Meridian Energy Group Inc.

Weekly Fundamental Market Report September 25-29, 2017

Market Update

PRODUCTS	9/25/17	9/26/17	9/27/17	9/28/17	9/29/17
WTI Crude Oil	52.22	51.88	52.14	51.56	51.67
Brent Crude Oil	59.02	58.44	57.90	57.41	57.54
Natural Gas	2.92	2.92	2.97	3.02	3.01

- **CME Group**

Headlines

Local North Dakota

- **Global demand for oil better than expected, but it could take 2018 to even out market.** **Bismarck Tribune**
  - Demand and costs in the oil industry are doing better than expected, but it could take another year before the global market rebalances itself, an expert in the field said Thursday. “We do see the market rebalancing,” ConocoPhillips chief economist Helen Currie told attendees of the annual North Dakota Petroleum Council meeting in Grand Forks. “It is taking longer than a lot of analysts had been projecting, but we do see the market coming back into balance by the end of 2018.” Currie was one of the last speakers of the three-day meeting that began Tuesday at the Alerus Center. The conference attracted nearly 400 people and focused on how North Dakota can improve its technology and research to drill oil more efficiently. “The industry as a whole, and not just the industry in the U.S., continues to get better at producing every barrel that we produce,” she said. Oil prices and production in the U.S. was hampered in the mid-2010s after producers in the Middle East flooded the global market. After dipping below $30 a barrel in January 2016, oil prices per barrel have stayed between $40 and $52 in the last year. “The consensus is that prices will probably stay in the $50 to $60 range for a few years, maybe into the 2020s,” she said. “It is in the early 2020s that there is a lot of industry debate on what will be the forces that will push prices up.” The global demand is performing and is turning out better than expectations made earlier this year, Currie said. That’s in part due to supply falling in 2016 and 2017, particularly in Iran, Nigeria and Libya, according to graphics she presented at the meeting. OPEC has also cut production. The cost to produce oil is less than expected, Currie said, adding production of oil, as well as demand across the world, is expected to grow in the next decade. Shale gas production also is expected to grow significantly, with worldwide demand having the potential to double by 2030. The news of oil demand and production increasing could make a goal set by North Dakota Gov. Doug Burgum easier to reach. In July, he challenged the petroleum industry to double daily production in the state from a million barrels to 2 million barrels. It’s possible that goal can be reached, Currie said, but the companies will decide if they want to drill enough in North Dakota to meet the challenge. “Sure, you can set a political target of 2 million barrels per day for the state, and I’m not saying it can’t get there. It absolutely could,” she said. “I think it is really up to each individual company to decide what’s (their) best growth plan and what makes sense there.”

- **Our View: Governor's challenge needs details.** **Grand Forks Herald**
  - Gov. Doug Burgum on Wednesday repeated his challenge to the North Dakota oil industry, urging it to reach at least 2 million barrels of oil production per day. The governor's comments came during the Bakken 2.0 conference, where hundreds of industry leaders gathered to discuss energy production. We like that the governor has issued the challenge. We wish, however, there was more behind it. When asked after the speech if he had specific ideas in mind to help spur the development, the governor said "we have to look at everything."

That was Wednesday. On Tuesday, the day before Burgum's speech, the Herald editorial board hosted North Dakota Petroleum Council President Ron Ness. He referenced Burgum's original challenge, which came earlier this year. "A governor who puts out a goal of doubling oil production, and a president that wants to produce oil — that means a lot to boardrooms," Ness said. "Knowing that North Dakota wants you to grow your production means a lot to the climate." At present, oil production in North Dakota is around 1 million barrels per day. The high-water mark for production was three years ago, at around 1.2 million. The decline came with the decrease in price — from $100 per barrel to around $45 — which resulted in a decline in rigs. Ness was asked Tuesday if the governor had yet given specifics on the challenge. No, he said, "but we'll see what he has to say (Wednesday). My sense is that it's an open challenge." When Burgum again referenced the challenge Wednesday, he still didn't give specifics. We think he should, and we think he's justified in providing some sort of aid or incentive to help achieve his challenge for more oil, which has proven so lucrative to the state's economy. Our preference? State investment in research, and specifically at UND. The extra oil exists in the Bakken, and the next great boom will occur when the price rebounds, or on the heels of another technological breakthrough. Fracking, after all, was the breakthrough that spurred the Bakken boom in the first place. As an example, Ness said agriculture technology developed at North Dakota State University has redefined the ag industry. "It changed the way we produce crops, and that all came out of NDSU," he said. UND, through its Energy and Environmental Research Center and Department of Petroleum Engineering, already is a leader in oil-industry technological development. More state funding could speed up the release of new technologies, several of which already are being tested in the field. It could lead to enhancements in oil recovery, getting more oil out of the ground and increasing profit. The improved return on investment would better protect the industry—and the state economy—against future cyclical price swings. Tax incentives to the oil industry probably could help, too, but more breaks for the oil companies might not float with North Dakotans. Incentives for the state's flagship university to speed development of new and innovative oil-field technologies? That's the better method.

