



Update on the Simmons-Tierney Bet

Posted by [Stuart Staniford](#) on March 17, 2008 - 10:00am

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Green (left scale) monthly spot price of West Texas Intermediate crude oil, expressed in \$2005 (CPI deflated) per barrel. Plum (right scale), number of barrels of WTI crude purchasable by forty average hours of private industry wages, pre-tax. Source: [EIA](#) for crude prices, [BLS](#) for CPI index, and [BLS via Alfred](#) for average hourly wages. Dashed lines are extrapolations of exponential fit from Jan 2002 on for illustration of trends only. **These are not predictions, and the basis for assuming future trends will be similar to past ones is weak.**

On August 23rd, 2005, shortly after the publication of [Twilight in the Desert](#), New York Times columnist John Tierney [announced a bet](#) with author Matt Simmons on the future price of oil:

I don't share Matthew Simmons's angst, but I admire his style. He is that rare

doomsayer who puts his money where his doom is.

After reading his prediction, quoted Sunday in the cover story of The New York Times Magazine, that oil prices will soar into the triple digits, I called to ask if he'd back his prophecy with cash. Without a second's hesitation, he agreed to bet me \$5,000.

His only concern seemed to be that he was fleecing me. Mr. Simmons, the head of a Houston investment bank specializing in the energy industry, patiently explained to me why Saudi Arabia's oil production would falter much sooner than expected. That's the thesis of his new book, "Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy."

I didn't try to argue with him about Saudi Arabia, because I know next to nothing about oil production there or anywhere else. I'm just following the advice of a mentor and friend, the economist Julian Simon: if you find anyone willing to bet that natural resource prices are going up, take him for all you can.

After reprising the history of the famous [bet between Paul Ehrlich and Julian Simon](#), the actual terms of this new Simmons-Tierney bet were detailed further down the column:

I proposed to him a bet using what Julian considered the best measure of a resource's value: how it compares with the average worker's wage. I offered to bet that the price of oil would not rise faster than the average wage, meaning that future workers would be able to afford oil more easily than they could today.

Mr. Simmons said he favored a simpler wager, based on his expectation that the price of oil, now about \$65 per barrel, would more than triple during the next five years. He said he'd bet that the price in 2010, when adjusted for inflation so it's stated in 2005 dollars, would be at least \$200 per barrel.

Remembering a tip from Julian, I suggested that we use the average price for the whole year of 2010 instead of the price on any particular date - that way, neither of us would be vulnerable to a sudden short-term swing as the market reacted to some unexpected news. Mr. Simmons agreed, and we sealed the deal by e-mail.

We are now close to the half way point on this bet, so how is it looking?

To assess this, I constructed two measures - one is the measure on which the bet will actually be decided - oil prices in 2005 dollars. Tierney's column doesn't define exactly *which* oil price, or how to deflate it, but simple choices are to use West Texas Intermediate (WTI) oil prices (from the EIA) and correct for inflation with the BLS's CPI-U index.

In addition to this, I also looked at a metric to measure what Tierney was originally trying to propose - how much oil can be bought with a given unit of wages, which he said should increase over time (people should become worth more and more, relative to oil). My implementation of that was to take average hourly wages in private industry, multiply by forty, and then see how many barrels of oil that would buy (ie how many barrels of oil does a week's worth of gross pay buy).

Furthermore, I [noted in June 2006](#) that the run up in oil prices since the beginning of 2002 was exponential in form, and this is still roughly true. So I fit an exponential to both metrics and projected it out for a few years. The average doubling time in price is a shade over three years at present for nominal prices, and about 3 1/2 years for real prices. Obviously, an exponential increase in oil prices cannot continue forever (too many doublings and people would be spending all their income on oil), and I have no real idea when it will stop. Thus these extrapolations are just to be taken as what happens **if** current trends continue, not an unconditional assertion that they will continue.

With those caveats out of the way, here's the data:



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So the most important observation is that, right now, Simmons is on track to lose the bet. The current trajectory of oil prices do not take us to \$200 (in 2005 dollars) until sometime in 2012, assuming the trend continues. So things will need to hurry up and deteriorate faster in order for Simmons to win.

