AT A GLANCE | Crude Oil

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Current State of U.S. Shale Oil Companies

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The U.S. Department of Energy's Energy Information Administration's (EIA) most recent Short-Term Energy Outlook estimates that oil supply will increase by 1.24 million barrels per day (b/d) in 2023 from 2022, with the largest increase coming from the United States (+1.05 million b/d).

The increase in crude oil accounted for more than 60% of the increase in U.S. oil, +680,000 b/d (the rest was in condensate, etc.). Excluding the increase in production in the Gulf of Mexico (+100,000 b/d) and the slight decrease in production in Alaska (-10,000 b/d), the increase in shale oil production is approximately 590,000 b/d. According to the Drilling Productivity Report released by the EIA, the pace of increase in shale oil production by July is estimated at +570,000 b/d, which is not bad.

If there is any concern, it is that the rig count, a measure of the future of shale oil production, has been declining since mid-May.

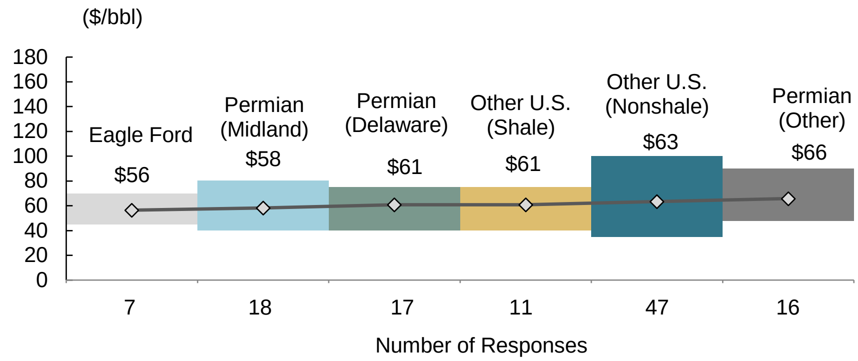
Based on the Federal Reserve Bank of Dallas' quarterly energy survey, this report outlines the current state of shale oil companies.

Profitable Price per Well

First, we look at the break-even price per new well shown in the March survey. This includes the cost of drilling wells, such as equipment (rental), drilling materials (sand, etc.), and labor for drilling. Focusing on the Permian and Eagle Ford regions, which drive shale oil production, the median (that is, with the exception of "Other U.S. (Shale)") is $56-$66. It was $48-$54 in 2022, so it has risen nearly $10 in the past year.

This year's West Texas Intermediate (WTI) has continued to show heavy upside, particularly in the $67-$74 range since May. Although it is barely above the profitable price, combined with the fact that rig count (oil) decreased as mentioned above during the same period, it is not enough for shale oil companies to be profitable. As we have previously pointed out in this report, the funding environment for shale oil companies has become difficult amid the decarbonization trend, and the sources of funding are demanding more profits. But there may be other reasons for shale oil companies to be cautious about production. The next section looks at the results of the June survey.

Figure 1: Profitable Price of New Oil Wells (March 2023)



Note: The line graph shows the median and the bar graph shows the range of responses.
Number of Respondents: 83 E&P executives; Response Period: March 15-23, 2023

Source: Federal Reserve Bank of Dallas

Shale Companies, Small E&Ps and Support Services Don't See a Pause in Cost Growth

In the preceding paragraph, we pointed out that the median profit price has increased by nearly $10 from one year ago due to the increase in raw material costs and labor costs required for drilling and production (there is also the possibility that they have begun to dig out land with low profit prices and excavate land with high profit prices). The June survey asked exploration and production (E&P) and support companies about their cost estimates.

