Weekly Fundamental Market Report December 4-8, 2017

Market Update

PRODUCTS	12/4/17	12/5/17	12/6/17	12/7/17	12/8/17
WTI Crude Oil	57.48	57.66	55.79	56.50	57.15
Brent Crude Oil	63.46	63.45	62.25	62.37	63.86
Natural Gas	2.91	2.86	2.86	2.81	2.78

- **CME Group**

Headlines

Local North Dakota

- **Draft permit to construct granted to Davis Refinery.** **Dickinson Press**
  - The North Dakota Department of Health Air Quality Division has granted a draft permit to construct the Davis Petroleum Refinery to Meridian Energy Group Inc. After 45 days of public comment and inquiry, the Health Department will weigh any new considerations as it closes in on a final decision. For Meridian CEO Bill Prentice, this is marks the end of a lengthy drafting process, and an acknowledgement of the efficacy of the technologies that make the proposed Davis Refinery, which will be built just outside Theodore Roosevelt National Park, state-of-the-art. "That permit is about as final a document as you can possibly get at this point and we're very happy about everything we've been able to accomplish on the technical side," Prentice said. "We're pretty comfortable that there's not much left to investigate in this issue." Terry O'Clair, director of the Health Department's Air Quality Division, said in a phone interview that although the Refinery technically qualifies as a synthetic minor source, the proximity to the park and the sheer volume of public interest warranted a thorough application review. "Because it's so close to the park we are looking at it very critically," O'Clair said. "During our review process we have had routine conference calls with both the Environmental Protection Agency and the Park Service and we've shared the application with them, that process has been working great. A lot of good questions, a lot of good discussion ... we've completed our review of the application and now we're beginning the public comment period." By law, most permits like this have 30 days of public comment, but O'Clair said that due to the proximity of this announcement to the Christmas holiday and the large amount of public interest, they were extending the public comment period to about 45 days, from Dec. 8 to Jan. 26. This draft permit may be re-examined, and more changes or inquiries may result from public comment, O'Clair said. He encourages members of the public to study the permit and send in their comments to the department. There will be a public meeting at Dickinson State University at 5:30 p.m. Jan. 17 where Prentice and Health Department officials will be present to field questions and hear concerns. Depending on the outcome of the comment period, Prentice said it was possible they could receive a final permit as early as February. The Davis Refinery represents what Prentice described as a chance to do something "truly different." "(When) I came on board, my whole objective after 40 years in this business was to build a refinery unlike any ever seen before," Prentice said. "The challenge here was to prove that everything we wanted to do was commercially proven, so we could present it to the health department as something everyone can rely on." A refinery like this hasn't been built in the United States for decades, Prentice said, but the Davis Refinery would, once completed, set a new standard in clean energy. "The result is just extraordinary. On a per barrel basis we produce a fraction of what the industry average is as far as pollution is concerned," Prentice said. "If the entire industry in the United States were to adopt our approach to emissions control ... the amount of air pollution in this country would be decreased dramatically." Prentice said he had no qualms in challenging the industry to meet the standard that Davis will set, noting that many had expressed doubt or disdain about the proposed project. "Most people in the industry thought we were crazy or thought we should just go away," He said. "(They said) it's going to

complicate our lives." The technology that the refinery will use to maintain its clean operating standards include optical sensors for detecting oil leaks in pipes, and pipes which are themselves constructing using modern machining methods, to be of a higher quality. The refinery is expected to bring hundreds of jobs to the Belfield area and Billings County, with construction employment peeking out at 500 jobs and 200 permanent employee positions expected at the refinery itself, which Prentice had previously said that as many as 180 will be local hires.