Domestic U.S.

- **Traders Are Betting On $100 Oil In 2018**. **Oil Price**
    - While oil industry executives are preparing to live and profit in the world of $50 oil over the next few years, some enthusiast investors have been betting on $100 oil for December 2018 options. Open interest in $100 call options for December 2018 has tripled in one week to exceed 30,000 lots, according to Reuters. Open interest in that contract is now equal to the most active contract of the December 2017 options—$60 call options. The $100 December 2018 options is the largest strike for all of 2018. Although bullish reports over the past few weeks point to stronger-than-expected oil demand growth, and although global oversupply has reduced over the summer, the bets for $100 oil at the end of next year are still way above estimates and forecasts. But that hasn't stopped some traders from shooting the moon. After oil prices entered bull-market territory at the beginning of this week, analysts started weighing in again on the future price of oil: How much could it rise? Could the increase be sustained? Over the past week alone, we've seen one analyst predict prices of $80 per barrel. A panel of several other analysts forecast a price drop if OPEC were to end its production cut deal as planned in March 2018. Citi added its two cents: whatever OPEC does, supply will likely get tighter next year, suggesting that prices would head upward. Three years of low oil prices have constrained investments in conventional projects, and the IEA has just recently reiterated its warning that an oil price spike is in the cards in 2020, citing growing demand for oil that could outstrip the pace of new conventional supply. Related: The Driving Forces Behind Today's Oil Markets "The lack of spending always comes home to roost," Richard Robinson, who manages the global energy fund of Ash burton Investments, told Reuters. "With inventories soon to balance, the psyche of the market should move and the questions posed by investors will also change. With the dynamics currently in place, we expect to witness significant opportunities as the oil price moves higher," said Robinson, who doesn't see oil reaching $100. According to a recent note by Energy Aspects, as carried by Reuters: "Our point is there is not enough oil at $50. We don't deny that demand growth can slow materially from around 2026 ... But legacy projects peak this decade, well before demand is likely to, setting up for an imbalance."

- **Oil could soon overtake its 2017 highs, strategist says.** **CNBC**
    - Crude oil is on pace to wrap up a strong September, having gained a little over 9 percent month to date. Some see further gains ahead as much of the commodity's losses have been recouped. "Investors have really gained confidence in oil, after the OPEC cuts that were originally discussed earlier in the year are starting to take shape here, and oil production is being curbed," Phil Streible, senior market strategist at RJO Futures, said Thursday on CNBC's "Trading Nation." Further fueling the commodity's recent upside is the International Energy Agency having upped its demand outlook for the end of this year and into 2018, Streible said. Due to this combination of production cuts and growing demand, oil could head up to its 2017 high, just above $55, or even $60 per barrel by year-end. A global supply glut has plagued the market for several years, and OPEC member countries and non-member producers have vowed to implement cuts to curb such oversupply. His forecasts would imply between 7 percent and 16 percent of upside from current levels; crude oil has not traded at $60 per barrel since mid-2015. At this point, traders should seek to remain long the oil market above $50 per barrel of West Texas Intermediate crude oil, Streible said. "If we got a two-day consecutive close below the $50 level, use risk management. Take the position off. Otherwise, it could be a nice wild ride back to the upside, and we may even see $60 by year-end," he said, if economic data continues to be supportive. WTI crude oil settled about 1 percent lower on Thursday, at $51.56 per barrel, slightly below its five-month highs.