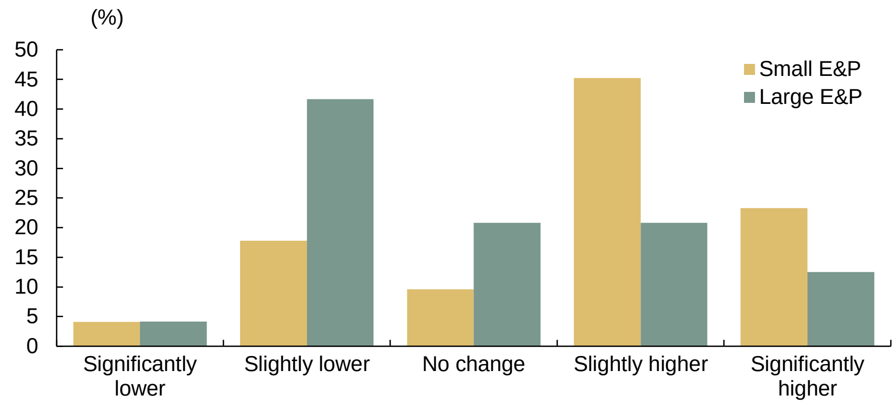
First, E&P companies were asked about the comparison of drilling and completion costs between the end of 2023 and the end of 2022. For large companies, the ratio of unchanged and decreased (small, large) was 67%.[1] In other words, about 70% of large companies believe that cost increases will die out by the end of 2023.

In contrast, 68% of small businesses saw a rise, with about 70% of businesses believing that cost increases will not abate by the end of 2023.

It has been speculated that this is due to the fact that large enterprises have stronger bargaining power with suppliers of raw materials and are relatively more advantageous in securing personnel. In addition, small enterprises were often excluded from environmental regulations, but as the recent decarbonization movement accelerates, small enterprises tend to be increasingly included in the regulations. This increase in environmental costs may also be affecting the outlook for higher costs for small businesses.

1 Large scale means production of more than 10,000 barrels per day; small scale means production of less than 10,000 barrels per day. The number of companies is mostly small, but the production is mostly large (more than 80%).

Figure 2: How Do You Expect Drilling and Completion Costs at the End of 2023 Compared to the End of 2022?



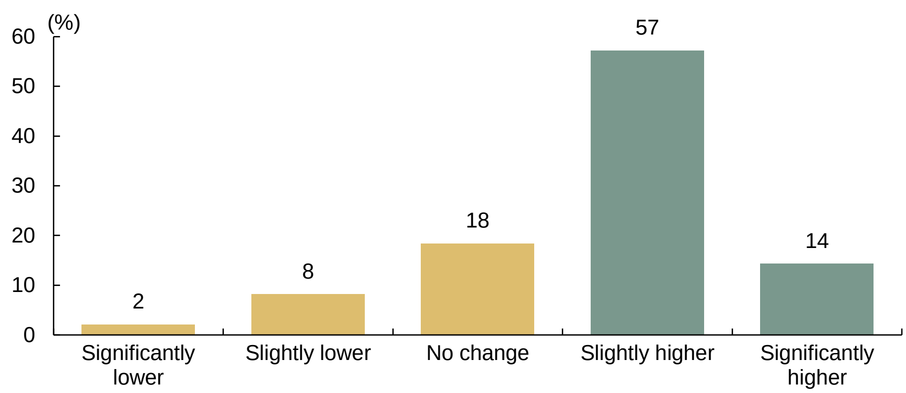
Note: Number of Respondents: 97 E&P companies (24 large, 73 small); Time Frame: June 7-15, 2023

Source: Federal Reserve Bank of Dallas

On the other hand, we asked support service companies to compare input costs excluding personnel costs between the end of 2023 and the end of 2022. More than 70% of companies, with the slight increase at 57% and the significant increase at 14%, believe that the increase in input costs will not stop at the end of 2023.

Thus, 70% of small E&P and support services firms do not expect the cost increases seen last year to abate this year. Of course, in terms of shale oil production, 70% of large E&P companies, which account for the majority of production (more than 80%), expect the cost increase to abate by the end of the year, making it unlikely that the current pace of shale oil production increase (the EIA forecast) will be hit hard. But there is no doubt that a significant number of shale companies are wary as they expect costs to continue to rise. The pace of increase in shale oil production in the second half of 2023 should be closely monitored.

Figure 3: What Do You Expect Input Costs (excluding personnel costs) to Be at the End of 2023 Compared to the End of 2022?