However, it seems to me important to look a little deeper. In a sense both men look wrong in light of the data of the last few years. Simmons looks too pessimistic - at least so far, oil prices are not

increasing as fast as he presumably expected them to. On the other hand, if we look not at the final terms of the bet, but rather at what Tierney initially proposed, then Tierney looks much too optimistic. The oil value of a week's work has not gone up, but instead has continued to fall rather sharply (real wages having been roughly flat, while oil is increasing rapidly). And while Simmons is quantitatively wrong, Tierney's original proposal would seem to be **qualitatively** wrong - things are moving in the opposite direction from what he predicted.

Of course, there are still two years, nine months, and a couple of weeks to go before the end of 2010 when the bet will be settled for sure. Who knows what will happen in the intervening time. But the trends right now point to Simmons losing the bet by being right on the big picture, but overstating his case somewhat.

Added in Press

After I had written the piece to this point, on Saturday, I sent it to Matt Simmons and John Tierney to see if they had any comment. Only Simmons responded:

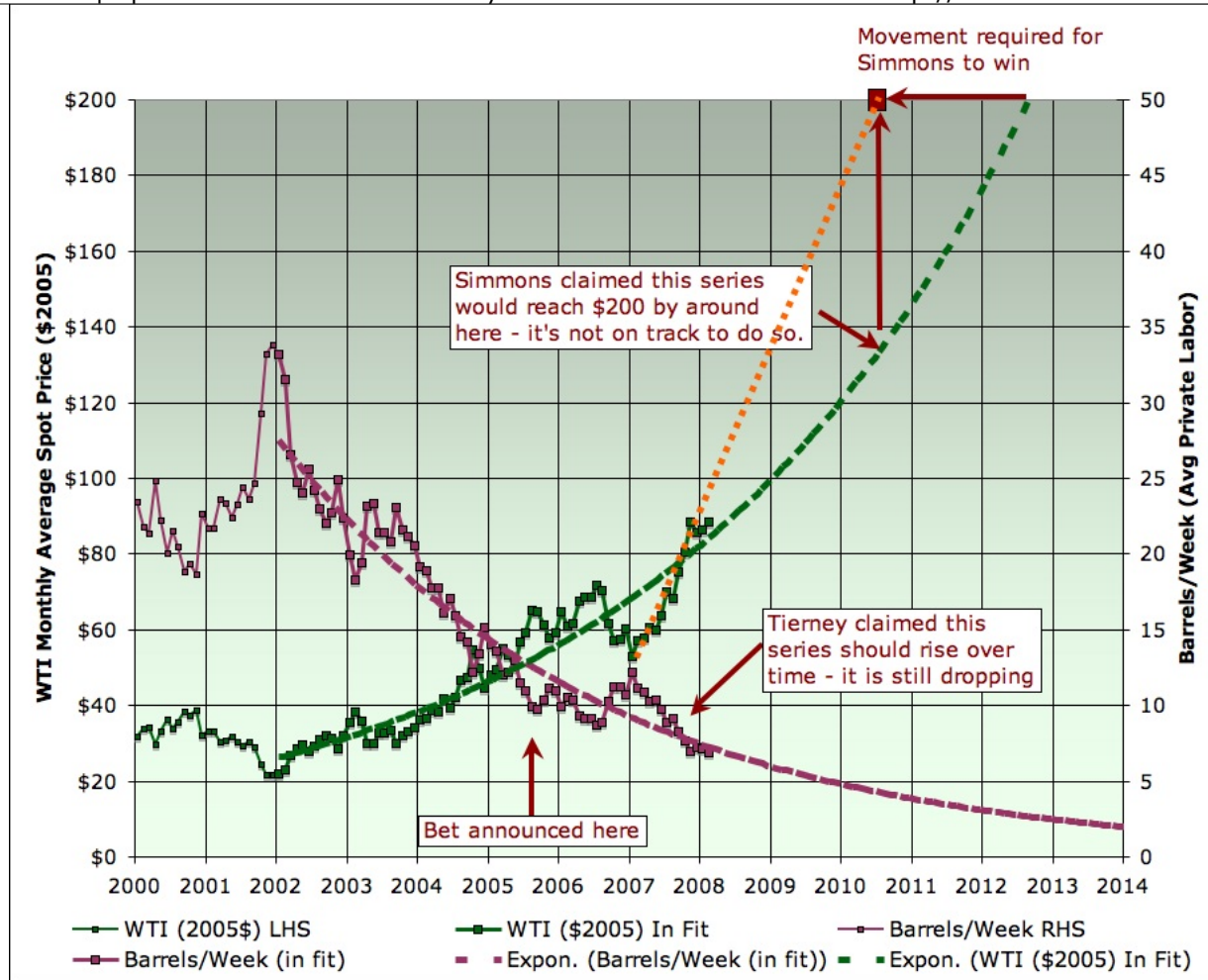
Good piece. This is also first time I re-read John's column in a long time. Here are a few observations I would add. At the time when Tierney called, I obviously had no certain idea where crude prices would be in 2010, but thought the likelihood they would rise a great deal was very high. To make the story simple, I picked \$200.