Global

- **U.S. crude exports to Asia may shake up global oil pricing.** **Reuters**
    - The great disruptor that is U.S. shale oil is coming to Asia, as refiners in the energy-hungry region look to expand and diversify their sources of crude, and the consequences will likely go well beyond a shift in oil trade flows. It should come as no surprise that rising oil output in the United States would find its way to the region that is the world's fastest-growing consumer of the fuel, but perhaps the rapid pace of the shift has caught some in the market off-guard. Crude oil exports to Asia from the United States are still relatively small-scale, with Thomson Reuters Oil Research and Forecasts estimating flows of around 261,000 barrels per day (bpd) in the first eight months of the year. However, this is about 10 times what they were in the same period last year. Major buyer China has gone from taking just one cargo of under 1 million barrels in the January-August period in 2016 to buying about 115,000 bpd from the United States so far, this year. It's also likely that U.S. shale oil exports will rise sharply in the next couple of years as production grows rapidly. In one of the major U.S. shale plays, the Permian Basin, output is expected to surge to 2.9 million bpd by next year from the current 2.4 million, Ryan Krogmeier, vice president of crude supply and trading at Chevron, told the S&P Global Platts Asia Pacific Petroleum Conference in Singapore on Monday. Much of this production will be exported as U.S. refiners along the Gulf Coast aren't capable of processing more light crude, having been set up to deal more with heavier and sour grades from offshore Gulf of Mexico platforms and imports from the Middle East. That leaves Asia as the clearing house for U.S. crude. But there are several factors that have to work together to ensure that U.S. crude does actually flow east. The first, and most important, is that U.S. crude has to remain at a significant discount to similar grades, given the higher loading and shipping costs. U.S. shale crude is largely priced against West Texas Intermediate (WTI), while the other light grades that typically move to Asia, such as crude from Angola and Nigeria, are priced against. Brent, often described as the global benchmark. The spread between the two grades has widened recently, with Brent closing at $59.02 a barrel on Monday, a premium of $6.80 to the closing trade for WTI. Effectively investors are taking the view that there is still surplus crude in the United States, home of WTI, while the market for Brent is starting to tighten as efforts by the Organization of the Petroleum Exporting Countries and allied producers start to drain global inventories. The current discount of WTI certainly makes it profitable for traders to ship U.S. crude to Asia. If enough cargoes are booked, it should in theory boost the price of WTI relative to Brent. However, there is a limit to how much WTI can rise relative to Brent before sending U.S. crude to the East is no longer economically viable. Estimating that level is obviously an inexact science, but its worth noting that the two biggest months for U.S. crude arrivals in Asia this year were April and June. In both cases, the discount of WTI to Brent was wider about six to eight weeks ahead of those months, suggesting that traders need a gap of around $5 a barrel to make the trade profitable. This implies that WTI will have to remain in a structural discount to Brent is ordered to clear rising U.S. crude supplies. Of course, this level is far from fixed or permanent. It could easily be lower in coming years as the United States builds out infrastructure that would allow for crude exports to be loaded directly onto the largest oil tankers, rather than medium-sized carriers as is currently the case at many export ports.

The other major implication is that WTI is going to become considerably more important in pricing decisions among Asia crude buyers. If Asian refiners seeking light crudes can buy at prices linked to WTI, that may be far more attractive than looking at crudes priced against Brent. This could mean that producers who use Brent as a benchmark will have to offer greater discounts in order to compete in Asia against U.S. crudes. While WTI would have a long way to go before supplanting Brent as the global benchmark, it may well make inroads in Asia and become more attractive to market participants in the region as a tool for hedging and price discovery.

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Oil and Gas Analysis

Rotary Rig Count Summary

Location	Date	Week	+/-	Week Ago	+/-	Year Ago
United States	22-Sep-17	935	-1	936	424	511
	29-Sep-17	940	5	935	418	522
North Dakota	22-Sep-17	49	-3	52	21	28
	29-Sep-17	50	1	49	20	30
Canada	22-Sep-17	220	8	212	82	138
	29-Sep-17	213	-7	220	51	162
International	Aug-17	951	-7	958	15	937