- **North Dakota approves oil rule changes.** Williston Herald
  - North Dakota is moving ahead with 41 changes to its oil and gas rules, many of which are likely to be applied across the Bakken, which spans parts of North Dakota, Montana and Canada. The changes were approved unanimously by the North Dakota Industrial Commission, and will now be submitted to the state Attorney General's office for a procedural review. After that, they head to the Legislative Council for review by the Administrative Rules Committee in March. The changes will include both sundry notices and clearer royalty statements — albeit with a few modifications to the original proposed changes. Royalty statements and sundry notices on oil spills less than 10 barrels were both prominent in comments received by North Dakota's Oil and Gas Division. The North Dakota Petroleum Council was among those objecting to both, while the Northwest Landowners Association supported them. North Dakota is still requiring total cleanup of all spills, and the sundry notice would have created a paper trail for inspectors to ensure things are done properly, Northwest Landowners suggested. But that's a backdoor reporting requirement, according to Brady Pelton, the Government Affairs Manager for the North Dakota Petroleum Council. "We saw that the original language of that rule was circumventing the legislative intent of House Bill 1151," he said, "so we requested that be withdrawn." The requirement was instead modified. A sundry notice will now be required only when a spill is not properly cleaned up and removed, or when appropriate resources were not used to clean it up. While that isn't exactly what either the Petroleum Council or the Northwest Landowners had wanted, representatives of both entities said that was "good enough." "That effectively removes the backdoor," Pelton said, adding, "Most all industry members are responsible and clean up any spill, regardless of size." NWLA President Troy Coons said the modified sundry notices are still a positive step forward. "It's another check and balance in place, and it is still needed," he said. "I'm still a supporter of this rulemaking. It is another tool." Coons said this will still be useful even if bad actors might try to skip the requirement. "If an inspector comes on site and sees a spill that isn't being dealt with, whether it's one gallon or 430 gallons, if it isn't being dealt with properly, a sundry notice will be filed and that company has to explain why it was not dealt with and what fluid was spilled and what the cleanup process will be," Coons said, "so at least that is part of their file." Pelton, meanwhile, said any company trying to skip the requirement would likely face penalties if caught. Better clarity on royalty statements was another issue North Dakota Landowners were pushing for, along with better records of where pipelines leave sites, and gauges with serial numbers, so they can be checked for accuracy. Coons was pleased that those appear likely to become a reality, even if the effective date for changes to royalty statements was pushed to July 1, 2019. Under that rule change, companies will be required to list the amount and purpose of each deduction that has been made, and to identify what costs were deducted, including all adjustments and corrections. A requirement to name the point of sale on statements, however, was withdrawn. Pelton said the changes that remained in place will still be very costly to the oil and gas industry, but that the delay will help make the change more manageable. NDPC has estimated each change on the royalty statement could cost a company between $500,000 and $1 million per software change. "There are several that will need to be made by various members of the industry," he said, "so that could add up quite substantially. We did like the effective date being changed around on that. It will give industry time to change around the system. It doesn't do a lot to reduce the overall cost they could face in changing, but it gives them time to come into compliance with the rule once it goes into effect." Other changes to the proposed rules included:
    - Withdrawing a requirement to keep all ignition sources outside a 150-foot radius of a producing oil well or oil tank. That could have applied to cell phones as well, and would have created unintended consequences for the industry, Pelton said.
    - Replaced the word "environmental assessment" with "site assessment" instead. Pelton said that environmental assessments have a specific definition at the federal level, and using it in that sense could create confusion about what the rules require, as well as setting up unintended legal ramifications.

- Clarified where production dikes or berms must be placed around oilfield production equipment, to ensure there are not duplicative requirements.

Domestic U.S.

