Weekly Fundamental Market Report November 27- December 1, 2017

Market Update

PRODUCTS	11/27/17	11/28/17	11/29/17	11/30/17	12/1/17
WTI Crude Oil	58.11	57.99	57.3	57.4	58.36
Brent Crude Oil	63.84	63.61	63.11	63.57	63.49
Natural Gas	2.93	3.07	3.18	3.03	3.06

- **CME Group**

Headlines

Local North Dakota

- **Faster, better oil wells bringing more life to Bakken, oil companies tell legislative panel.** **Dickinson Press**
  - There's a lot of oil wells still to be drilled in the Bakken, according to the director of Hess operations in North Dakota. Brent Lohnes with Hess in Minot spoke to legislators and others at the Minot meeting of the North Dakota Legislature's Energy Development and Transmission Committee Wednesday. Hess' 2017 net production in the Bakken has been 105,000 barrels a day, which Lohnes said could grow to 175,000 barrels in a couple of years. The company is looking at adding more drilling rigs next year to deliver about 100 new wells, increasing production by about 10 percent. Part of what continues to make the Bakken attractive are efficiencies gained since 2010 that make it less costly and more productive to drill, Lohnes said. The drilling cycle time has dropped from an average of 50 days to just 15 days, while initial well production is up more than 300 percent. "Not only are they faster but they are better quality wells," Lohnes said. "It puts us in a great position to continue to operate here for many, many years. Even at the lower oil prices, we are still economic. "North Dakota is the crown jewel for Hess," he added. "So, we are highly focused and have a lot of energy around the Bakken." The legislative committee began two days of meetings in Minot Wednesday with tours at Hess, Cameron Surface Systems, Enbridge and Baker Hughes. Brett Tinnes with the Minot's Bakken Chapter of the American Petroleum Institute, a national trade association, reported on an API survey that showed oil-related companies choose Minot primarily for its central location but also for the quality of life and support services. Minot City Manager Tom Barry told the committee Minot continues to fit the description of a hub city in the oil patch. "The Bakken would look very different if it were not for the city of Minot," he said. "We do have dozens upon dozens of companies that are deep in that business. These companies call Minot home."

- **Bakken crude oil finds new markets**. **Williston Herald**
  - China isn't the only one who will be buying Bakken crude. Continental Resources is reporting a second international sale of 430,000 barrels scheduled for January delivery to unspecified international markets. The transaction will take place in Cushing, Oklahoma. The announcement follows one in October that Continental will sell just over 1 million barrels of Bakken crude to Atlantic Trading and Marketing, which is exporting the oil to China. "International markets are demonstrating accelerated interest in American light sweet oil, and Continental is currently negotiating additional potential sales," Continental Chairman and CEO Harold Hamm said. "This is the new reality of the United States as a world energy leader." The two sales were made possible after Congress lifted a 1977 crude oil export ban two years ago. Oil exports have been steadily growing since then. Ron Ness, president of the North Dakota Petroleum Council, expects to see more such industry transactions. "As more markets receive high-quality Bakken oil, it can only help provide Bakken producers more options for marketing, which will fetch a stronger price for each barrel," he said. Hamm said such sales show how competitive U.S. oil can be now that it is not constrained by a decades old export ban. "We expect steady U.S. production and increasing international sales will drive down U.S. inventories and help correct the

recent disparity between Brent and WTI prices," Hamm said. "Increasing volumes will also help reduce America's foreign trade deficit." Exports have been hitting record volumes since the oil ban was lifted, according to figures from the Energy Information Administration. During the week of Oct. 27, the U.S. exported 2.13 million barrels a day of oil. That was the first time the nation exceeded the 2 million-barrels-per-day mark. That compares to the 400,000 barrels a day being traded at the end of 2015, right before the ban was lifted. China has been the single largest buyer of waterborne crude, according to data from the Energy Information Administration. Last week the agency reported that crude inventories fell 1.9 million barrels in the week to Nov. 17. Most of the decline came out of the Cushing, Oklahoma, storage hub, where crude stocks fell by 1.8 million barrels. Cushing is a key storage hub and delivery point for U.S. Crude. Additional draws could occur there in coming weeks, depending on how long TransCanada Corporation's Keystone pipeline, which delivers to the location, is shut down. It was closed last week after 5,000 barrels of oil spilled from the line in South Dakota.

Domestic U.S.