- Baker Hughes

WTI & Bakken Spot Price

September 2017 Daily Spot Prices					
	Mon	Tue	Wed	Thu	Fri
Bakken (FH)					
2017 August-28 to September-1	42.33	42.17	42.14	42.14	41.75
September-4 to September-8	-	43.05	43.05	43.47	43.27
September-11 to September-15	42.45	42.45	43.21	43.21	43.49
September-18 to September-22	43.49	43.6	43.4	43.77	43.77
September-25 to September-29	43.84	44.06	44.06	44.09	44.04
WTI					
2017 August-28 to September-1	46.4	46.46	45.96	47.26	47.32
September-4 to September-8	-	48.63	49.13	49.1	47.44
September-11 to September-15	48.06	48.21	49.3	49.86	49.9
September-18 to September-22	49.88	49.54	50.29	50.58	50.33
September-25 to September-29	51.85				
Differentials					
2017 August-28 to September-1	4.07	4.29	3.82	5.12	5.57
September-4 to September-8	-	5.58	5.58	6.08	4.17
September-11 to September-15	5.61	5.76	6.09	6.65	6.41
September-18 to September-22	6.39	5.94	6.89	6.81	6.56
September-25 to September-29	8.01				

- Flint Hills Resource
- EIA

- **Weekly Petroleum Status Report**

Stocks (Million Barrels)			
	Four Weeks Ending		
	9/22/2017	9/15/2017	9/23/2016
Crude Oil (Excluding SPR)	471.0	472.8	472.1
Motor Gasoline	217.3	216.2	227.2
Distillate Fuel Oil	138.0	138.9	163.1
All Other Oils	474.2	477.7	497.9
Crude Oil in SPR	674.6	675.4	695.1
Total	1,975.1	1,981.0	2,055.4

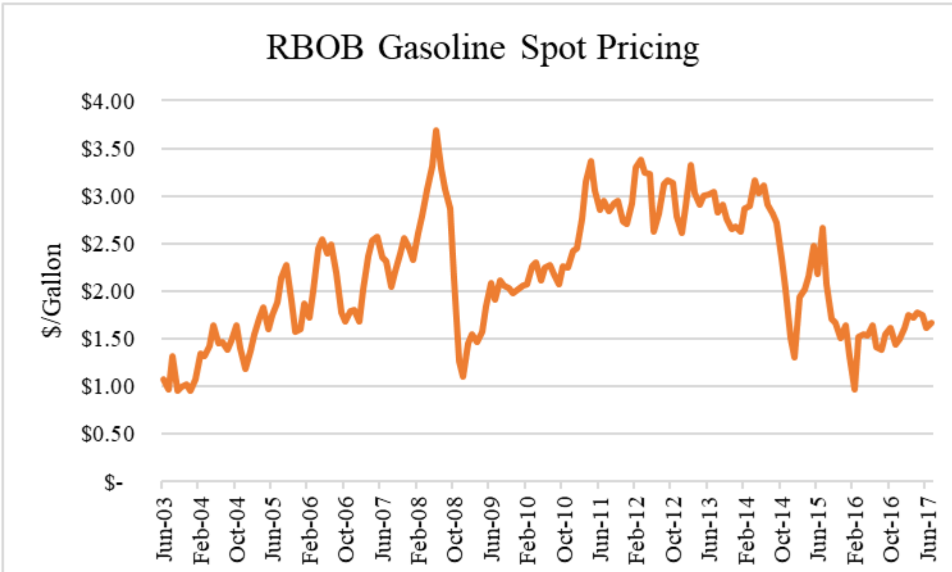
Products Supplied (Thousand Barrels per Day)			
	Four Weeks Ending		
	9/22/2017	9/15/2017	9/23/2016
Motor Gasoline	9,436	9,517	9,383
Distillate Fuel Oil	4,033	4,074	3,542
All Other Products	6,835	6,795	7,123
Total	20,304	20,386	20,047

Refinery Activity (Thousand Barrels per Day)			
	Four Weeks Ending		
	9/22/2017	9/15/2017	9/23/2016
Crude Oil Input to Refineries	14,974	15,362	16,645
Refinery Capacity Utilization	82.3	84.3	92.2
Motor Gasoline Production	9,763	9,950	9,928
Distillate Fuel Oil Production	4,412	4,516	4,913

