Tenth District Energy Activity Decreased Moderately

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October 11, 2019

Third quarter energy survey results revealed Tenth District energy activity decreased moderately and expectations for future activity continued to decline. Firms reported that oil prices needed to be on average $55 per barrel for drilling to be profitable, up slightly from six months ago.

Summary of Quarterly Indicators

Tenth District energy activity decreased moderately in the third quarter of 2019, as indicated by firms contacted between September 16th and September 30th, 2019 (Tables 1 & 2). The drilling and business activity index fell from 7 to -23, indicating a significant drop in activity following a slight expansion in Q2 2019 (Chart 1). The wages and benefits index remained positive and the employee hours index remained flat. However, the revenues, supplier delivery time, profits, employment, and access to credit indexes all decreased.

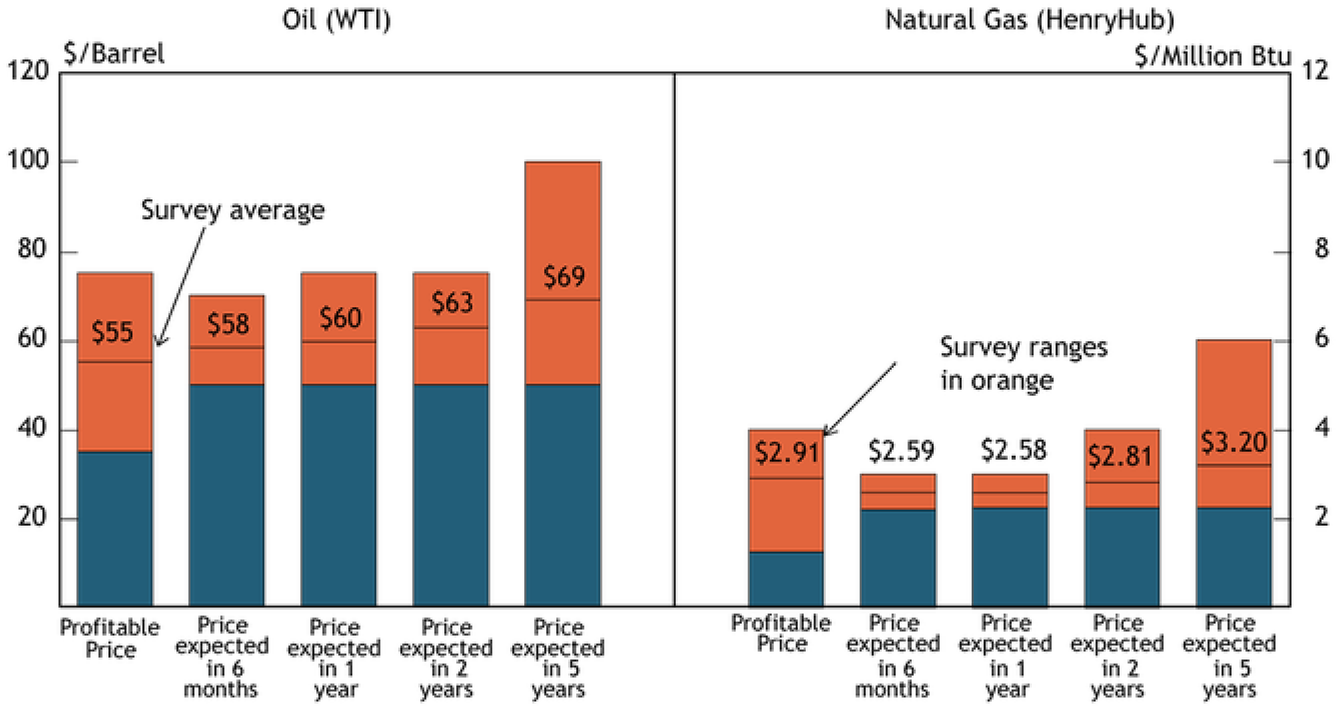
Most year-over-year indexes fell as well. The year-over-year drilling and business activity index dipped further, from -11 to -21. Indexes for capital expenditures, delivery time, employment, and employee hours dropped into negative territory. However, year-over-year indexes for revenues and profits declined at a slower rate, and the access to credit index was flat. While the growth rate of the year-over-year wages and benefits index eased from last quarter, it was still highly positive.