- **Trump plans to meet oil industry reps on U.S. biofuels policy.** Reuters
  - Pres. Trump will meet with representatives of the oil refining industry and their legislative supporters to discuss the U.S. biofuels program, Reuters reports. The White House meeting could set the stage for negotiations over possible legislation to overhaul the Renewable Fuel Standard, according to the report. Sen. Cruz of Texas and eight other senators from states with oil refineries had requested the meeting with Trump in a letter in October to discuss the regulation; at the same time, Iowa's Sen. Grassley, a vocal biofuels backer, has said such a meeting would be a "waste of time." Independent refiners including Valero Energy (VLO -1.6%), CVR Energy (CVI +0.1%) and PBF Energy (PBF -0.8%) have steadfastly opposed the RFS requirement that refiners blend the biofuels or purchase credits from rivals that do, rules they say cost hundreds of millions of dollars each year. The EPA, which administers the RFS program, yesterday slightly increased biofuels volume targets for 2018 and has rejected proposals to shift the blending burden.

Global

- **OPEC, Russia agree oil cut extension to end of 2018.** Reuters
  - OPEC and non-OPEC producers led by Russia agreed on Thursday to extend oil output cuts until the end of 2018 as they try to finish clearing a global glut of crude while signaling a possible early exit from the deal if the market overheats. Russia, which this year reduced production significantly with OPEC for the first time, has been pushing for a clear message on how to exit the cuts so the market doesn't flip into a deficit too soon, prices don't rally too fast and rival U.S. shale firms don't boost output further. Russia needs much lower oil prices to balance its budget than OPEC's leader Saudi Arabia, which is preparing a stock market listing for national energy champion Aramco next year and would hence benefit from pricier crude. The producers' current deal, under which they are cutting supply by about 1.8 million barrels per day (bpd) in an effort to boost oil prices, expires in March. Saudi Energy Minister Khalid al-Falih told reporters the Organization of the Petroleum Exporting Countries and non-OPEC allies had agreed to extend the cuts by nine months until the end of 2018, as largely anticipated by the market. OPEC also decided to cap the combined output of Nigeria and Libya at 2017 levels below 2.8 million bpd. Both countries have been exempt from cuts due to unrest and lower-than-normal production. Falih said it was premature to talk about exiting the cuts at least for a couple of quarters as the world was entering a season of low winter demand. He added that OPEC would examine progress at its next regular meeting in June. "When we get to an exit, we are going to do it very gradually ... to make sure we don't shock the market," he said. OPEC and Russia together produce over 40 percent of global oil. Moscow's first real cooperation with OPEC, put together with the help of President Vladimir Putin, has been crucial in roughly halving an excess of global oil stocks since January. With oil prices rising above $60 (44 pounds), Russia has expressed concerns that an extension for the whole of 2018 could prompt a spike in crude production in the United States, which is not participating in the deal. A joint OPEC and non-OPEC communique said the next meeting in June 2018 would present an opportunity to adjust the agreement based on market conditions. The Iraqi, Iranian and Angolan oil ministers also said before Thursday's meetings that a review of the deal was possible in June in case the market became too

tight. International benchmark Brent crude LCOc1 rose around 0.5 percent on Thursday to trade above $63 per barrel. Just as OPEC gathered in Vienna, U.S. government data showed that U.S. oil production rose 3 percent in September to 9.48 million bpd. But Falih said OPEC “won’t be quick on the trigger” to react to short-term U.S. output spikes. U.S. shale oil producers, which effectively triggered the global oil glut of recent years, have been adjusting their message over the past year, switching away from combative language with regard to OPEC actions. “If producers in the U.S. increase their rig count over the next few months due to higher prices then I expect another price collapse by the end of 2018,” said Scott Sheffield, executive chairman of Pioneer Natural Resources Co (PXD.N), one of the largest producers in the Permian Basin of Texas and New Mexico, the largest U.S. oilfield. “I hope that all U.S. shale companies will maintain their current rig counts and use all excess cash flow to increase dividends back to their shareholders,” he told Reuters. Gary Ross, a veteran OPEC watcher and founder of Pira consultancy, said the market could surprise on the upside with Brent rising to $70 if there were a major supply disruption. “Everywhere you look there is an ever-present risk to supply,” Ross said. “In Iraq’s Kurdistan there is a major risk to oil exports because of tensions with Baghdad, in Libya militias are still fighting, in Nigeria the risks of disruptions are significant, Venezuela is on the verge of default, Iran could again face U.S. financial sanctions and even in Saudi Arabia political risk is on the rise,” Ross added. The production cuts have been in place since the start of 2017 and helped halve an excess of global oil stocks although those remain at 140 million barrels above the five-year average, according to OPEC. Russia has signaled it wants to understand better how producers will exit from the cuts as it needs to provide guidance to its private and state energy companies. On Thursday, Novak said all companies were on board with the latest limits.