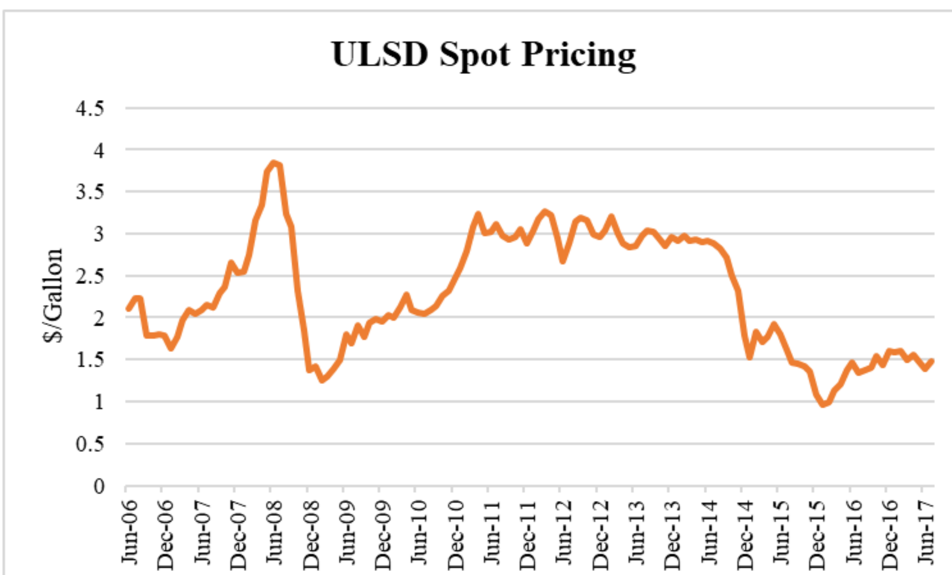
Net Imports (Thousand Barrels per Day)			
	Four Weeks Ending		
	9/22/2017	9/15/2017	9/23/2016
Crude Oil	6,253	6,520	7,315
Petroleum Products	-1,330	-1,390	-2,261
Total	4,923	5,130	5,054

