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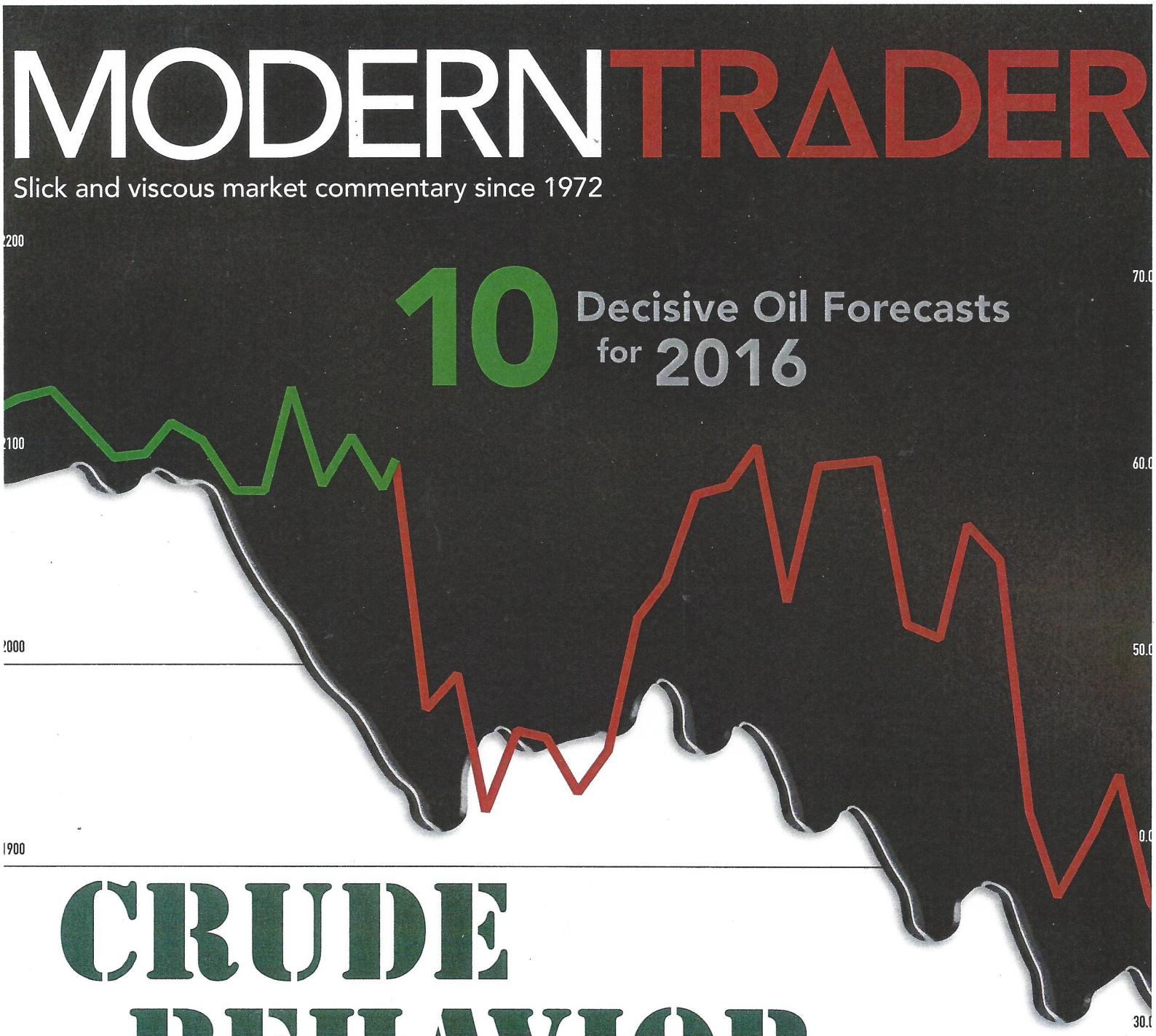

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DOES OPEC SPARE CAPACITY MATTER?