Expectation indexes remained mostly negative. The future drilling and business activity index was -21, following a reading of -26 in Q2. The future capital expenditures, profits, employee hours, and access to credit indexes decreased further from last quarter. The future revenues and wages and benefits indexes increased, while the future delivery time and employment indexes turned negative. Meanwhile, the price expectations indexes all increased for oil and natural gas, and the price expectations index for natural gas liquids rose back up into positive territory.

Summary of Special Questions

This quarter firms were asked what oil and natural gas prices were needed for drilling to be profitable on average across the fields in which they are active (in alternate quarters they are asked what price they need for a substantial increase in drilling). The average oil price needed was $55 per barrel, with a range from $35 to $75 (Chart 2). This average was up slightly from $52 in the first quarter of 2019 and matched the price reported in the third quarter of 2018. The average natural gas price needed for profitability was $2.91 per million Btu, with responses ranging from $1.25 to $4.00. For natural gas, this average was quite a bit lower than $3.02 in the first quarter of 2019 and $3.23 reported in the third quarter of 2018.

Chart 2. Special Question - What price is currently needed for drilling to be profitable for oil and natural gas, and what do you expect the WTI and Henry Hub prices to be in six months, one year, two years, and five years?



Source: Federal Reserve Bank of Kansas City

Firms were again asked what they expected oil and natural gas prices to be in six months, one year, two years, and five years. Expected oil prices were relatively similar to Q2 2019, but were still above price expectations from late 2018. The average expected WTI prices were $58, $60, $63, and $69 per barrel, respectively. Expectations for natural gas prices rebounded slightly from last quarter. The average expected Henry Hub natural gas prices were $2.59, $2.58, $2.81, and $3.20 per million Btu, respectively.

Firms were also asked about constraints limiting near-term growth in activity in the top areas where their firm is active (Chart 3). 60 percent of surveyed firms indicated that current low prices for oil and gas were the main constraints limiting near-term growth. Contacts also reported investor pressures for free cash flow, limited access to capital credit, lack of natural gas pipeline capacity, and problems finding workers as primary or secondary constraints to near-term growth.

Finally, respondents were asked about how trade tensions (tariffs) affected their business and expectations for the future. Around 70 percent of firms reported slightly or significantly negative effects from trade tensions on their business in the past year. A similar share of firms anticipated negative effects from trade policy on their business in 2020 (Chart 4).

Table 1 - Summary of Tenth District Energy Conditions, Quarter 3, 2019

	Quarter 3 vs. Quarter 2 (percent)*				Quarter 3 vs. Year Ago (percent)*				Expected in Six Months (percent)*			
Energy Company Indicators	Increase	No Change	Decrease	Diff Index^	Increase	No Change	Decrease	Diff Index^	Increase	No Change	Decrease	Diff Index^
Drilling/Business Activity	13	50	37	-23	24	31	45	-21	21	38	41	-21
Total Revenues	21	48	31	-10	36	21	43	-7	30	44	26	4
Capital Expenditures					27	37	37	-10	24	34	41	-17
Supplier Delivery Time	3	86	10	-7	7	66	28	-21	3	79	17	-14
Total Profits	16	45	39	-23	33	20	47	-13	23	43	33	-10
Number of Employees	10	70	20	-10	23	40	37	-13	20	57	23	-3
Employee Hours	10	81	10	0	10	63	27	-17	10	70	20	-10
Wages and Benefits	16	77	6	10	43	47	10	33	23	70	7	17
Access to Credit	6	81	13	-6	13	74	13	0	7	77	17	-10
Expected Oil Prices									39	54	7	32
Expected Natural Gas Prices									30	63	7	23
Expected Natural Gas Liquids Prices									33	47	20	13