- **Oil Jumps as Resurgent Chinese Demand Brightens Global Outlook.** Bloomberg
  - Crude edged higher as near-record Chinese orders for foreign crude signaled stronger demand in the world's second-largest economy. Futures climbed 1.2 percent in New York. A rebound in China's crude imports last month from a one-year low defused some of the pessimism among investors fanned by a U.S. government report earlier this week showing bearish increases in fuel inventories and domestic oil production. "Everyone is talking about that big jump in imports of crude into China last month," according to John Kilduff, a partner at Again Capital LLC, a New York-based hedge fund. "It's definitely a strong source of demand." This year's watershed moment for global oil markets was last month's agreement by the Organization of Petroleum Exporting Countries, Russia and allied producers to extend production curbs through all of next year. Euphoria among bullish traders was short-lived though in the face of the American shale juggernaut. Output from shale fields from the Great Plains to West Texas continued to surge, raising the specter for a renewed worldwide glut. This week, Chevron Corp. announced plans to ramp up investment in the Permian Basin and other shale fields, extending the company's multi-year shift toward a shale-heavy focus. The oil market continues to feel pressure from the ongoing "ramp up in U.S. crude oil production," Kilduff said by telephone. "A lot of credit and hopes were pinned on OPEC and the deal that was cut but there continues to be more and more oil and product coming to market." Drillers expanded the number of rigs searching for crude in two of the busiest U.S. shale fields this week, Baker Hughes reported on Friday. The rig tallies in the Permian and Eagle Ford regions rose by three each. West Texas Intermediate for January delivery climbed 67 cents to settle at $57.36 a barrel on the New York Mercantile Exchange. Total volume traded was about 5 percent below the 100-day average. Prices declined 1.7 percent this week, the biggest weekly loss since early October. Brent for February settlement rose $1.20 to end the session at $63.40 on the London-based ICE Futures Europe exchange. The global benchmark traded at a premium of $5.96 to February WTI. China will "inevitably" become more reliant on crude imports due to falling output from some of its biggest fields, according to Fitch's BMI Research. U.S. crude production expanded for a seventh week to 9.71 million barrels a day, the highest level in weekly data compiled by the EIA since 1983. Gasoline inventories surged by 6.78 million barrels last week, the biggest gain since January. Further increases in product stockpiles in the U.S. could put pressure on spot prices, Tariq Zahir, a New York-based commodity fund manager at Tyche Capital Advisors LLC, said in a telephone interview. At the same time, if the oil rig count also creeps higher into the end of this year, then "there is definitely more risk to the downside going into the first quarter."

Global

- **Oil analysts grow more bullish after OPEC extends output deal: Reuters poll.** Reuters
  - Oil analysts have raised their forecasts for the crude price next year after major producers agreed to extend output cuts, a Reuters poll showed on Wednesday. Political tensions in Saudi Arabia, production disruptions in Libya and Nigeria and economic depression in Venezuela that has cut crude output will also support oil prices, the analysts said. Benchmark Brent crude futures LCOc1 are now forecast to average $58.84 in 2018, up more than $3 from $55.71 estimated in the previous poll at the end of October. The Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers, led by Russia, last week extended their deal to cut output by 1.8 million barrels per day (bpd) until the end of 2018 to end persistent oversupply. The group signaled it may stage an early exit from the deal if the market overheats and triggers too much of a price rise. "The OPEC cut extension is expected to send a positive signal regarding faster rebalancing in the oil markets... Strong compliance is expected from OPEC as the OPEC economies are still heavily dependent on oil revenues to meet their fiscal budget deficits and hence they need higher oil prices," said Rahul Prithiani, director at CRISIL Research. Some analysts, however, expressed doubts over compliance from non-OPEC countries, especially Russia, which has plans to expand production from its newer oilfields. "The main positive surprise involved Libya and Nigeria, previously exempted (from the deal), which will now be subject to a cumulative production cap," said Daniela Corsini, commodity market economist at Intesa Sanpaolo in Milan. Oil prices

have rallied strongly in the second half of this year, on a growing belief that the OPEC-led output cuts, coupled with strong consumption, were bringing the market back into balance. Brent crude was trading above $62 a barrel on Tuesday. The North Sea benchmark, which has recovered about 25 percent since the deal was announced last year, is expected to average $54.19 per barrel in 2017. OPEC oil output fell in November by 300,000 barrels per day (bpd) to its lowest since May, while compliance with pledged supply curbs rose to 112 percent. The survey of 30 economists and analysts forecast U.S. crude futures CLc1 would average $54.78 per barrel in 2018, up from a previous forecast of $52.50. WTI was expected to average $50.65 a barrel this year.
Asia will be a key driver of global demand growth, helping to tighten the balance between supply and consumption, analysts said. "Non-OECD demand could rise by up to 1.3 million barrels per day in 2018, largely driven by China and India," said Giorgos Beleris, analyst at Thomson Reuters Oil Research and Forecasts. The biggest increase in exports to Asia has been coming from the United States, partly stimulated by a reduction in export volumes from the Middle East. Rising U.S. shale production has increased the discount of U.S. crude futures to Brent to around $5 per barrel, meaning it is cheaper for Asian buyers.