If you take your same chart and ignore the slow rise until mid 2005, and then take the times it shot up, or start trend line in 2007, the trajectory gets you there in fine shape.

We obviously talking about far more than a fun \$5,000 bet. If oil has peaked, and the world stays in denial, there could be such social chaos that it might be hard to even define what the price of crude even is.

More important is the question "Is \$110 oil now priced right?" Answer is also easy. No since this is still only \$.17 a cup!

Simmons in essence is arguing that there's still hope for him to win along the kind of trajectory I've marked in orange here:



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It's true the recent run-up is very rapid. I also think it has a somewhat different cause. During much of the 2002-2007 timeframe, we were approaching or in a plateau of global production. On the plateau, increases that would have occurred in demand (due to economic growth) had to be countered by increases in price. Since the price increases were about 25% annually, that suggests that the elasticity ratio (income elasticity/price elasticity) for oil had to be in the range of 5-7, so that 4%-5% global economic growth and flat oil supply could turn into 25% annual oil price increases.

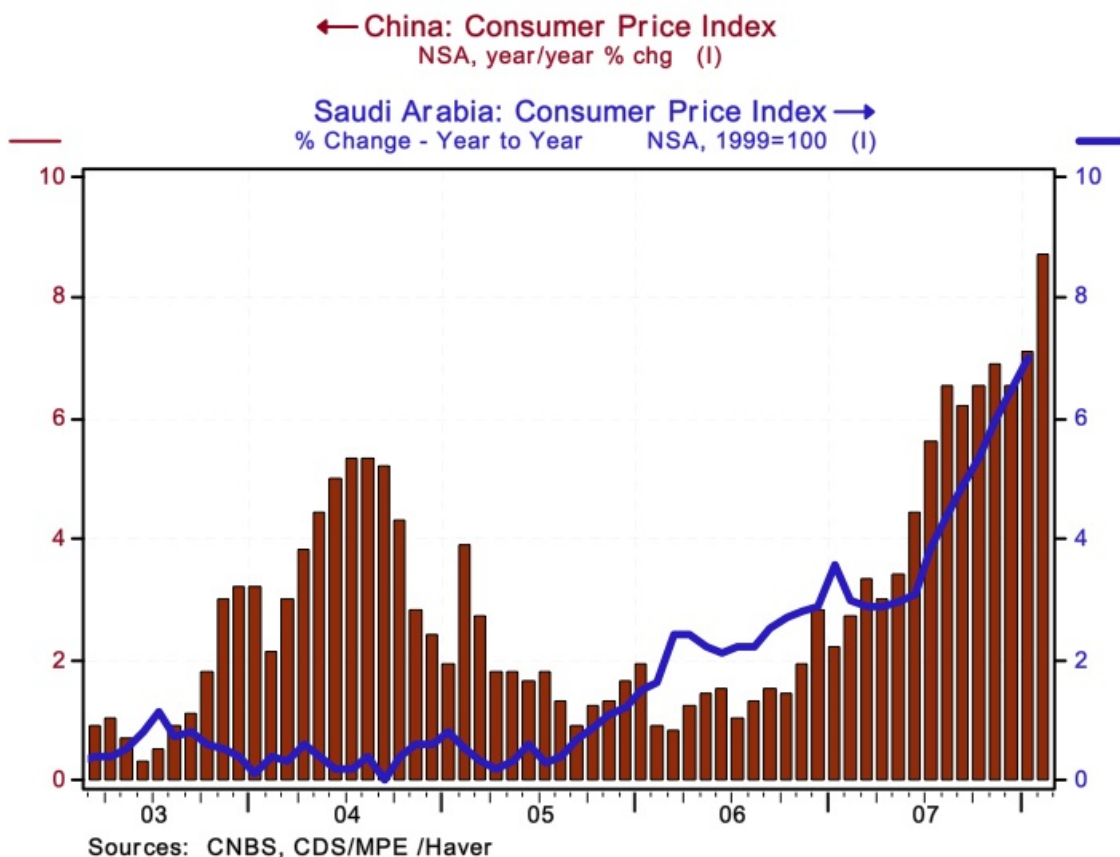
Now, however, we are [in a somewhat different world](#). It looks like there is at least a small bump in supply at the end of 2007, and the prospect of more in 2008 - maybe as much as a couple of million barrels/day, though it's hard to be sure, still less precise. Given similar to recent trend GDP growth, this wouldn't require as large a growth in oil price. And given a global recession, it might be expected to lead to much lower price growth, maybe even price falls.

However, what is happening instead is, as the credit bubble deflates rapidly, we have sharp falls in the dollar and negative real interest rates, sparking a [rush to commodities](#). How long this trend will continue is probably anyone's guess. The best hope for Simmons was perhaps raised by Paul Kasriel in a [very important analysis](#) last week, concerning the possibility of the failure of the