Source: Federal Reserve Bank of Kansas City

Table 2 - Historical Energy Survey Indexes

	Q3'16	Q4'16	Q1'17	Q2'17	Q3'17	Q4'17	Q1'18	Q2'18	Q3'18	Q4'18	Q1'19	Q2'19	Q3'19
Versus a Quarter Ago													
(not seasonally adjusted)													
Drilling/Business Activity	26	64	55	43	7	13	37	26	45	-13	0	7	-23
Total Revenues	5	62	52	20	23	39	50	53	50	6	13	-14	-10
Capital Expenditures	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Supplier Delivery Time	-8	-7	4	11	-10	-4	19	16	7	0	3	7	-7
Total Profits	-10	42	41	3	21	29	50	53	37	-18	6	-18	-23
Number of Employees	-11	26	31	23	17	19	20	29	23	9	3	0	-10
Employee Hours	-10	20	16	20	0	19	24	24	23	6	6	0	0
Wages and Benefits	-22	17	13	20	7	16	34	39	33	30	28	15	10
Access to Credit	-5	0	3	-3	13	0	3	15	10	-19	-10	-7	-6
Versus a Year Ago													
Drilling/Business Activity	-21	41	59	70	44	54	54	41	57	17	17	-11	-21
Total Revenues	-31	15	52	62	37	56	68	56	61	50	23	-22	-7
Capital Expenditures	-58	14	43	59	50	50	68	58	62	27	3	4	-10
Supplier Delivery Time	-11	-14	-4	11	-14	-7	19	16	10	3	3	7	-21
Total Profits	-49	23	55	59	21	38	53	50	47	42	6	-24	-13
Number of Employees	-50	-7	13	31	23	40	31	36	27	27	24	4	-13
Employee Hours	-37	3	0	28	10	27	30	34	31	19	16	3	-17
Wages and Benefits	-33	17	9	31	37	34	48	69	67	55	47	43	33
Access to Credit	-30	-17	13	-3	20	7	0	15	25	9	3	-7	0
Expected in Six Months													
(not seasonally adjusted)													
Drilling/Business Activity	21	73	57	26	30	33	50	61	50	-19	17	-26	-21
Total Revenues	6	67	52	18	44	44	52	50	56	-23	47	-4	4
Capital Expenditures	9	79	37	19	37	43	56	48	43	-13	19	-4	-17
Supplier Delivery Time	-8	-7	11	4	-11	-11	15	17	-4	9	14	14	-14
Total Profits	5	76	45	12	28	43	53	48	59	-27	35	-7	-10
Number of Employees	-22	32	16	21	20	21	34	33	21	15	14	0	-3
Employee Hours	-8	28	16	21	17	27	43	31	17	3	13	-4	-10
Wages and Benefits	3	52	23	7	30	50	34	39	34	42	28	15	17
Access to Credit	-6	3	0	4	10	14	3	6	30	3	0	-3	-10
Expected Oil Prices	49	72	3	4	54	50	31	12	48	29	34	15	32
Expected Natural Gas Prices	44	26	6	3	24	28	3	21	20	-33	3	10	23
Expected Natural Gas Liquids Prices	31	64	14	21	38	30	7	27	32	-3	18	-7	13
Special Price Questions													
(averages)													
Profitable WTI Oil Price (per barrel)	$53		$51		$51		$52		$55		$52		$55
WTI Price to Substantially Increase Drilling		$60		$56		$62		$69		$63		$66	
WTI Price Expected in 6 Months			$51	$47	$52	$58	$63	$67	$71	$54	$60	$57	$58
WTI Price Expected in 1 Year			$54	$49	$55	$60	$64	$70	$72	$59	$61	$60	$60
WTI Price Expected in 2 Years			$60	$54	$58	$62	$66	$73	$73	$61	$65	$63	$63
WTI Price Expected in 5 Years			$69	$61	$65	$70	$72	$78	$79	$66	$72	$70	$69
Profitable Natural Gas Price (per million BTU)	$3.45		$3.38		$3.05		$2.92		$3.23		$3.02		$2.91
Natural Gas Price to Substantially Increase Drilling		$3.97		$3.65		$3.59		$3.60		$3.48		$3.40	
Henry Hub Price Expected in 6 Months			$2.85	$3.05	$3.01	$2.88	$2.70	$2.85	$2.89	$3.06	$2.85	$2.52	$2.59
Henry Hub Price Expected in 1 Year			$3.01	$3.06	$3.11	$3.10	$2.83	$2.90	$2.92	$3.12	$2.91	$2.59	$2.58
Henry Hub Price Expected in 2 Years			$3.22	$3.25	$3.30	$3.30	$2.98	$3.05	$3.10	$3.23	$3.05	$2.79	$2.81
Henry Hub Price Expected in 5 Years			$3.64	$3.51	$3.73	$3.65	$3.33	$3.34	$3.42	$3.54	$3.18	$3.16	$3.20