Meridian Energy Group Inc.

Oil and Gas Analysis

Rotary Rig Count Summary

Location	Date	Week	+/-	Week Ago	+/-	Year Ago
United States	1-Dec-17	929	6	923	332	597
	8-Dec-17	931	2	929	307	624
North Dakota	1-Dec-17	47	1	46	16	31
	8-Dec-17	46	-1	47	14	32
Canada	1-Dec-17	222	7	215	22	200
	8-Dec-17	219	-3	222	-11	230
International	Nov-17	942	-9	951	17	925

- Baker Hughes

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
2017 December-4 to December-8	52.5	52.1	52.25	52.5	52.25
WTI					
2017 November-27 to December-1	58.1	57.96	57.25	57.4	58.35
2017 December-4 to December-8	57.48				
Differentials					
2017 November-27 to December-1	6.55	5.86	5.15	5.9	6.85
2017 December-4 to December-8	4.98				

- Flint Hills Resource
- EIA

- **Weekly Petroleum Status Report**

Stocks (Million Barrels)			
	Four Weeks Ending		
	12/1/2017	11/24/2017	12/2/2016
Crude Oil (Excluding SPR)	448.1	453.7	485.5
Motor Gasoline	220.9	214.1	229.5
Distillate Fuel Oil	129.4	127.8	156.7
All Other Oils	451.2	456.5	470.6
Crude Oil in SPR	662.7	665.1	695.1
Total	1,912.3	1,917.2	2,037.7

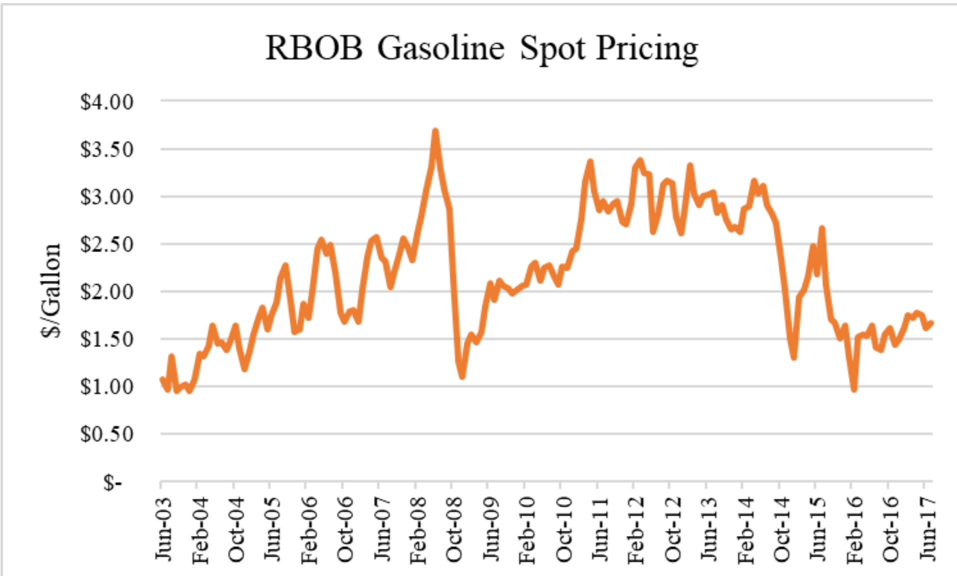
Products Supplied (Thousand Barrels per Day)			
	Four Weeks Ending		
	12/1/2017	11/24/2017	12/2/2016
Motor Gasoline	9,097	9,247	9,055
Distillate Fuel Oil	3,926	4,114	3,903
All Other Products	6,642	6,643	6,603
Total	19,664	20,002	19,561

Refinery Activity (Thousand Barrels per Day)			
	Four Weeks Ending		
	12/1/2017	11/24/2017	12/2/2016
Crude Oil Input to Refineries	16,919	16,696	16,306
Refinery Capacity Utilization	92.2	91.1	90.1
Motor Gasoline Production	10,066	10,168	9,938
Distillate Fuel Oil Production	5,313	5,262	5,091

