



Iran Nuclear Deal, Imposing Sanctions, Predicting Iran Crude Production

Iran Nuclear Deal Fallout

Recently, President Trump pulled the United States out of the Iran Nuclear Deal, which now allows the US to impose sanctions on Iran. The European Union, worried of backlash from Iran, is now trying to create a new deal with Iran to ensure that the EU is still going to follow previous deal agreements. More economic relief may be required from EU for Iran or Iran claims they will restart enriching uranium at levels that were prohibited by the deal unless reassurance of support from the EU is made clear to Iran.

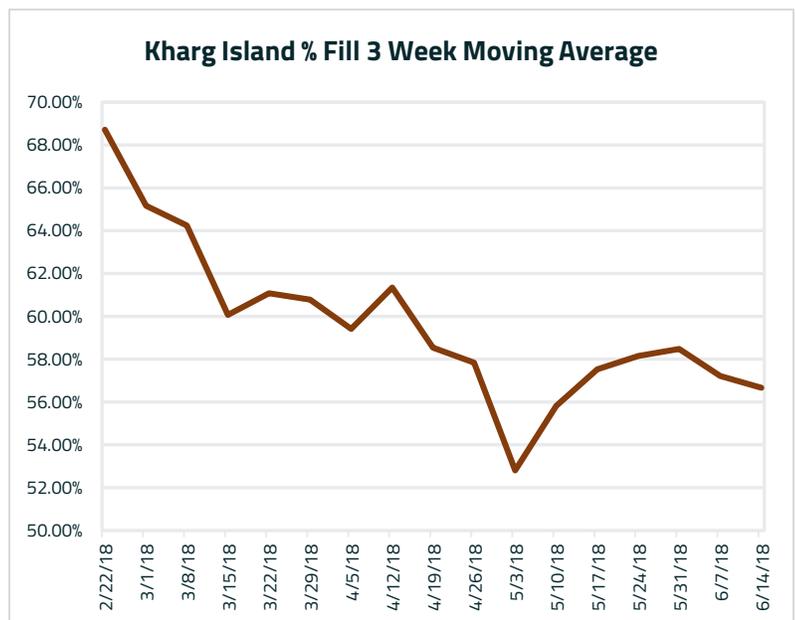
Geopolitics revolving the Middle East and US have possibility to disrupt EU markets

Two Rounds of US Sanctions

The US has issued a 90-day wind-down period, where the US will not impose sanctions. After this 90-day period, ending August 6th, the US will reimpose sanctions on Iran’s acquisition and purchase of U.S. dollar notes, on its trade in gold and precious metals, on the sale and transfer of various metals and materials, on the Iranian Rial, on Iranian sovereign debt, and on Iran’s automotive sector. After 180 days a second wind-down period will end on November 6th where the US will impose more sanctions. According to the U.S. Treasury Department, these will include sanctions on Iran’s shipping industry, oil industry, secondary sanctions against third-country financial institutions doing business with Iran, and sanctions on Iran’s energy sector. **Several international companies have already stated that they will continue relations with Iran amid US sanctions; however, many other companies including: Total (France), Maersk (Singapore), Lukoil (Russia), and Reliance (India) have stated that they are preparing to stop business in and with Iran.**

Tracking Iranian Crude Inventory

Ursa takes measurements of major Iranian crude oil refineries and tank farms weekly. Following the news of the United States exiting the Nuclear Deal and the imposed sanctions, Ursa took a closer look at Iranian crude oil inventory levels. We wanted to see whether or not Iran had been making preparations for the upcoming hardships that their oil sector is likely to face due to US pressure. Pictured right is a chart of crude oil inventory in Kharg Island, the largest export hub in Iran, from February 2018 using a three-week moving average. A draw over the last 4 months empirically demonstrates the slowdown in export movements that have occurred from Iran.





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US Sanctions will alter Iran production, decreases may occur

How Will Iran Change its Production?

Iran must change its crude oil production rates to adjust to sanctions from the United States. There could be two paths that Iran may take. Iran could choose to increase production and try to adjust the local price of Iranian crude to persuade buyers to continue trade relations with Iran even after US sanctions. Iran could also lower its production rate in order to adjust for potential losses in exports. Major crude oil superpowers are worried over the effect of US sanctions on Iran crude production. Saudi Arabia and Russia are preparing to increase their own production rates in order to make up for expected losses in the Middle East. Ursa took this opportunity to use our data, and export data from ClipperData, to try to predict production rates in Iran.

Iran Production Prediction

We created a linear regression model to predict production rates in Iran using Ursa crude inventory data, ClipperData exports, and EIA production levels. The model is meant to get crude production level data in real-time, not delayed as government data is. Ursa and ClipperData release inventory and export data, respectively, weekly, whereas EIA releases its production data monthly but 1-2 months after the fact. The regression results on the right show a strong R-squared and significance in all variables. We were able to use this model to input Ursa and ClipperData data to predict past and current production levels (pictured right). We hope to use this model as we collect data to predict Iran production levels around the 90-day and 180-day sanctions.

SUMMARY OUTPUT									
Regression Statistics									
Multiple R	0.841193599								
R Square	0.707606671								
Adjusted R Square	0.634508339								
Standard Error	40.93636417								
Observations	11								
ANOVA									
		df	SS	MS	F	Significance F			
Regression		2	32443.89452	16221.9473	9.68020267	0.0073092			
Residual		8	13406.28729	1675.78591					
Total		10	45850.18182						
		Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept		5028.112956	153.608986	32.7331954	8.2733E-10	4673.889999	5382.33591	4673.89	5382.33591
Iran Crude Oil Export		-0.032004986	0.013147764	-2.4342531	0.04092978	-0.062323785	-0.0016862	-0.0623238	-0.00168619
Iran Crude Inventory		-5.22475E-06	1.32515E-06	-3.942767	0.00427924	-8.28055E-06	-2.169E-06	-8.281E-06	-2.169E-06