Source: Federal Reserve Bank of Kansas City

Selected Comments

“I think the U.S. oil supply will continue to increase but at a lower rate than previous years - so prices for future supply coming online will be lower.”

“There is still an oil glut and global demand growth is tepid. We may begin to see results from the current capital restrictions sometime in late 2020. Middle East is strictly a wildcard at this point.”

“There is still much oil supply, but I anticipate a slowdown in U.S. production due to tight margins resulting in some upward movement in prices.”

“Declining shale production, fewer U.S. oil & gas companies exploring for new production, and lack of new resource plays factor into our price expectations”

“There is an overabundance of natural gas. In some regions they are having to pay people to take it. More infrastructure is needed.”

“I see an abundant supply of natural gas in the US and break-even prices for gas are very low in certain areas along with associated natural gas being produced along with oil. So overall too much supply available.”

“Prices are too low currently and will shut off more and more natural gas directed drilling. Declines are very high and once enough rigs drop, we will see HH prices start to really climb… gas that can get to Gulf Coast will sell for a premium.”

“Foreign demand for ethanol has significantly decreased from trade tensions.”

“Steel prices have gone up from tariffs which has added to our costs.”

“Costs of imported goods have increased - steel, artificial lift, etc. from trade tensions.”

“I believe oil is a couple dollars a barrel lower than it would be without trade tensions.”

“We need to finalize a trade deal with China to support global growth.”

Additional Resources

Current Release

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Chad Wilkerson serves as Oklahoma City Branch Executive and Senior Vice President of Community Development for the Federal Reserve Bank of Kansas City. Wilkerson has been with the Federal Reserve since 1998, starting in Kansas City's research department.Appointed in 2006 as Oklahoma City Branch Executive, Wilkerson is the Bank's lead officer and regional economist in Oklahoma. He recruits and works closely with the Oklahoma City Branch Board of Directors and is responsible for briefing the Kansas City Fed president, a member of the Federal Open Market Committee, on economic trends in the state. His team conducts research and surveys on key regional issues such as energy, manufacturing and migration.Wilkerson was appointed Senior Vice President in 2022, and supports a Community Development team located across the Kansas City Fed's seven-state region. This group works to understand and address issues affecting the ability of underserved communities and small businesses to access credit. Community development focus areas include financial resiliency, affordable housing, community investments, workforce development, rural development and digital inclusion.Wilkerson holds a master's degree in public policy from the University of Chicago, as well as a master's degree from Southwestern Seminary and bachelor's degree from William Jewell College. He serves on the boards of the Economic Club of Oklahoma, the United Way of Central Oklahoma and City Rescue Mission. He lives in Edmond, Oklahoma, with his wife and children.