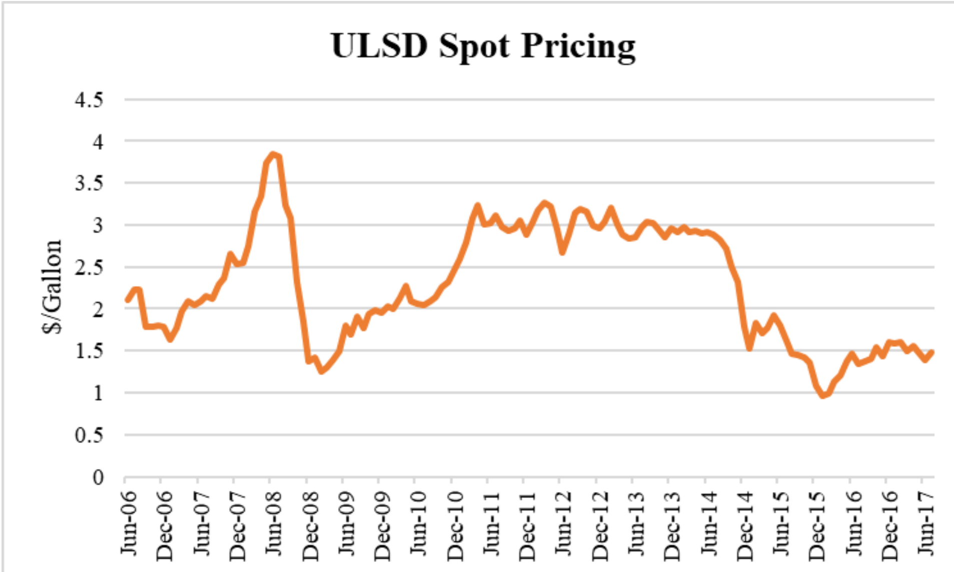
Net Imports (Thousand Barrels per Day)			
	Four Weeks Ending		
	12/1/2017	11/24/2017	12/2/2016
Crude Oil	6,203	6,369	7,482
Petroleum Products	-3,412	-3,347	-2,224
Total	2,791	3,023	5,259