- **EIA**

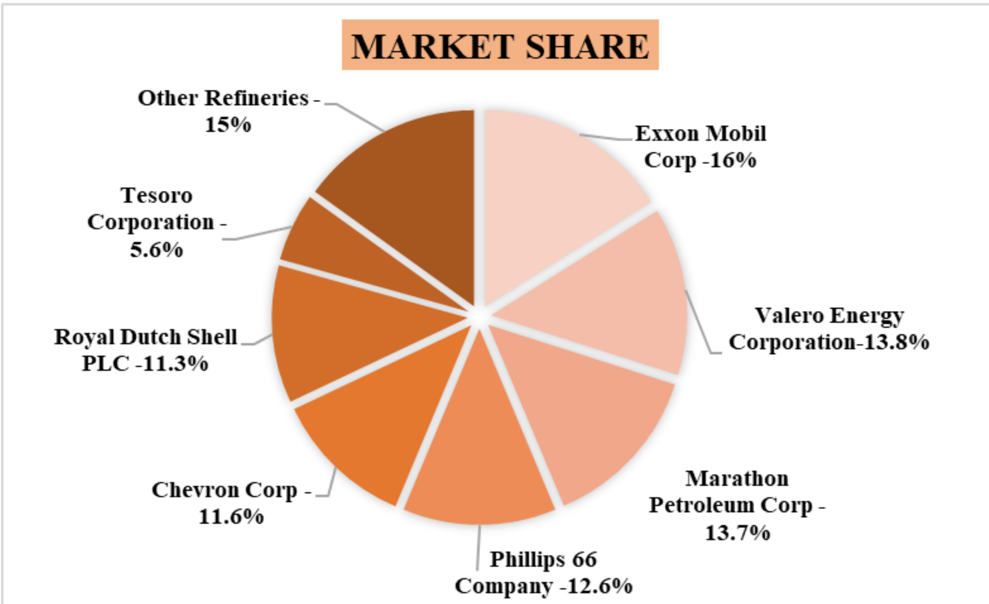
- **RBOB Gasoline**

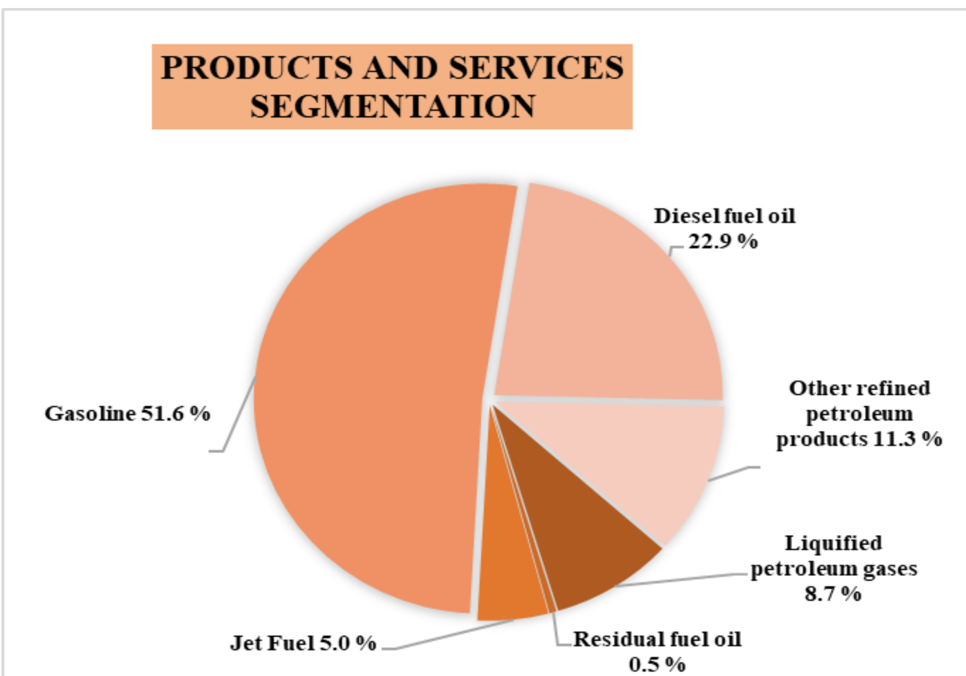


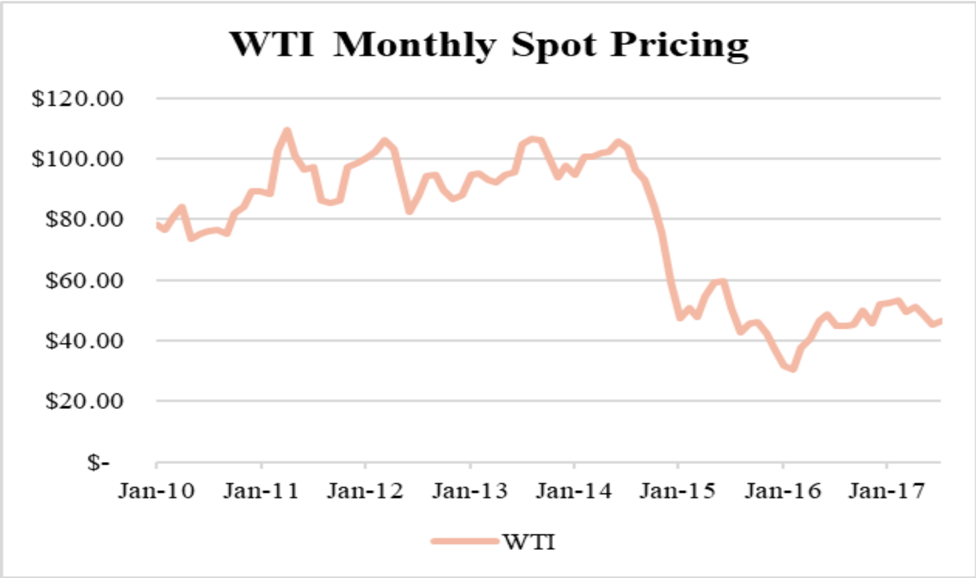
- **Ultra-Low Sulfur Diesel**



- **US Petroleum Refining at a Glance**







- **EIA**

o Key External Drivers

- **World price of crude oil**
  - https://www.eia.gov/outlooks/steo/report/global_oil.cfm
- **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**
  - http://china-trade-research.hktdc.com/business-news/article/Facts-and-Figures/Economic-and-Trade-Information-on-China/ff/en/1/1X000000/1X09PHBA.htm
- **Trade-weighted index**
  - https://seekingalpha.com/article/4102493-dollars-drop-still-bullish-oil
- **Total vehicle miles**
  - https://www.advisorperspectives.com/dshort/updates/2017/08/31/vehicle-miles-traveled-another-look-at-our-evolving-behavior