

The Return of “Irrational Exuberance”

BY PHILIP K. VERLEGER, JR.

*The astounding
similarities between the
subprime housing and
energy market bubbles.*

“Irrational exuberance” was a key contributor to the Great Recession eight years ago. Poor lending practices, combined with the investment banks’ uncontrolled packaging of subprime mortgages into financial instruments bought without question by large institutions, fueled an unsustainable housing construction boom. The end of that boom followed by the financial industry nearly collapsing caused the Great Recession.

Eight years on, “irrational exuberance” has caused another economic debacle. Once again an industry confronts a prolonged period of recession or depression following several years of excessive investment funded primarily by debt. Meanwhile, the lenders and buyers of that debt are again learning a harsh lesson: that the hard assets they funded will likely never have value.

Ultimately, only the absence of myriad complex derivative securities supported by loan bundles distinguishes the oil and housing bubbles. This time is different in that respect because regulators have forced bankers to be more disciplined.

Another dissimilarity is the housing bubble will be more easily resolved than the oil bubble. The ongoing population expansion and income growth have already spurred a correction in housing after governments

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intervened with programs such as TARP. The oil industry faces a far more difficult recovery because innovation is driving down development and operating costs, quantitative easing is promoting accumulation of vast oil inventories, and government relief of any kind will not be forthcoming. The consequences of the oil bubble bursting, then, threaten to be more prolonged and more devastating.

That said, the similarities between the housing and oil bubbles astound. Both bubbles were stimulated by the entry of new innovators—unregulated mortgage firms in housing and frackers in oil—and the regulatory laxity that permitted their inflation beyond historic proportions. In addition, the key players in both episodes were myopic, seeing only increasing prices for the foreseeable future. This myopia led them to boost investment three times higher than historical rates. The greater investment was funded by very large increases in debt and borrowings.

The myopia on the part of participants was the most important contributor to both market collapses. In the case of housing, many key players believed housing prices would never fall. In July 2005, for example, Ben Bernanke, then chair of the Council of Economic Advisers, told a CNBC interviewer that “we’ve never had a decline in house prices on a nationwide basis.”

Oil executives, government officials, and investors have operated on the same philosophy. At the time Bernanke spoke on housing prices, the oil industry was focused on “peak oil.” The models built by economists at the International Monetary Fund and World Bank and academics such as Lutz Kilian and James Hamilton all forecasted rising prices forever. Authors such as Paul Roberts published books with titles such as *The End of*

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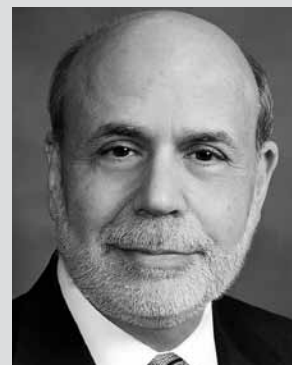
Oil. Even nine years later in 2014, few foresaw an oil price collapse. As late as October 2014, the CEO of one large company, Continental Resources, Harold Hamm,

Never Say Never

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Ben Bernanke

assured the world that Saudi Arabia would cut production to stabilize prices. Hamm was so convinced of his view that he closed his company’s short hedge on oil—designed to protect future revenues—and took a \$500 million profit.

The second observation follows from the first. Irrational exuberance led to a large increase in investment in housing and in drilling for oil and gas. In housing, investment had increased in the United States at a rate of \$30 billion per year from the end of the 1992 recession to 2001. The increase then tripled to \$90 billion per year from 2002 to 2005 before collapsing when lenders cut off credit. Expenditures then declined an average of \$150 billion per year between 2007 and 2009.

The story was the same in oil. Barclays Bank publishes an annual estimate of expenditures on global oil and gas exploration and production. From 1986 to 2004, the Barclays data show a disciplined industry. Spending rose \$10 billion to \$20 billion per year. After 2004, the rate surged to an average of \$50 billion per year after oil prices rose to \$145 per barrel in 2008 and after two successful efforts by OPEC to sustain high prices. Expenditures peaked at \$700 billion in 2014 and then fell by \$175 billion in 2015.