- **EIA**

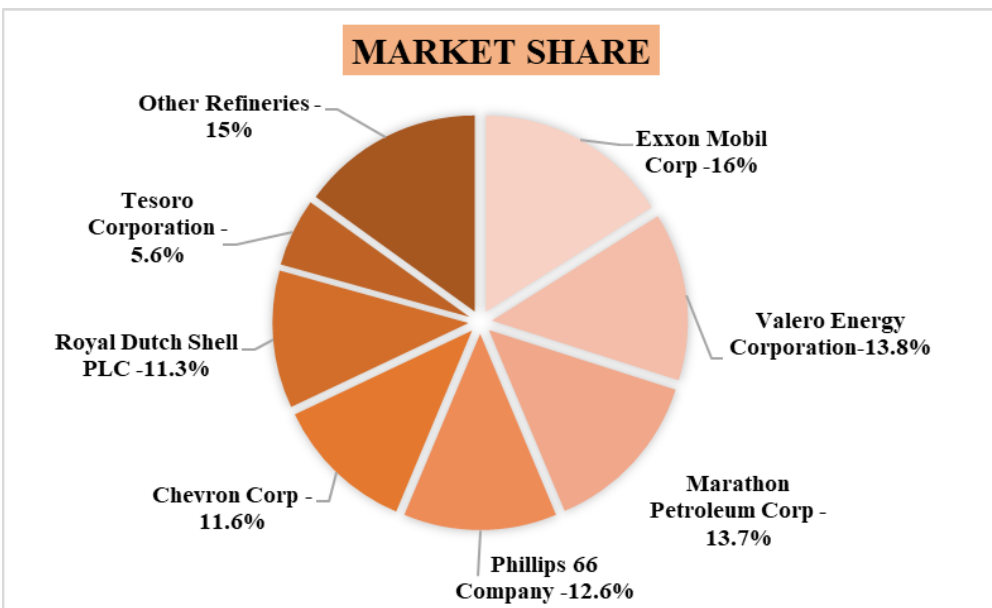
- **RBOB Gasoline**

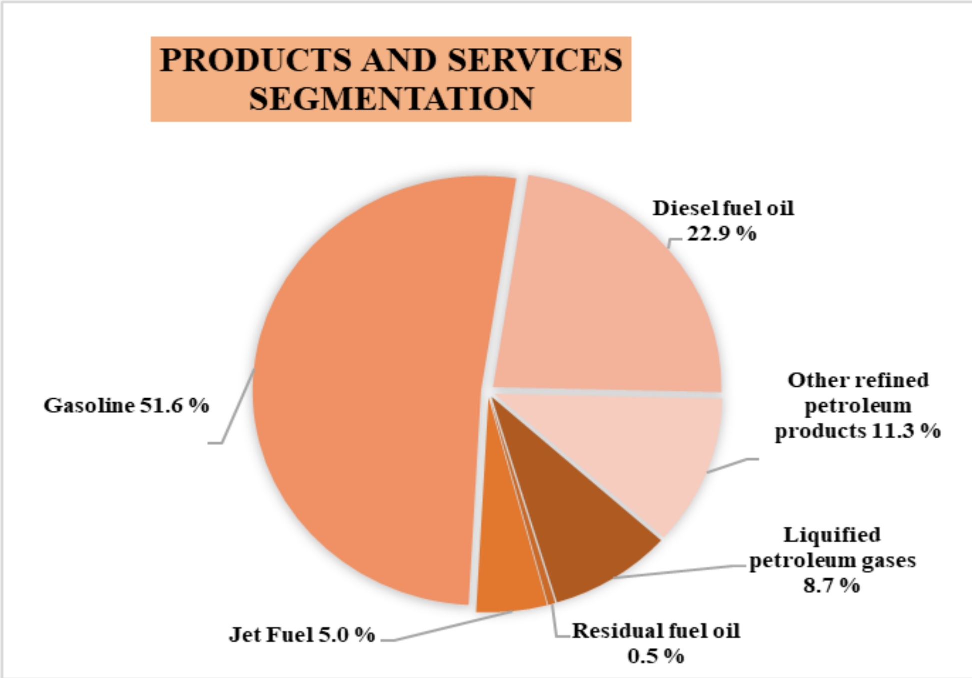


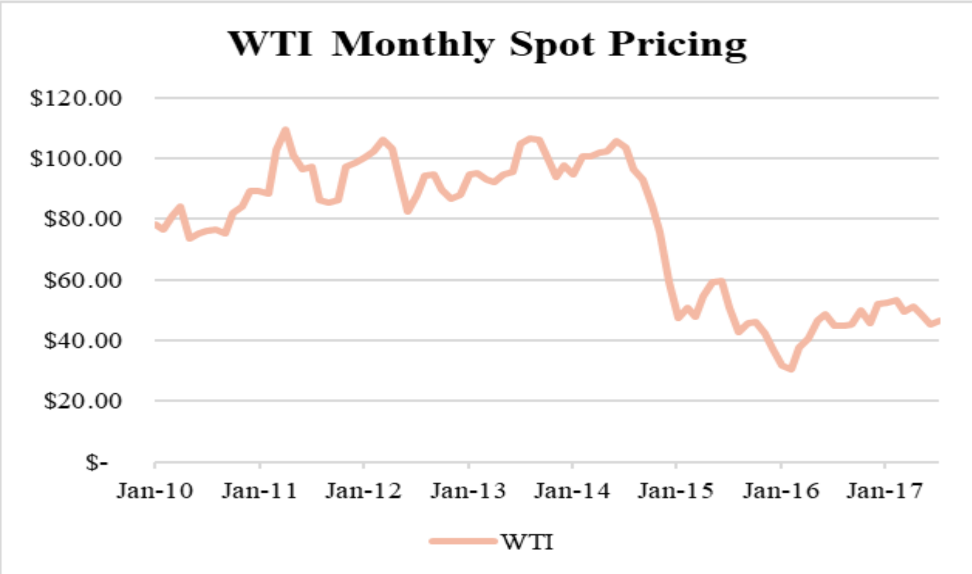
- **Ultra-Low Sulfur Diesel**



- **US Petroleum Refining at a Glance**







- **EIA**

- ## 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