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Will an Improving Economy Be Dragged Down by Higher Oil Prices?

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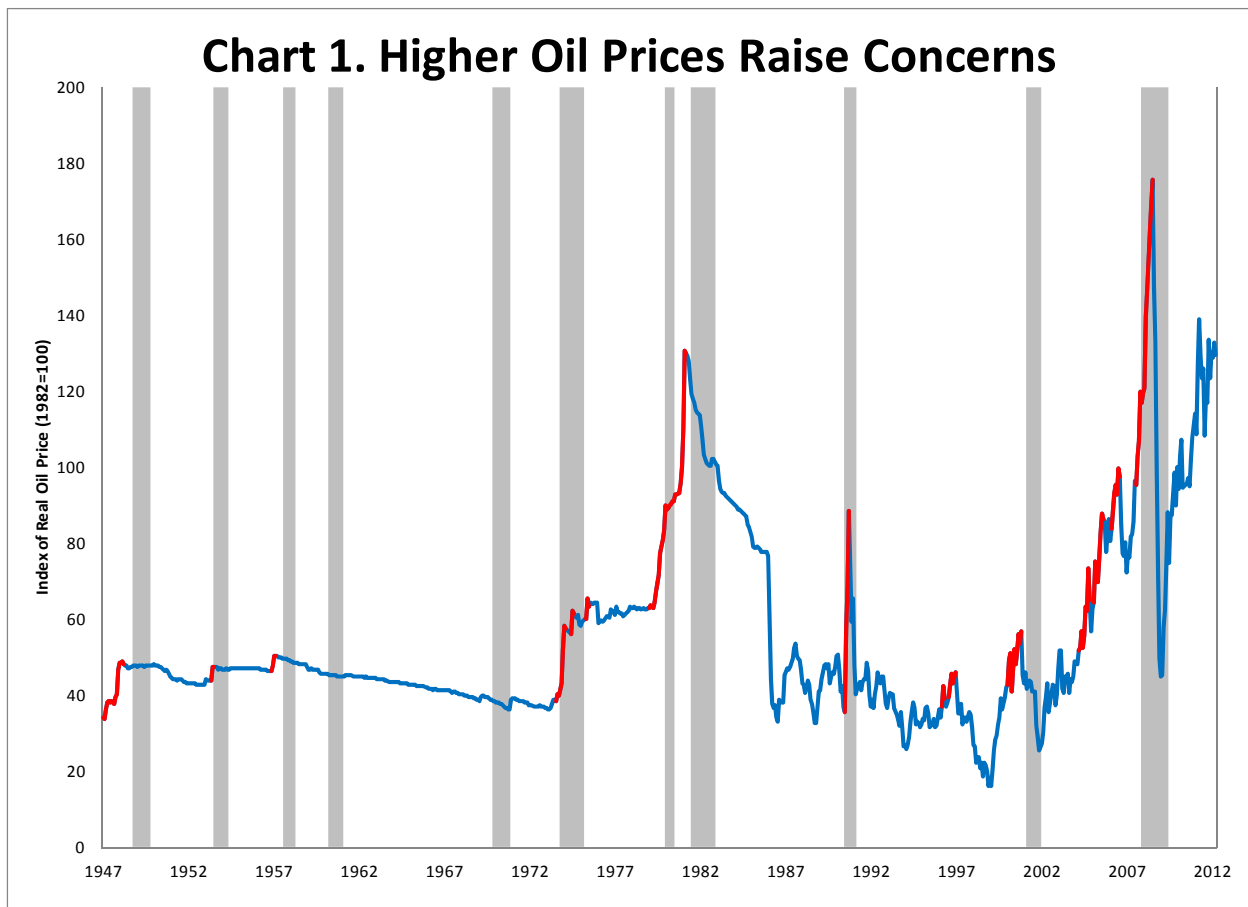
The high gasoline and jet fuel prices seen in March and April raise concerns about the possibility that high energy prices will lead to yet another economic slowdown. Although high gasoline prices are visible and alarming, current energy market conditions are unlikely to push the U.S. economy back into recession. The gains in oil prices that produce higher gasoline and jet fuel prices have not been enough to trigger a recession.

In addition, oil prices are likely to play less of a role in current U.S. economic conditions than the past. Other energy prices—particularly those for natural gas—have not moved with prices for oil and petroleum products. The U.S. economy has become much less dependent on energy. As a result, high oil prices mean much less headwind to overall economic activity than in the past.

