

Comment

Ramón Espinasa: John Parsons's paper underplays the importance of the market forces underlying price evolution over the last decade. The huge development of the futures market that Parsons so well describes and analyzes may have amplified price oscillations since 2003, but such movements originated in real market imbalances. It was not just a financial bubble: it had foundations in the real market.

Prices remained remarkably stable in real terms in the fifteen years between 1986 and 2001, as growth in world demand was met through several sources. There was a sustained increase in supply from members of the Organization for Economic Cooperation and Development (OECD), particularly from the North Sea and Mexico; a steady increase in supply from non-OECD, non-OPEC countries; and, above all, an expansion of production from the Organization of Petroleum-Exporting Countries (OPEC), by making use of the excess capacity in place since their failed attempt to defend prices by cutting down production in the first half of the 1980s. The real oil price increased just 0.5 percent a year, on average, between 1986 and 2001, while world oil demand grew 1.6 percent a year in the period, with very similar rates for the OECD and non-OECD countries. The increase in demand was reflected in a growth of output of 0.7 percent a year among OECD countries and 1.1 percent a year among non-OECD, non-OPEC countries. However, the bulk of supply came from the OPEC countries, which increased their production by 3.3 percent a year in the period.

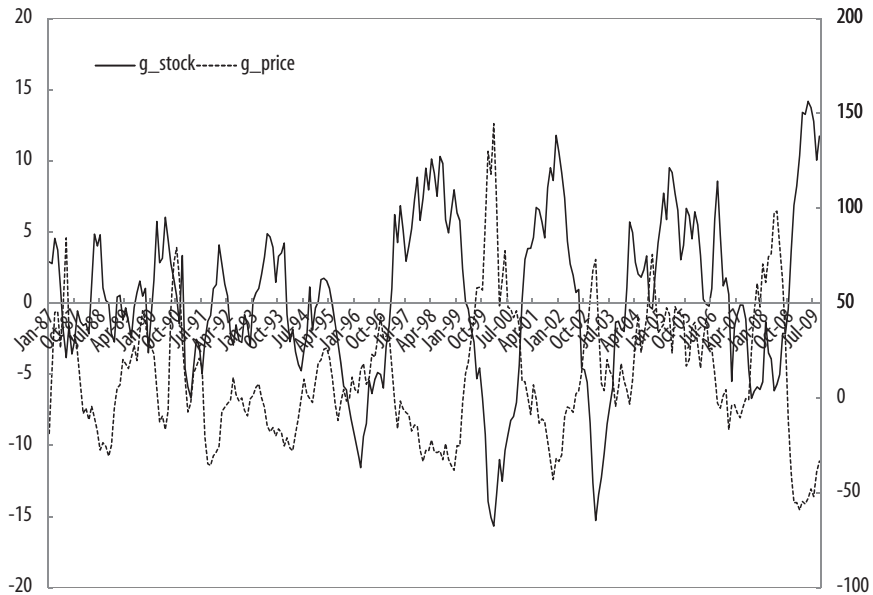
Prices accelerated sharply between 2002 and 2005 because of a sudden increase in world oil demand coupled with a sharp unexpected drop in supply in the OECD countries, particularly in the North Sea, and in some OPEC countries. Real prices increased by 26 percent a year between 2002 and 2005. The considerable upward pressure on prices stemmed from an increase in world demand, which grew 2.1 percent a year. In particular, accelerating

growth in the non-OECD countries, most notably in Asia, caused their demand for oil to increase 3.9 percent a year, more than twice as fast as in the previous fifteen years. However the pressure on prices came mainly from unexpected shortfalls in supply. First, a sharp drop in production in the North Sea basin translated into a drop in overall OECD supply of 1.7 percent a year at the time when world demand was accelerating. Second, Iraq and Venezuela shut down their production in 2002–03. This put additional pressure on the rest of OPEC, which was very rapidly approaching full capacity utilization. Thus, the sharp surge and the shift in demand toward the Far East in 2002–03 were met by an unexpected drop in supply from three large exporting areas: the Caribbean, the Persian Gulf, and the North Sea. This undoubtedly created an environment for speculative action, based on real imbalances.

Finally, prices began falling with demand in 2006, and OPEC cut production to shore up prices. Demand then surged throughout 2007, while production dropped sharply and unexpectedly in Mexico. This recreated the conditions for a huge, though short-lived, surge in prices, no doubt fueled by speculative financial capital. Prices collapsed in the second half of 2008, as OPEC reacted to the surge and the world economy entered recession following the financial crisis.

Perhaps one of the most forceful arguments against the speculative financial capital explanation of the oil price surge in 2003–08 is the behavior of inventories and prices. If it was a bubble, inventories should grow regardless of short-term price fluctuations.

This was not the case. Figure 8 shows the monthly year-on-year growth rate of both prices and inventories. The two growth rates display a clear inverse correlation. This very much argues in favor of prices being moved by changes in real imbalances reflected in inventory changes and not by speculative action. To explore this graphical evidence further, I estimated controlled correlations. Results are presented in tables 2 and 3. The results show a very strong and significant negative correlation between prices and inventories. Table 2 shows the correlation from the market perspective, with prices as the dependent variable. Price changes correlate inversely to changes in inventories. The correlation is particularly strong in the period of fastest price growth, 2002–05. Table 3 shows the correlation from the perspective of the inventory holder, with inventories as the dependent variable. If the oil price spike was a speculative bubble, there should not be such a strong negative correlation between inventories and prices.

FIGURE 8. Monthly Year-on-Year Variation of U.S. Petroleum Stocks and WTI Nominal Price

Source: U.S. Energy Information Administration.

TABLE 2. Correlation of the Oil Price and U.S. Petroleum Stocks

<i>Explanatory variable</i>	(1) 1986–2009	(2) 1987–2001	(3) 2002–05	(4) 2006–09
Inventories	−0.684*** (0.13)	−1.821*** (0.18)	−0.522** (0.23)	−5.990*** (0.58)
Constant	0.000 (1.18)	−23.424 (21.31)	21.938* (12.45)	45.144*** (9.50)
<i>Summary statistic</i>				
No. observations	1,265	778	207	208
R squared	0.01	0.76	0.92	0.79

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

a. The dependent variable is the real oil price. Variables are expressed in logs and are demeaned. Estimation includes weekly, monthly, and yearly controls. Robust standard errors are in parentheses.

TABLE 3. Correlation of the Oil Price and U.S. Petroleum Stocks

<i>Explanatory variable</i>	(1) 1986–2009	(2) 1987–2001	(3) 2002–05	(4) 2006–09
L.rpo	–0.021*** (0.00)	–0.101*** (0.01)	–0.073** (0.03)	–0.102*** (0.01)
Constant	0.020 (0.20)	10.018*** (1.41)	–7.916*** (2.28)	6.195*** (1.43)
<i>Summary statistic</i>				
No. observations	1,260	776	206	208
R squared	0.01	0.85	0.79	0.92

** $p < 0.05$.

*** $p < 0.01$.

a. The dependent variable is U.S. crude oil stocks. Variables are expressed in logs and are demeaned. Estimation includes weekly, monthly, and yearly controls. Robust standard errors are in parentheses.

To end, an aspect worth studying in future research is how the amplitude of the price oscillations in reaction to changes in fundamentals has increased with the huge growth of the futures market over the last decade.

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