But, in our opinion, what could turn a walk on the dollar into a sprint would be a decision by the Chinese and/or Saudi central banks to eliminate the pegs of their currencies to the greenback. Now, what would motivate these central banks to sever the peg? The desire to rein in their domestic inflation. In an environment in which the dollar is under downward pressure, the by-product of pegging one's currency is higher inflation in the economy whose central bank is pegging.

The inflation mechanics are as follows. The pegging central bank has to buy U.S. dollars in the foreign exchange market in order to prevent the dollar from falling against its currency. The dollar-buying central bank purchases dollar with its own currency. The dollar-buying central bank gets its own currency the same way all central banks get their own currency – it figuratively “prints” it. The dollar-purchasing central bank therefore floods its economy with its own base money, resulting in inflation – inflation in the prices of goods/services and inflation in the prices of assets.

Chart 5



Recent trends in Saudi Arabian and Chinese consumer inflation. Source: [Northern Trust](#)

And certainly, the extraordinary events of this weekend, with the [emergency acquisition](#) of Bear Stearns by JP Morgan, with guarantees provided by the Federal Reserve, will have put further pressure on the dollar. Personally, I was already assuming that a number of large US financial institutions were going to end up insolvent as a result of the end of the credit bubble. Thus I found

the news very pleasing, because it suggested a Federal Reserve able to take very decisive and rapid action to do what was necessary to maintain the functioning of the financial system (I believe a significant amount of nationalization of insolvent institutions is going to be required before we are through). However, judging by stock market prices - Bear was worth \$50/share as recently as Thursday and sold for \$2/share by Sunday - the market as a whole did not share that perception and has been surprised to the very negative by what just happened. This will further weaken the dollar, and put greater pressure on foreign central banks to pull their pegs.

And if the Saudi and Chinese pegs come undone, then maybe oil could get expensive enough in dollars for Simmons to win his bet after all.



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