Current Oil Prices Are Not at Recession-Producing Heights

As shown in Chart 1, the United States has seen a number of episodes (marked in red) in which oil prices rise sharply and are higher than had been seen in the previous three years. These episodes have preceded all but two of the U.S. recessions (shown in the gray bars) since World War II. The two exceptions are the 1960 and 1970 recessions.

Sharply rising oil prices also provided false signals in the mid-1990s and from 2002 to 2005. In addition, most attribute the 2008-2009 recession to a financial market meltdown rather than the 2007 oil price spike. Nonetheless, economist James Hamilton argues that had oil prices not risen, the economy would have merely slowed down rather than downshifted into recession.¹



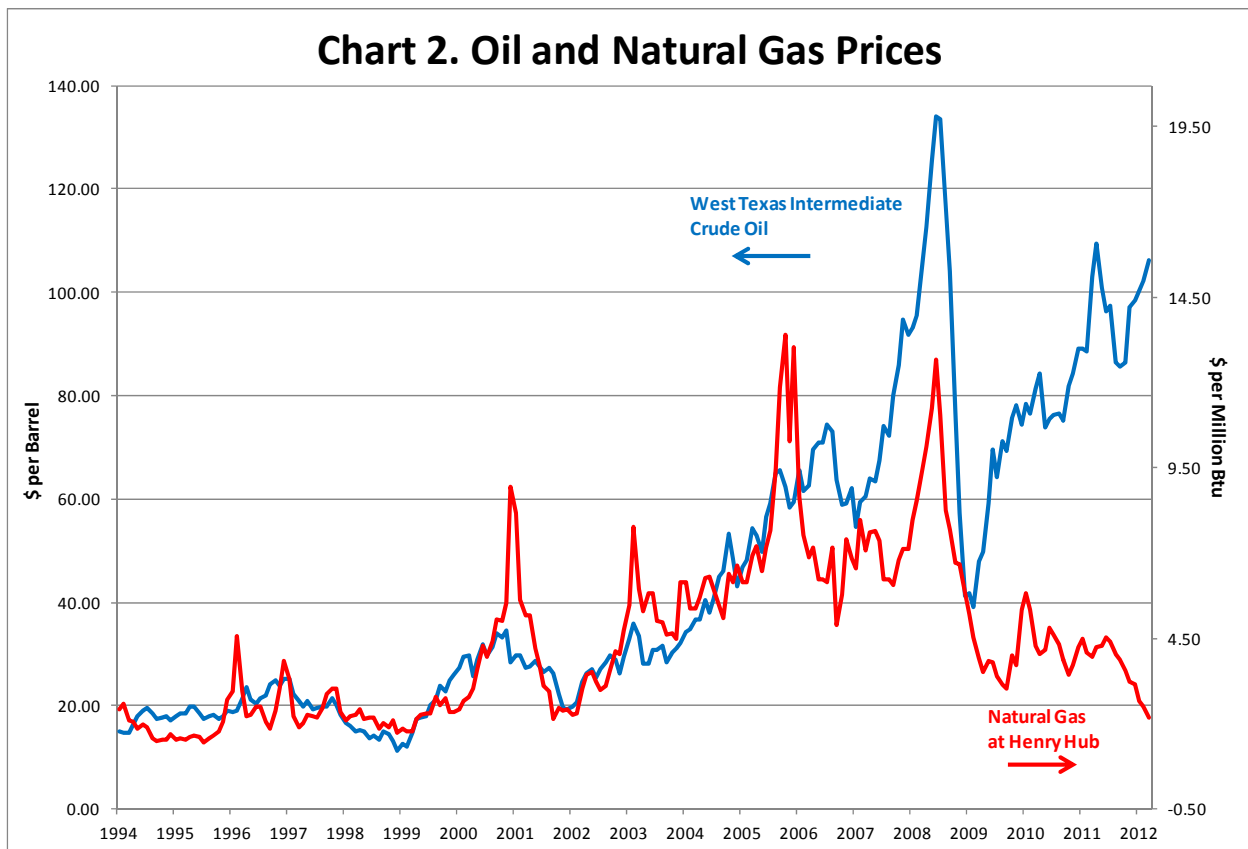
In early 2012, oil prices have not shown the sharp increases that signal that a recession is imminent. That is, oil prices have not risen to the point where they are higher than they have been during the past three years. In addition, the futures market shows oil prices falling from current levels, rather than heading upward to the heights necessary to provoke a recession.

