# Crude oil price surges lead to recessions

## Hilliard MacBeth

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The price of crude oil pushed above \$70 in the last week, bringing back memories of previous oil shocks that shook the world. In decades past, oil price surges have been highly correlated with the onset of economic downturns.

Is this latest move to higher oil prices going to interrupt the economic recovery this time?

In the 19<sup>th</sup> and 20<sup>th</sup> century oil prices have been a key factor in the cycle of economic growth and recession. It has been a decade since the onset of the last U.S. recession and that recession was accompanied by a surge in oil prices. A paper published in the National Bureau of Economic Research, "Historical Oil Shocks," by James Hamilton of the Department of Economics, University of California, San Diego, shows the impact of price surges like the one we are now experiencing. The paper is <u>here</u>.

Of the 11 economic downturns since 1945, 10 have been associated with an increase in the price of oil just prior to the recession. Only in 1960 was there a recession without an associated increase in the price of oil.

Here's a table showing significant events since 1945:

Summary of significant postwar events					
Gasoline shortages	Price increase	Price controls	Key factors	Business cycle pea	
Nov 47-Dec 47	Nov 47-Jan 48 (37%)	no (threatened)	strong demand, supply constraints	Nov-48	
May-52	Jun 53 (10%)	yes	strike, controls lifted	Jul-53	
Nov 56-Dec 56 (Europe)	Jan 57-Feb 57 (9%)	yes (Europe)	Suez Crisis	Aug-57	
none	none	no		Apr-60	
none	Feb 69 (7%) Nov 70 (8%)	no	strike, strong demand, supply constraints	Dec-69	
Jun 73 Dec 73-Mar 74	Apr 73-Sep 73 (16%) Nov 73-Feb74 (51%)	yes	strong demand, supply constraints, OAPEC embargo	Nov-73	
May 79-Jul 79	May 79-Jan 80 (57%)	yes	Iranian revolution	Jan-80	
none	Nov 80-Feb 81 (45%)	yes	Iran-Iraq War, controls lifted	Jul-81	
none	Aug 90-Oct 90 (93%)	no	Gulf War I	Jul-90	
none	Dec 99-Nov 00 (38%)	no	strong demand	Mar-01	
none	Nov 02-Mar 03 (28%)	no	Venezuela unrest, Gulf War II	none	
none	Feb 07-Jun 08 (145%)	no	strong demand, stagnant supply	Dec-07	

Source: James D. Hamilton, 2011

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While some people, like me, might react by thinking the connection between oil and automobiles and the economy is weaker than in the 1970s another paper published by NBER, "<u>Oil, Automobiles, and the U.S. Economy: How much have things really changed?</u>" by Valerie Ramey and Daniel Vine finds that the relationship is still strong.

The increase in the price of oil prior to a recession varied between less than 10% in 1969-70 to as much as 145% in the 2007-08 surge. The impact on the GDP (economic growth) varies between - 0.1% and -2.5%.

Real GDP growth (annual rate) and contribution of autos to the overall GDP growth rate in five historical episodes				
Period	GDP growth rate	Contribution of autos		
1974:Q1-1975:Q1	-2.5%	-0.5%		
1979:Q2-1980:Q2	-0.4%	-0.8%		
1981:Q2-1982:Q2	-1.5%	-0.2%		
1990:Q3-1991:Q3	-0.1%	-0.3%		
2007:Q4-2008:Q4	-0.7%	-0.7%		

Source: James D. Hamilton, 2011

So, what about this time?

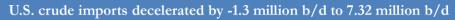
The price of oil has increased from about \$30 to about \$70, a gain of more than 133%, similar in magnitude to the last U.S. recession in 2007.

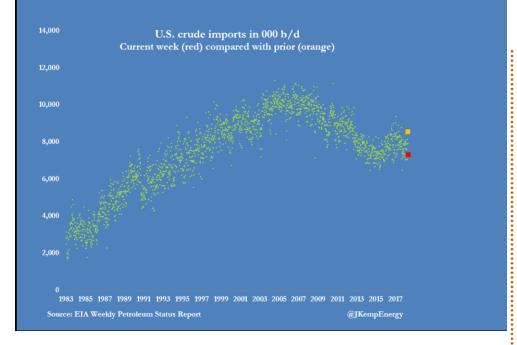
According to Hamilton, supply disruptions from dramatic geopolitical events are the cause of several episodes of oil price increases and recessions.

The unilateral abrogation of the Iran nuclear accord by U.S. President Donald Trump might be the catalyst this time, as a geopolitical event like some of the other events. Iranian exports of about 2 million barrels a day could be restricted by sanctions that will be re-imposed. The reaction of other countries like France in sending their most senior politicians to try to convince Trump not to walk away from the deal indicates how important the deal is to some countries in Europe.

Several of the episodes that preceded recessions had substantial Iran involvement, as in the 1973 OPEC embargo (Iran is a founding member of OPEC), the 1979 Iranian revolution and in 1980 with the Iran/Iraq war.

But perhaps the U.S. won't be impacted as much this time. One factor is the U.S. is once again a major producer of crude oil.



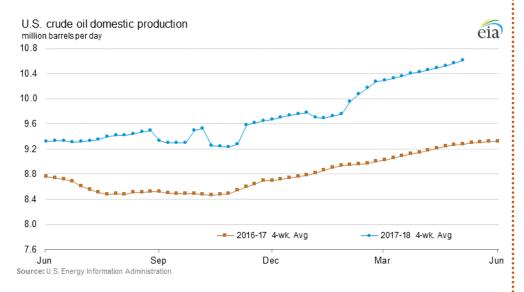


Sources: Energy Information Administration and John Kemp

The red square is the latest data point.

As discussed in previous notes the U.S. is rapidly becoming more self-sufficient in energy. Crude oil exports of 2 million barrels per day are balanced against imports of between 7 and 8 million barrels a day.

Most of the imports come from Canada, currently 3.5 to 4 million barrels a day. With the surge in prices U.S. shale oil production can be expected to increase to record highs, reducing the need for Canadian imports.



Source: Energy Information Administration



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Perhaps this latest change in the world's crude oil markets will be the exception to the rule that oil price surges precede recessions. But the possibility that the oil price increase and the Iran turmoil eventually pushes the economy into recession deserves our attention.

Watch for further oil price surges and geopolitical events in the Middle East and be prepared for the likely adverse impact on economic activity in the U.S. and the world.

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