous drilling clauses) keeping production steady and therefore supply increasing slightly. We also believe that, with increased oil prices, there will also be an increase in service costs as service companies have cut costs below breakeven levels to stay in business.
- We are a debt-free company and are active in leasing, seismic testing and drilling. We have drilled several wells so far this year and plan a minimum of eight more the remainder of the year. These wells are fairly shallow and are vertical wells.
- Recent oil and natural gas price rises are improving the outlook for my company. We plan to increase drilling activity in late 2016 and 2017 if the price rises hold up. The plan is independent of whoever wins the election.
- Rig counts are the canary in the coal mine. No chirping means no production increase.
- Natural gas prices have increased over the past month. It is difficult to determine why and therefore difficult to know if the increase will be sustained or go higher. Natural gas prices have historically been a driving factor for south Texas activity levels. This measure may return to be more important than oil prices for south Texas activity.
- Prices have increased marginally; however, our midstream purchaser has evidently cut back on personnel, causing delays in servicing and in receiving product.

Oil and Gas Support Services Firms

- The lower price environment has allowed us to buy leases. We are a small company and can compete.
- We need to concentrate more on our (U.S.) production and quit importing so much foreign product. We need to quit financing foreign countries and take care of our own country and its people first.
- I am not as optimistic as some that the recent increase in the oil price indicates a turn. While I believe that we may not see the price in the $20 to $30 range per barrel, I do not see it moving significantly upward until second quarter 2017.
- Regulatory burdens, including trying to get approvals, have persistently proven problematic; from our view, the principal impediment is the unwillingness of key regulators to make a decision, with the overprint of apparent Department of the Interior strategy and tactics to impede oil and gas development.
- Private companies like mine suffered because we get no waivers or grace period to pay Internal Revenue Service taxes and hurt when the Federal Reserve dishes out money. I can work with 45-60 days but 90–120 days for me to get the money is no business for me. I am at a point to either sell or close.
- The job multiplier for every oil well drilled is greater than 10. Obama and the U.S. government need to support oil and gas with some oversight. Current moves for fracking regulations are going to negatively impact job growth.
- Our gross revenues are down 50 percent, our employee count is down 60 percent and our profits are nonexistent. We are hanging on for 2017.

- I hear rumblings of increased exploration activity, but nothing has really changed in the land business. We are typically the first to pick back up in activity when exploration picks up as well as the first to get cut back in the downturns.
- We continue to see a significant reduction in demand and equipment utilization compared with second quarter 2015; however, we do see a slight increase in the demand for our services compared with first quarter 2016. Rates for our services are below our breakeven margin, but increasing demand for non-capital-expenditures-related work should provide us the opportunity to increase our rates over the next few quarters.
- There seems to be no fundamental reason for the price of oil escalating since February because the basic supply/demand/storage numbers have not changed. We still have more than 500 million barrels of oil in storage in the United States, and worldwide the number exceeds 1 billion barrels. Supply still outstrips demand, and until supply and demand are more in equilibrium, and the storage numbers drop significantly, there will be no change in the price of oil or drilling activity.
- Because of the extended period of low prices and the resultant necessity of dipping into cash reserves, oil prices will have to show a sustained recovery (six months to one year) to actual received prices of over $55 per barrel to improve my outlook enough to begin reinvesting. That price alone would not allow me to spend at 2012–14 levels of investment, however. The differential between West Texas Intermediate futures and actually received prices has widened considerably in this downturn. I believe that to actually see $55 oil on my run checks the futures price will have to exceed $69 per barrel.
- We continue to grow in the turndown. We have hired a few more techs to make up for our increased rentals. Money continues to be tight. No one is looking to loan capital into oil and gas service businesses like mine, and we are being stifled by that. We can grow our business; the only thing holding us back is capital.
- The lower price of oil has made my stripper wells unprofitable for about the last year and a half.
- Second quarter 2016 represented a bottom in this down cycle. We expect business activity to pick up going forward albeit at a slow pace through second quarter 2017.
- Although it is nice to see a better quarter than the first quarter, which hopefully represents the bottom, it is certainly not enough to presume we are out of the woods and can reset our spending behaviors. Although I do believe commodity prices will be higher a year from now, I don't think they will be materially higher, but stability at greater than $50 per barrel, even if we would prefer a much higher price, at least allows us to be able to plan our business more effectively.
- There is still significant uncertainty about the future of oil pricing, but it seems to be stabilizing somewhat. Drilling activity and acquisition activity has increased during the current quarter, and we expect it to continue through the end of 2016.
- Tax information requests have increased and are now at greater than 12 contacts per year. The regulatory impact has increased. Oil and gas activities are being hammered by lawsuits from every environmentalist group everywhere. State departments in certain states (Oklahoma and Alaska) have stopped living up to their signed word in leases and contracts and are trying to renege on payments or force forfeiture of leases, retroactively, claiming royalties should be higher than what was printed on their lease forms in 2004–05. The credibility of state signatures is becoming worthless. Bankruptcies of companies are causing vastly increased paperwork and defensive positioning to avoid collateral damage from bankrupt operators, partners and oil and gas purchasers. Contractors are making so many errors in billing, with temp admin staff, that they are incorrectly filing liens on my company instead of the correct company.
- Our sales this year have been zero dollars.
- While cutting out the fat up to this point, over the last quarter, we have begun to cut into the muscle of our organization. Nonetheless, we are cautiously optimistic that demand will begin to start increasing through the balance of the year.

Special Questions Comments

Oil and Gas Support Services Firms

- With the oil price in the high $40s, the bleeding has stopped for me, but probably not for others. We have not seen the last of the bankruptcies, mergers and takeovers. At least this time the banks are not failing, and the Federal Deposit Insurance Corporation (FDIC) has not taken residence in Midland.
- Supply is falling and will continue to fall due to the drop in activity from the last two years, globally. I think the biggest unknown is global demand. If demand is flat or continues to grow, demand will meet supply early next year. If there is a demand shock, all bets are off.
- We don't worry too much about the price of oil. We drill wells and hedge production with floors. If we can't get the internal rates of return, then we don't drill.

Questions regarding the Dallas Fed Energy Survey can be addressed to Michael Plante at Michael.Plante@dal.frb.org.

The Dallas Fed Energy Survey can be found online at www.dallasfed.org/microsites/research/surveys/des/.