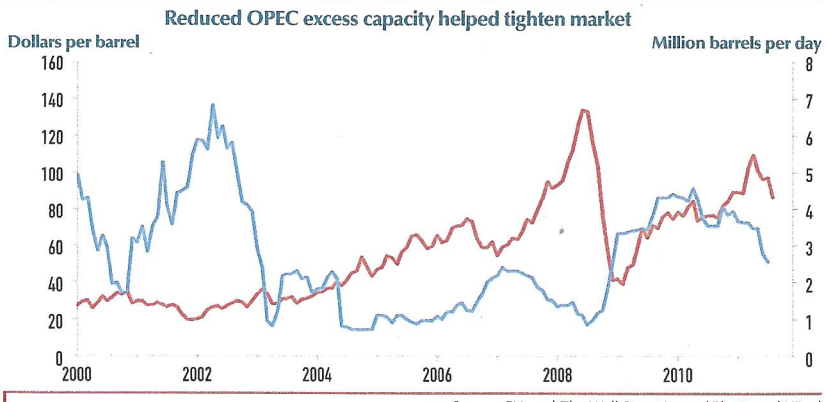
by Hilary Till

Oil prices usually are influenced by a number of factors. But there arguably have been times when OPEC spare capacity has been the most important factor for driving oil prices. Here we identify the circumstances when this has likely been the case in the past.

In order to understand why the spare capacity situation could be quite important to the behavior of crude oil prices, one should review the circumstances of 2008. The events of that year showed what can happen if the oil excess-capacity cushion becomes quite small. At the time, the role of the spot price of oil was arguably to find a level that would bring about sufficient demand destruction, after which the spot price of oil spectacularly dropped.

PINCH POINT

As OPEC spare capacity dropped (blue line) it served as a launching pad for an explosive crude oil rally (red line).



Source: EIA and *The Wall Street Journal* Plante and Yücel

2008: A CLEAR RELATIONSHIP

"Pinch point," (left) illustrates that when OPEC excess capacity levels reached pinch-point levels in 2008, the price of crude oil responded by exploding.

"Plotting capacity vs. price" (right) provides another way of illustrating what happened to the price of crude oil as OPEC spare capacity collapsed in mid-2008.

The WTI Spot Price is the Bloomberg West Texas Intermediate Cushing Crude Oil Spot Price (Bloomberg ticker USCRWTIC). The OPEC Spare Capacity data is from the U.S. Energy Information Administration.

Presenting data in this fashion is based on Büyük□ahin et al. (2008), which has a similar, but not identical, graph.

POST-2008: AN UNCLEAR RELATIONSHIP

After 2008, the relationship illustrated in "Plotting capacity vs. price" structurally changed. This is shown in "Changing dynamics" (right) with the addition of data from September 2008 through September 2015. Using data through September 2015, it is not clear what the relationship between WTI oil prices and OPEC spare capacity is, if any.

A CLEAR RELATIONSHIP RE-EMERGES

It may only be in a certain state-of-the-world that OPEC spare capacity matters. But what precisely

describes that particular state-of-the-world? Sam Ori, Executive Director of the Energy Policy Institute at the University of Chicago, essentially provides the answer: OPEC spare capacity should only matter if one is in a state of low inventories.

"Changing dynamics" can be re-examined based on Ori's insight. The relationship between WTI oil prices and OPEC spare capacity from January 1995 through September 2015 is examined, but only when crude oil inventories are low. This particular conditional examination is illustrated in "Inventory component" (right). At least during the period from January 1995 through September 2015, it is apparent that tight levels of OPEC spare capacity had only mattered when (U.S.) oil inventories were low. Here, the low levels of inventories are defined as being under 22.4 days-of-forward-supply-of-crude-oil in the United States.

A DEBATE ON PRACTICAL RELEVANCE

The data set in this paper is largely during the period when OPEC, and specifically Saudi Arabia, had been considered the swing producer for the oil market, and who traditionally attempted to prevent a free fall in the price of oil. When there was sufficient spare capacity, these producers, in effect, underwrote an (implicit) put on the price of oil.

Perhaps going forward, U.S. shale producers will be considered the swing producers, but in their case, their actions would cap the price of oil. These producers would thereby be underwriting an (implicit) call on the price of oil. The price spikes illustrated in the survey paper would not be expected to occur going forward, given this new state-of-the-world.