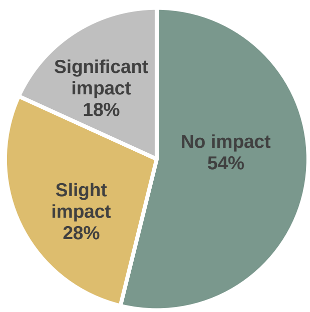


Note: Number of Respondents: 49 (oil and gas support companies); Response Period: June 7-15, 2023

Source: Federal Reserve Bank of Dallas

The June survey asked about the impact of tighter credit conditions since February amid the collapse of some U.S. regional banks. Slightly more than half of companies said they had no impact, while only 18% said they had a significant impact. Asked whether tighter credit conditions towards the end of 2023 would affect their business plans, 38% said no, while 41% said it would have a small impact. In other words, they believe the impact of tighter credit conditions is "generally minimal". The results are likely due to the fact that fewer shale companies are already getting credit from banks amid the decarbonization movement.

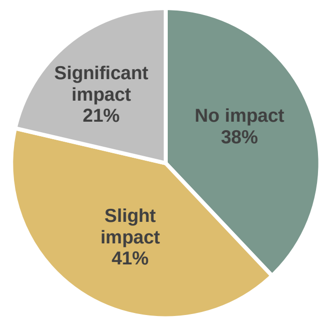
Figure 4: Has the Tightening of Credit Conditions Since February 2023 Affected Your Company So Far?



Note: Number of Respondents: 143 (oil and gas companies); Response Period: June 7-15, 2023

Source: Federal Reserve Bank of Dallas

Figure 5: How Do You Expect Tighter Credit Conditions to Affect Business Planning for the Remainder of the Year?



Note: Number of Respondents: 145 (oil and gas companies); Response Period: June 7-15, 2023

Source: Federal Reserve Bank of Dallas

Economic Outlook: 2023-2024 Forecast

Figure 1: Forecasts for Economic Growth, Inflation, and Unemployment Rates

		2022			2023				2024				2021	2022	2023	2024
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
US	Real GDP	−0.6	3.2	2.6	2.0	1.5	−0.8	0.6	0.9	1.4	1.8	2.2	5.9	2.2	1.4	1.0
	Inflation	5.0	4.9	4.8	4.8	4.6	4.2	3.9	3.2	2.8	2.5	2.2	3.3	5.0	4.4	2.7
	Unemployment	3.6	3.6	3.6	3.5	3.5	3.7	4.3	4.6	4.7	4.7	4.6	5.4	3.7	3.7	4.7
Euro Area	Real GDP	0.8	0.4	−0.1	−0.1	0.3	0.2	0.1	0.2	0.3	0.3	0.2	5.3	3.5	0.6	0.9
	Inflation	8.0	9.3	10.0	8.0	6.2	4.8	3.2	3.1	2.9	2.7	2.5	2.6	8.4	5.6	2.8
	Unemployment	6.7	6.7	6.7	6.6	6.6	6.6	6.7	6.8	6.8	6.9	6.9	7.7	6.7	6.6	6.9
Japan	Real GDP	5.6	−1.5	0.4	2.7	1.7	1.0	0.9	0.9	0.8	0.8	0.7	2.3	1.1	1.0	0.9
	Inflation	2.1	2.7	3.8	3.5	3.3	2.8	2.3	2.9	2.7	2.6	2.2	−0.2	2.3	3.0	2.6
	Unemployment	2.6	2.5	2.5	2.6	2.5	2.4	2.4	2.3	2.3	2.3	2.3	2.8	2.6	2.4	2.3
China	Real GDP	0.4	3.9	2.9	4.5	7.8	5.0	5.7	4.7	5.0	5.0	5.0	8.4	3.0	5.8	4.9
	Inflation	2.2	2.8	1.8	1.3	0.2	1.4	1.5	1.6	1.9	2.0	2.0	0.8	1.7	1.1	1.9
	Unemployment	5.8	5.4	5.6	5.5	5.2	5.3	5.2	5.1	5.0	5.0	5.0	5.1	5.1	5.3	5.0

Real GDP growth is in QoQ annualized for U.S. and Japan, QoQ for euro area and YoY for China and India. Inflation rate is in YoY%. Inflation rate is YoY, % of core index (ex. fresh food) for Japan, YoY % of PCE deflator for U.S., and total YoY% for the rest.