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Oil and Gas Analysis

o Rotary Rig Count Summary

Location	Date	Week	+/-	Week Ago	+/-	Year Ago
United States	22-Nov-17	923	8	915	330	593
	1-Dec-17	929	6	923	332	597
North Dakota	22-Nov-17	46	0	46	13	33
	1-Dec-17	47	1	46	16	31
Canada	22-Nov-17	215	7	208	41	174
	1-Dec-17	222	7	215	22	200
International	Oct-17	951	20	931	31	920

- Baker Hughes

o WTI & Bakken Spot Price

December Daily Spot Prices					
	Mon	**Tue**	**Wed**	**Thu**	**Fri**
Bakken (FH)					
2017 November-27 to December-1	51.55	51.55	51.5	51.5	51.5
WTI					
2017 November-27 to December-1	58.1				
Differentials					
2017 November-27 to December-1	6.55				

- Flint Hills Resource
- EIA

- **Weekly Petroleum Status Report**

Stocks (Million Barrels)			
	Four Weeks Ending		
	11/24/2017	11/17/2017	11/25/2016
Crude Oil (Excluding SPR)	453.7	457.1	488.1
Motor Gasoline	214.1	210.5	226.1
Distillate Fuel Oil	127.8	125.0	154.2
All Other Oils	456.5	467.1	472.8
Crude Oil in SPR	665.1	667.5	695.1
Total	1,917.2	1,927.2	2,036.3

Products Supplied (Thousand Barrels per Day)			
	Four Weeks Ending		
	11/24/2017	11/17/2017	11/25/2016
Motor Gasoline	9,247	9,431	9,169
Distillate Fuel Oil	4,114	4,027	3,987
All Other Products	6,643	6,425	6,677
Total	20,002	19,882	19,833

Refinery Activity (Thousand Barrels per Day)			
	Four Weeks Ending		
	11/24/2017	11/17/2017	11/25/2016
Crude Oil Input to Refineries	16,696	16,449	16,156
Refinery Capacity Utilization	91.1	90	89.2
Motor Gasoline Production	10,168	10,160	10,073
Distillate Fuel Oil Production	5,262	5,200	5,016

Net Imports (Thousand Barrels per Day)			
	Four Weeks Ending		
	11/24/2017	11/17/2017	11/25/2016
Crude Oil	6,369	6,249	7,289
Petroleum Products	-3,347	-3,182	-2,257
Total	3,023	3,067	5,032