¹ James D. Hamilton, "Causes and Consequences of the Oil Shock of 2007-08," *Brookings Papers on Economic Activity*, Spring 2009, pp. 215-84.

Falling Natural Gas Prices

History suggests oil and natural gas prices move together. In fact, economists Stephen Brown and Mine Yücel found weekly movements in natural gas prices from 1994 through 2007 are well explained by movements in oil prices in a model that takes into account seasonality, variations in weather, natural gas in storage, and disruptions in natural gas production caused by hurricanes in the Gulf of Mexico.² That historical relationship seems to have broken down, however, as natural gas prices have diverged from oil prices since early 2009 (Chart 2).

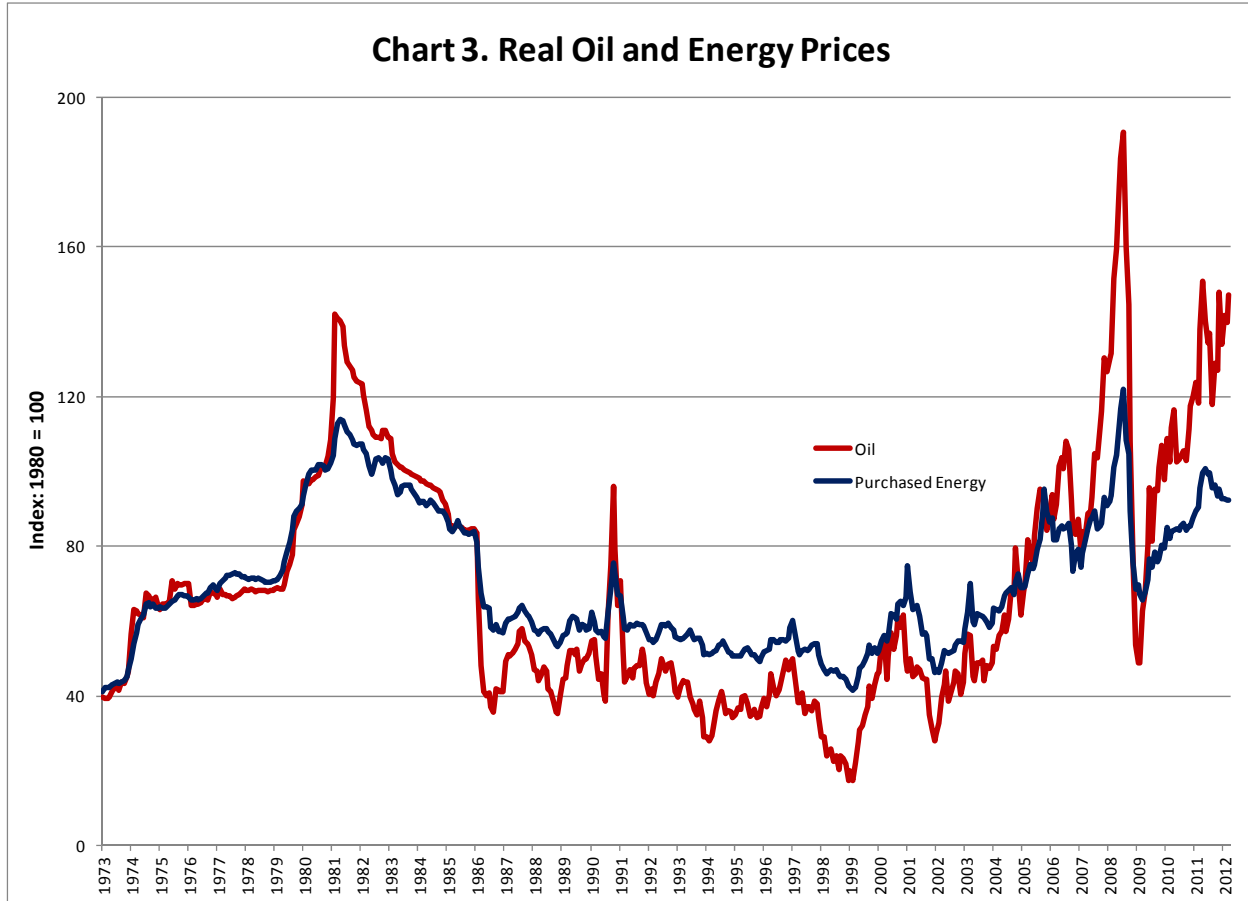
The divergence of natural gas prices from oil prices has been created by the technological revolution in production of natural gas from shale formations.³ The combination of horizontal drilling with hydraulic fracturing (aka fracking) has led to a substantial reduction in the cost of producing natural gas from shale formations.