Figure 2: Forecast for Rates

Interest rate		2022	2023				2024				2022	2023	2024
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
US	Policy rate	4.25 ~ 4.50	4.75 ~ 5.00	5.00 ~ 5.25	5.25 ~ 5.50	5.25 ~ 5.50	5.00 ~ 5.25	4.75 ~ 5.00	4.50 ~ 4.75	4.25 ~ 4.50	4.25 ~ 4.50	5.25 ~ 5.50	4.25 ~ 4.50
	2yr	3.43	4.03	4.90	4.20	4.00	3.80	3.60	3.40	3.20	3.43	4.00	3.20
	10yr	3.87	3.47	3.84	3.60	3.60	3.60	3.60	3.50	3.50	3.87	3.60	3.50
Germany	Policy rate	2.50	3.50	4.00	4.25	4.25	4.25	4.25	4.00	3.75	2.50	4.25	3.75
	Deposit rate	2.00	3.00	3.50	3.75	3.75	3.75	3.75	3.50	3.25	2.00	3.75	3.25
	2yr	2.50	2.68	3.20	3.20	3.00	2.80	2.60	2.40	2.30	2.50	3.00	2.30
	10yr	2.20	2.29	2.39	2.30	2.30	2.30	2.20	2.10	2.10	2.20	2.30	2.10
Japan	Policy rate	−0.10	−0.10	−0.10	−0.10	−0.10	−0.10	0.10	0.10	0.10	−0.10	−0.10	0.10
	2yr	0.04	−0.06	−0.07	0.10	0.15	0.20	0.30	0.30	0.30	0.04	0.15	0.30
	10yr	0.42	0.35	0.40	0.75	0.75	0.75	0.90	0.90	0.90	0.42	0.75	0.90
China	Policy rate	2.75	2.75	2.65	2.55	2.55	2.55	2.55	2.55	2.55	2.75	2.55	2.55
	2yr	2.39	2.41	2.11	2.16	2.24	2.32	2.39	2.49	2.59	2.39	2.24	2.59
	10yr	2.83	2.85	2.64	2.64	2.69	2.74	2.79	2.84	2.89	2.83	2.69	2.89

Figure 3: Forecast for FX and Oil Price

		2022	2023				2024				2022	2023	2024
		Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
USD/JPY	Range	130.58 ~ 151.95	127.23 ~ 137.91	130.64 ~ 145.07	128.00 ~ 147.00	125.00 ~ 138.00	121.00 ~ 135.00	119.00 ~ 133.00	116.00 ~ 130.00	116.00 ~ 130.00	113.47 ~ 151.95	125.00 ~ 147.00	116.00 ~ 135.00
	End of quarter	131.12	132.86	144.31	137.00	133.00	130.00	128.00	126.00	123.00	131.12	133.00	123.00
EUR/USD	Range	0.9633 ~ 1.0735	1.0806 ~ 1.1033	1.0635 ~ 1.1095	1.0300 ~ 1.1300	1.0200 ~ 1.1200	1.0100 ~ 1.1100	1.0000 ~ 1.1000	1.0100 ~ 1.1100	1.0100 ~ 1.1100	0.9536 ~ 1.1495	1.0200 ~ 1.1300	1.0000 ~ 1.1100
	End of quarter	1.0705	1.0839	1.0909	1.0700	1.0600	1.0500	1.0500	1.0600	1.0600	1.0705	1.0600	1.0600
EUR/JPY	Range	138.81 ~ 148.40	124.40 ~ 145.67	142.55 ~ 158.00	145.00 ~ 159.00	136.00 ~ 150.00	131.00 ~ 145.00	128.00 ~ 142.00	127.00 ~ 141.00	123.00 ~ 137.00	124.40 ~ 150.00	136.00 ~ 159.00	123.00 ~ 145.00
	End of quarter	140.41	144.01	157.43	146.59	140.98	136.50	134.40	133.56	130.38	140.41	140.98	130.38
Crude Oil Prices (WTI)		82.64	75.99	73.67	75.00	80.00	80.00	75.00	77.00	78.00	98.74	76.17	77.50

※ Crude oil prices are averages for each period. Source: SMBC.