The parallels between the housing and oil investment boom are almost frightening. Figure 1 compares current dollar expenditures on U.S. housing as reported by the U.S. Bureau of Economic Analysis with current dollar expenditures on drilling as reported by Barclays. To make the story more visually compelling, I have shifted the data on investment in housing forward nine years so the peak in housing spending, which occurred in 2005, lies directly above the 2014 peak in drilling expenditures.

The housing and oil bubbles were also associated with very large, and in the case of at least the housing

bubble, unsustainable debt accumulation. In housing, many individuals took advantage of their homes' rising value and borrowed more than they could cover from current income. Various types of new financial instruments, such as interest-only loans, facilitated the increase. Many likely thought they could handle the higher amounts because their homes would continue to appreciate in worth. As economist Alan Blinder explains, however, they lost that bet when the music stopped and home prices fell in value by an estimated \$3 trillion.

The oil industry, including national oil companies in countries such as Brazil, have followed the housing model. The Bank for International Settlements reports that the industry-issued bonds outstanding increased from \$55 billion in 2006 to \$1.4 trillion in 2014. In addition, BIS reports that syndicated loans to oil firms rose from \$600 billion to \$1.6 trillion. No doubt borrowers and lenders both thought rising prices would assure repayment.

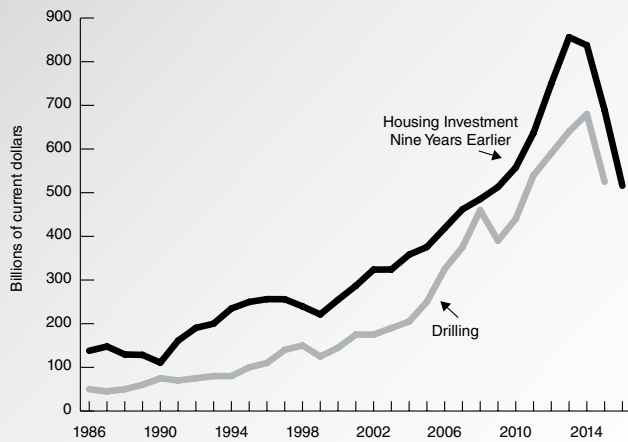
The housing and oil bubbles were also inflated by innovation. Housing construction and housing prices "benefited" from a new class of unregulated entrants, the lenders serving as intermediaries between borrowers and the investment banks that were securitizing loans not guaranteed by Fannie Mae or Freddie Mac. These lenders expanded slowly in the 1990s but then grew quickly after 2000. By 2007, they had originated more than half all subprime loans.

The new entrants in oil were the frackers. Prior to 2005, most oil and gas was developed and produced by large oil companies such as the traditional majors or the national firms in Brazil, Norway, and Saudi Arabia. Ten years later, a new group of companies such as Continental Resources had forced its way into the club, adding an unexpected five million barrels per day to global supply.

The effect of the new entrants in oil can be seen by comparing the U.S. government's

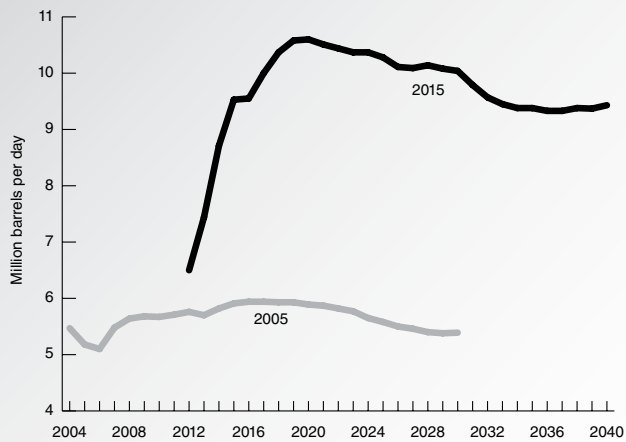
*Fossil fuels are being dismissed
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Figure 1 U.S. Residential Construction Investment vs. Oil and Gas Drilling Investment, 1986 to 2016*



*Housing expenditures shifted forward eight years.
Source: U.S. Bureau of Economic Analysis; Barclays; PKVerleger LLC.