² Stephen P. A. Brown and Mine K. Yücel “What Drives Natural Gas Prices?” *The Energy Journal*, 29(2), 2008.

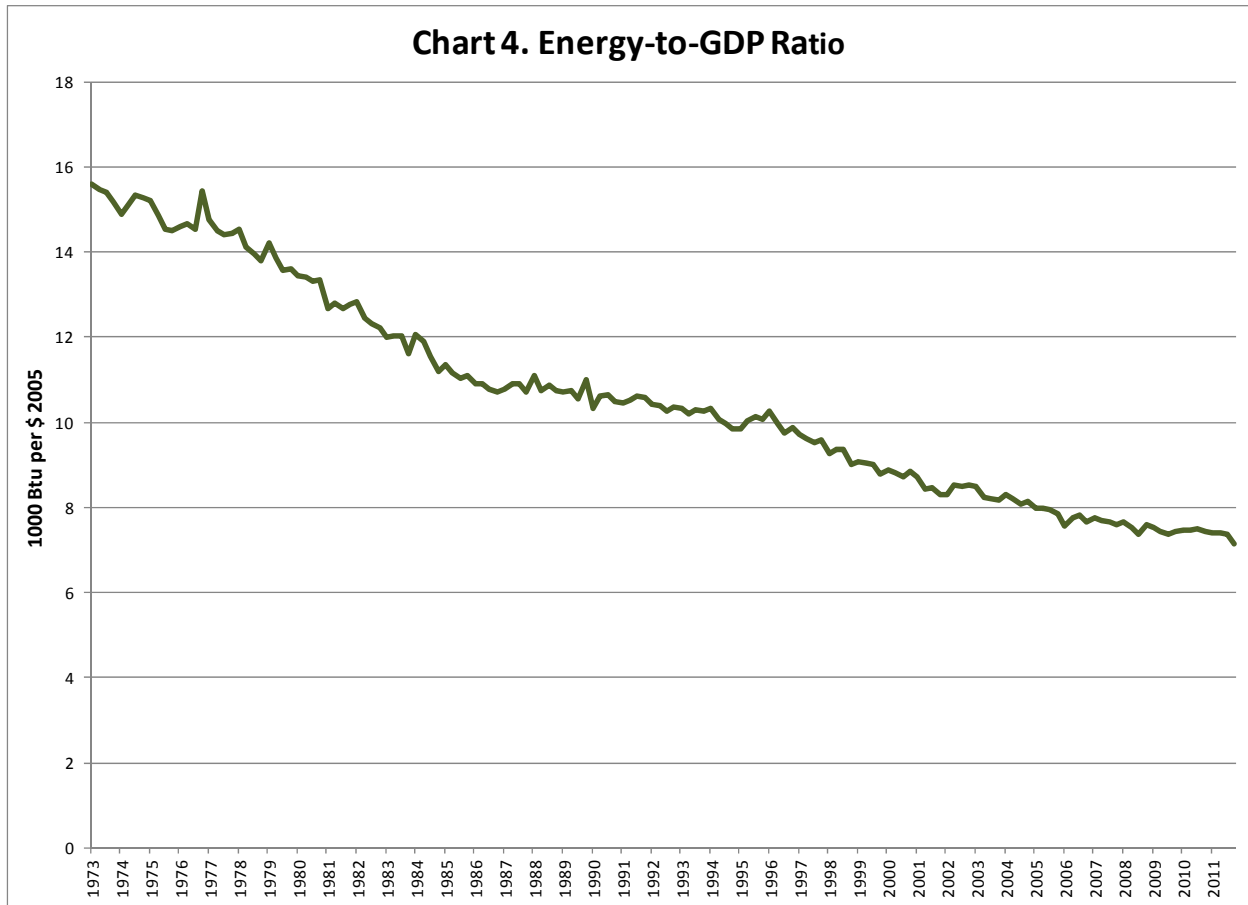
³ See Stephen P. A. Brown, “Abundant Natural Gas Could Mean a Paradigm Shift in U.S. Energy Markets and Policy,” *Resources*, Summer 2010.

As a result of the shale gas revolution combined with the weakness of the industrial sector coming out of the recession, the United States is awash in natural gas supplies, and natural gas prices have been pushed to extremely low levels. As shown in Chart 3, one consequence of recent declines in natural gas prices is that overall prices paid for energy in the United States declined in the first three months of 2012—even as oil prices were rising.



