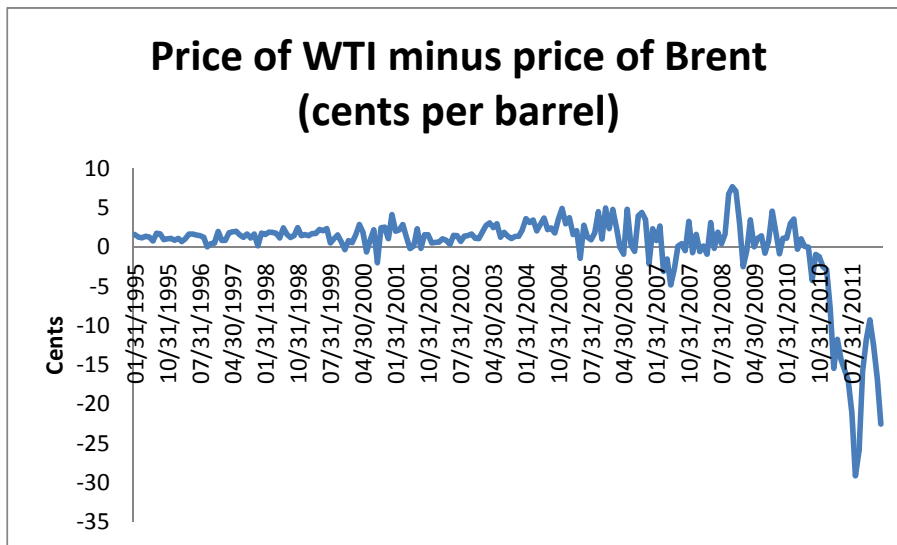


Basis Risk: The Strange Case of WTI

There are two measures of the price of crude oil. One is the price of Brent, which is a blend of North Sea oils; the other is the price of West Texas Intermediate (WTI). WTI is less viscous and has a lower sulphur content than Brent, which makes it better suited for refining into petrol, heating oil, and other products. As a result refiners are prepared to pay slightly more for WTI than for Brent. As you can see from the following chart, this differential has typically been a few cents per barrel. But in 2011 this pattern was reversed and by the end of August WTI was selling for 29 cents a barrel *less* than Brent. Why?



WTI contracts call for delivery at any pipeline or storage facility in the small town of Cushing, Oklahoma. Cushing is well placed to serve the refineries of the Gulf of Mexico. As a result, oil companies have invested heavily in pipelines to transport crude into Cushing, and the town has huge tank farms that can store up to 10% of U.S. inventories of crude oil. In February 2011 a new pipeline was completed that made it possible to transport oil 2,300 miles from the oil sands of Alberta to the tank farms in Cushing. During the summer shipments of oil from Canada coincided with unusually large flows of shale oil from North Dakota into Cushing. Since there was not a corresponding volume of pipeline capacity to ship the oil out from Cushing to the Gulf refineries, the result was a large glut of WTI in the Cushing hub and a fall in its price relative to that of Brent. The fall in the price of WTI meant that the price of WTI futures rose above that of the spot (a condition known as contango). By contrast, futures prices of Brent in 2011 were below that of the spot price (a condition known as backwardation).

The unusual changes in 2011 in the price of WTI caused a headache for airlines and other users that have traditionally used WTI futures to hedge their fuel needs. If the price of WTI ceased to move in line with the price of other products, then those users would face considerable basis risk.