Figure 2 Forecasts of U.S. Crude Oil Production Issued by the U.S. EIA in 2005 and 2015



Source: U.S. Energy Information Administration.

projection of U.S. crude oil production issued in 2005 with the projection issued in 2015, as I do in Figure 2. This graph shows actual output from 2007 to 2014 in the forecast issued in 2015. The "forecasting error" was five million barrels per day.

The introduction of new financial instruments further magnified the size of the housing and oil bubbles. Housing construction would have declined well before 2006 had builders and their financial advisers not been able to securitize subprime loans made with little or no

documentation. The availability of credit added a year to the boom and magnified the crash.

It was the same with oil. High prices incentivized investors to buy financial instruments linked to oil. Their demand enabled the new entrants to hedge future oil production at profitable levels. The hedges allowed producers to continue operating when cash prices collapsed. The market signal was muffled, more oil was produced, and the price bottom, wherever it is, was much lower than predicted by elegant econometric models.

Regulatory failures also played a role in supporting the two bubbles. The failure of bank regulators to curb predatory lending practices, as well as the inability or unwillingness of credit-rating agencies to evaluate correctly the subprime-mortgage-backed securitized debt issued by firms such as Lehman Brothers, were important contributors to the housing bubble. The growth of the oil bubble was aided by similar regulatory inaction. Consuming countries had accumulated huge strategic reserves of crude oil and products that could have been sold to relieve market pressure and hold prices below \$80 per barrel. These nations also could have relaxed critical environmental regulations to further moderate price pressure. Their inaction added to the oil bubble, just as the hands-off policy of financial regulators fueled the housing bubble.

Ultimately, both bubbles popped. As the late economist Herb Stein observed, “If something cannot go on forever, it will stop.” Housing prices dropped. Housing starts fell more than 50 percent. Crude oil prices plunged, decreasing to less than \$30 per barrel by the beginning of February 2016.

Overall, the similarities between the two events seem incredible. Their long-term consequences, though, will likely be very different. Housing is a necessity and a rising population requires more homes. Fossil fuels, on the other hand, are being dismissed by world leaders. Future oil use may be much lower than today, an issue that greatly worries Saudi Arabia.

Further, the cost of building new homes continues to rise while technical change is driving down the cost of finding and developing new oil reserves. The technological breakthroughs mean that large incremental oil supplies will arrive on the market at prices much lower than many believe feasible.

The oil situation is made even worse by the decision by some Middle East nations, in particular the ones that can develop and produce from their reserves for less than \$10 per barrel, to abandon their policing role in the world market. Indeed, these countries have intensified their efforts to boost output over the last year even as low prices have forced reductions in drilling elsewhere. The incremental

oil found will be produced. Prices will fall, absent an increase in global demand or a decline in crude oil output from other areas—for example, in Venezuela or Canada where oil production is uncompetitive at today’s prices.

The only certainty today is that much of the debt issued during the period of irrational exuberance will never be repaid. High-cost projects such as the Gorgon LNG facility in Australia, which just started production after expenditures of \$54 billion, will probably never return a profit. Much of the debt associated with it will end up as write-offs. Much of the money invested in the Tengiz project in Kazakhstan, too, will likely never be recovered.

Thanks to the success of fracking, a truly disruptive technology, as well as the absence of government inter-

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vention, the long-run effects of the oil price bubble ending look to be far more severe than those from the housing bubble collapse. Today, nine years after the latter event, most financial fallout from the subprime crisis has been resolved. The oil industry is unlikely to be faring as well in 2024, nine years after the oil bubble deflated. Instead, the shareholder equity in some companies that committed to large amounts of debt or giant mergers immediately after the price collapse will probably have little or no value. Tragically, investors in these firms, including some of the largest, will find that the companies’ policy of maintaining dividends—a *sine qua non* for Big Oil—represented a return of capital, not a return on capital. ◆