- **EIA**

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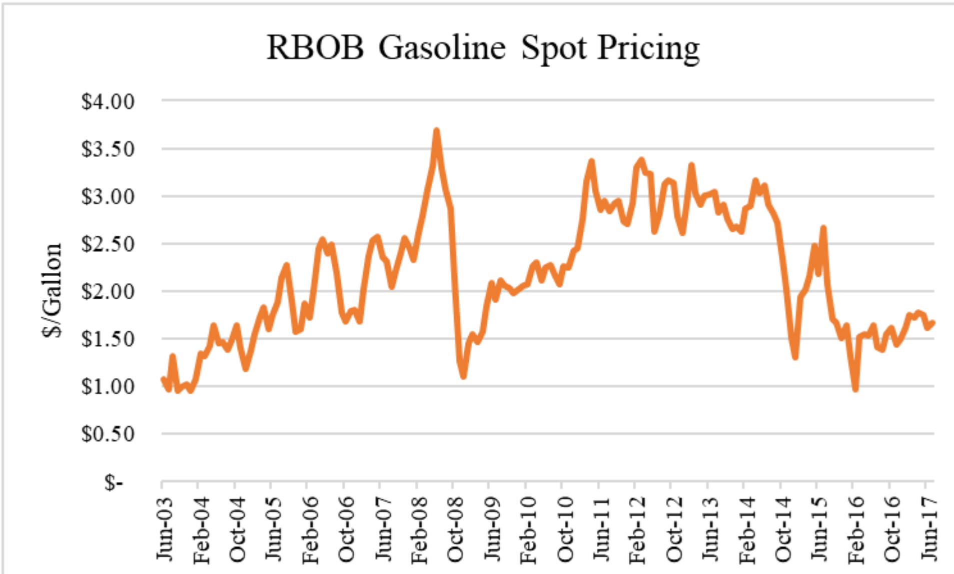
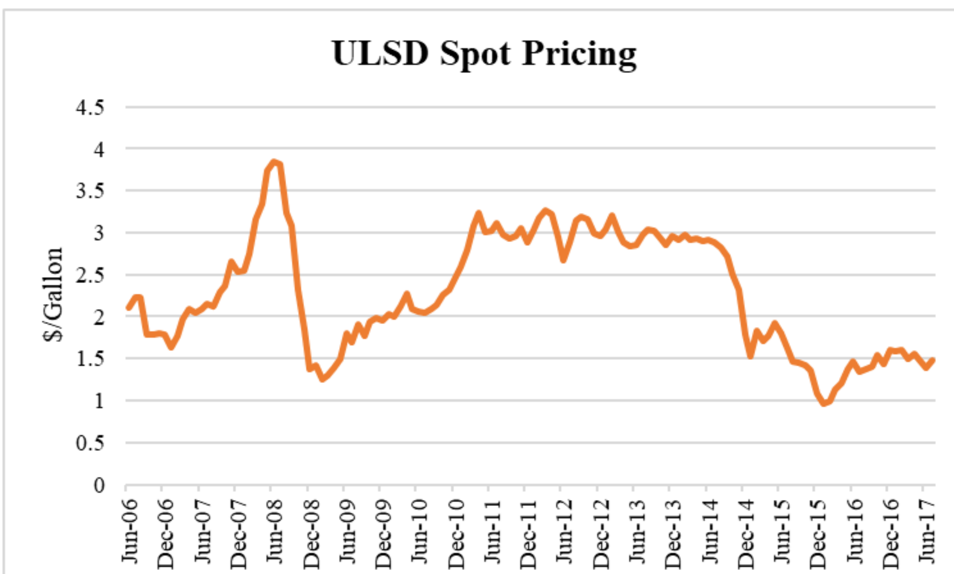
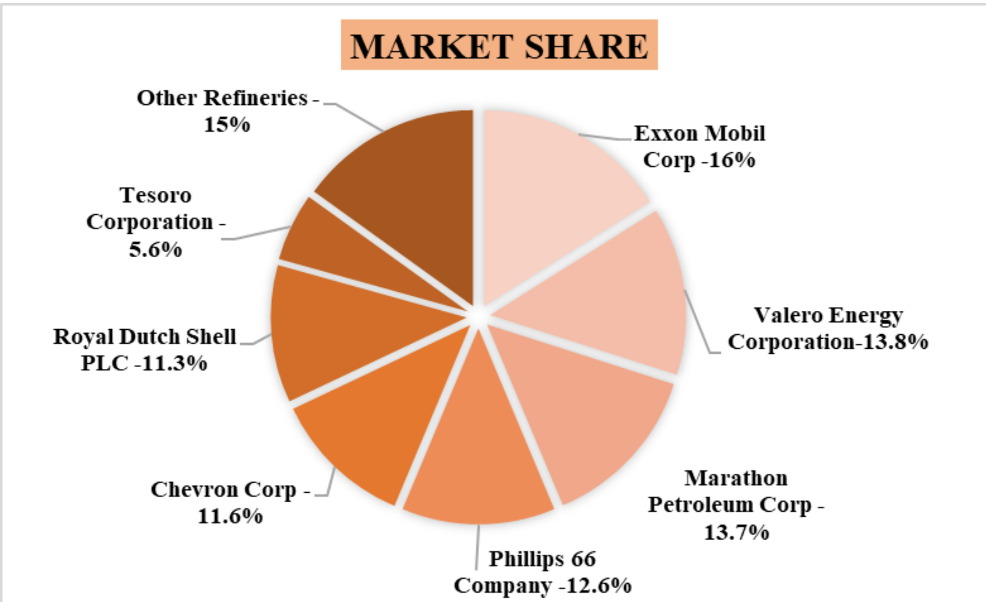
- **RBOB Gasoline**