On the other hand, Bloomberg Businessweek Economics Editor Peter Coy in 2015 argued against the view that "America's shale oil industry has supplanted OPEC as the so-called 'swing' producer," noting that "a true swing producer has freedom of action." Explained Coy: A swing producer "has a large market share, spare capacity, and very low production costs, and it is capable of acting strategically — alone or in a cartel — to raise and lower production to affect the price. Saudi Arabia fits that description; America's shale producers don't. The shale players are too small to move prices on their own, and they don't act in concert. Shale producers have essentially no spare capacity because they're always producing as much as they profitably can. Production costs are also far higher than those of the Saudis or Kuwaitis. In the language of economics, U.S. shale producers are price takers, not price setters." Under Coy's framework, the spare capacity survey paper's results would continue to have practical relevance.

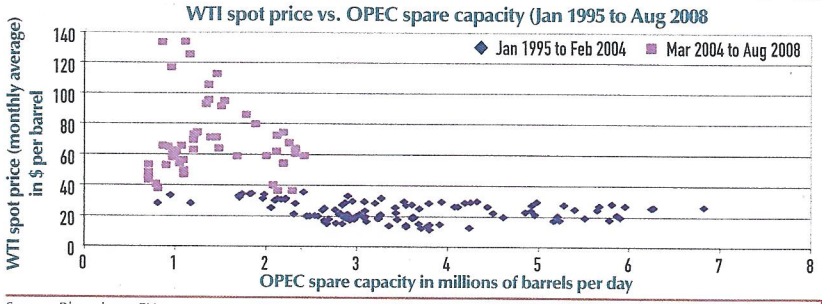
CONCLUSION

Based on an examination of data over the past 20 years, OPEC spare capacity has only mattered when U.S. crude oil inventories have been below a threshold level. That said, the survey paper's practical relevance depends on whether the U.S. shale industry supplants OPEC as the world's true swing producer. Δ

Hilary Till is a principal of Chicago-based Premia Research LLC, which is a consulting firm that designs indices. She also is a research associate at EDHEC-Risk Institute and is the co-editor of "Intelligent Commodity Investing."

PLOTTING CAPACITY VS. PRICE

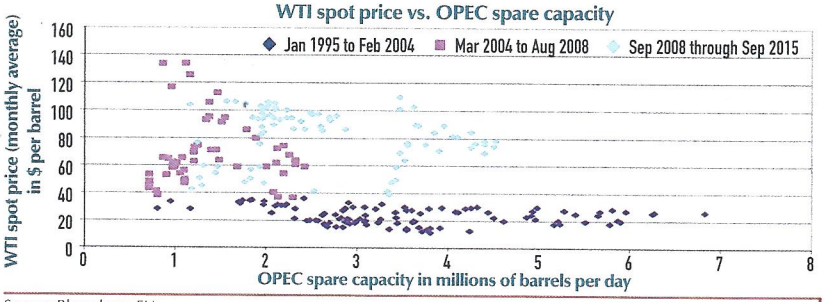
The dot plot illustrates the connection of OPEC spare capacity and crude oil prices.



Source: Bloomberg, EIA

CHANGING DYNAMICS

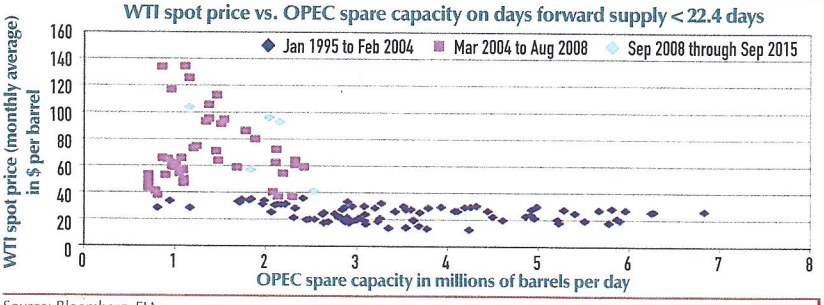
The relationship between spare capacity and price illustrated above seems to have broken down after crude spiked in 2008.



Source: Bloomberg, EIA

INVENTORY COMPONENT

When you add a U.S. supply component to the mix, the apparent anomaly illustrated in changing dynamics goes away.



Source: Bloomberg, EIA