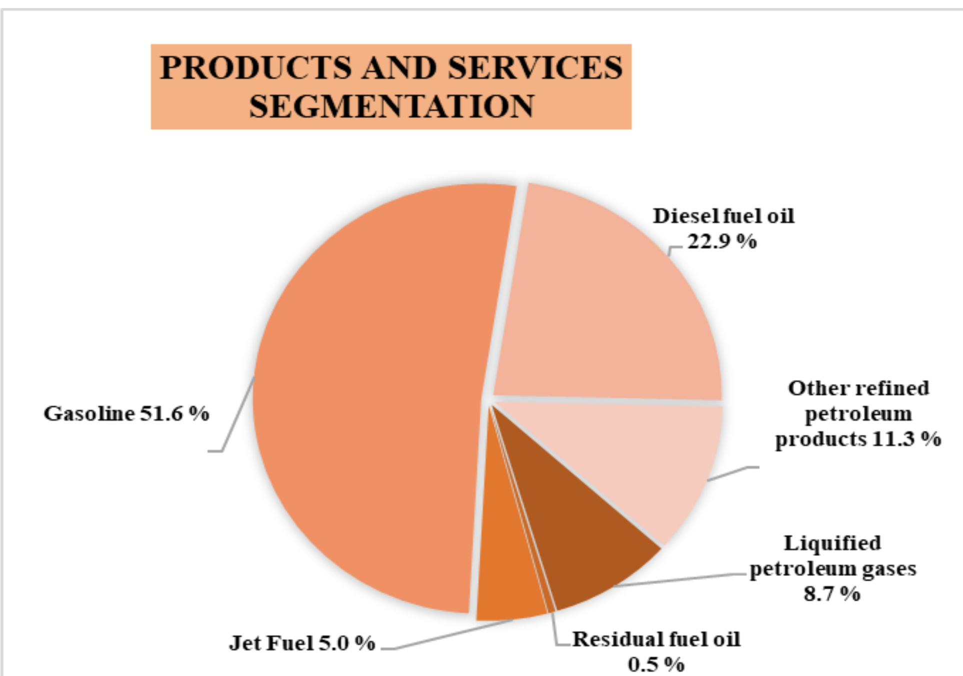


- **Ultra-Low Sulfur Diesel**



o US Petroleum Refining at a Glance





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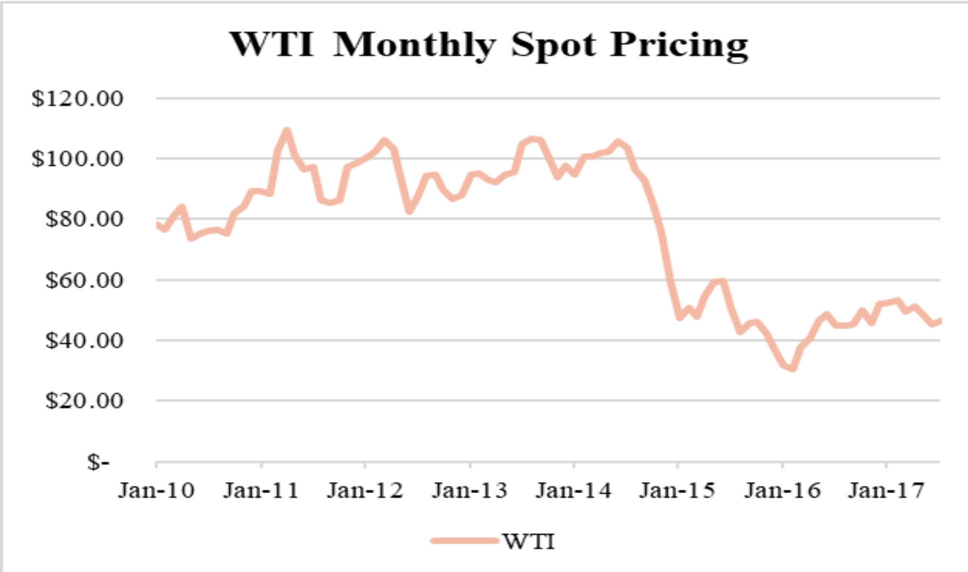

- **EIA**

o Key External Drivers

- **World price of crude oil**
  - http://markets.businessinsider.com/commodities/oil-price?type=wti
- **Demand from gasoline and petroleum bulk stations**
  - https://www.reuters.com/article/us-usa-natgas-kemp/u-s-natural-gas-prices-rise-as-winter-stocks-look-tight-kemp-idUSKCN1BU1RK
- **GDP of mainland China**
  - https://tradingeconomics.com/china/gdp
- **Trade-weighted index**
  - https://www.investing.com/news/economy-news/top-5-things-to-know-in-the-market-on-friday-541066
- **Total vehicle miles**
  - https://www.advisorperspectives.com/dshort/updates/2017/08/31/vehicle-miles-traveled-another-look-at-our-evolving-behavior