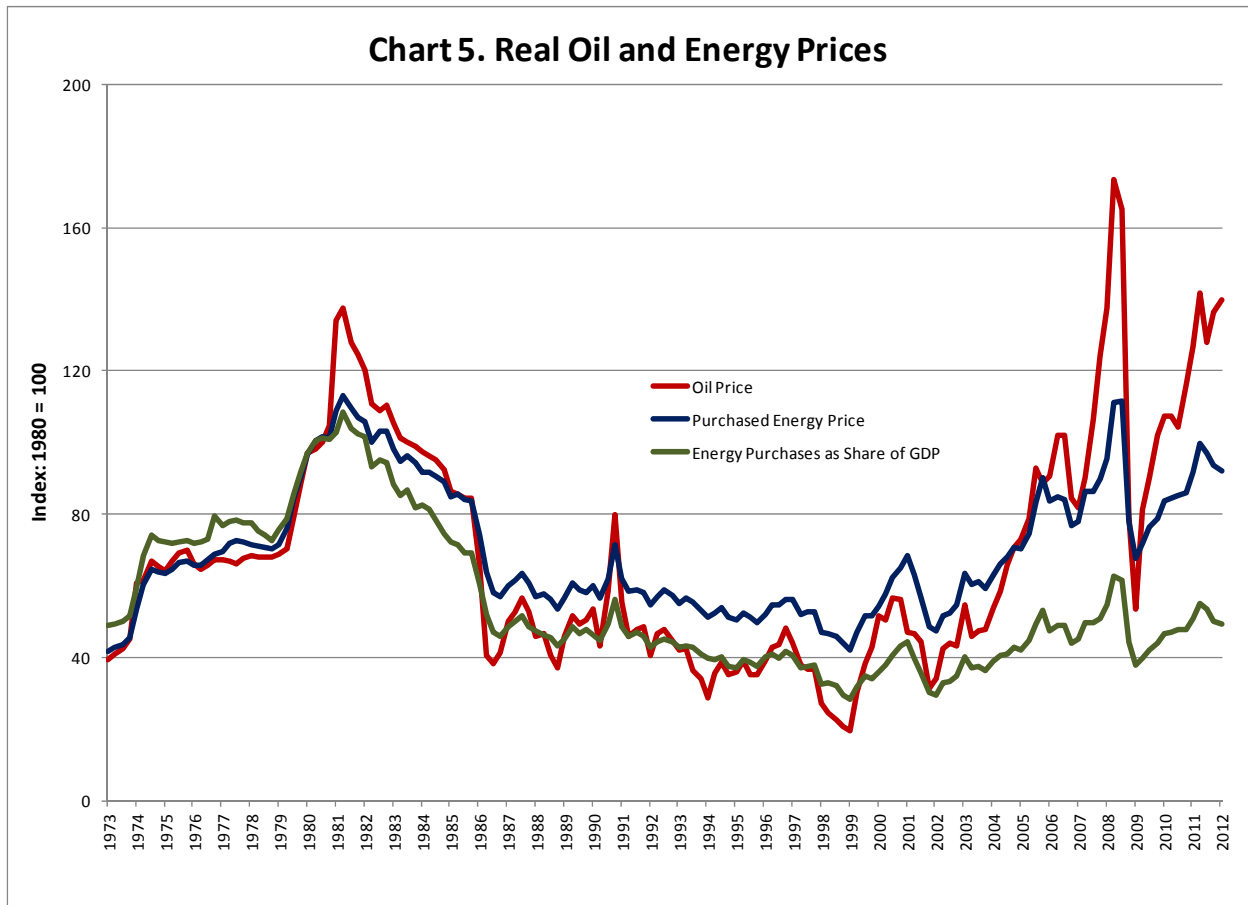
Reduced U.S. Energy Dependence

As shown in Chart 4, U.S. economic output has become substantially less dependent on energy consumption. In 1973, 15,414 Btu were required to produce each dollar of U.S. gross domestic product (GDP).⁴ In 2011, only 7,327 Btu were required to produce each dollar of U.S. GDP. That represents a reduction of 52.4 percent.



⁴ GDP is measured in 2005 constant dollars.

When we combine the effect of reduced dependence on energy with the divergence of overall energy prices from those for oil, an interesting picture emerges. As shown in Chart 5, the relationship between movements in oil prices and energy purchases as a share of U.S. GDP has changed considerably since the 1970s and 80s. In the 1970s and early 1980s, there was a tight relationship between oil prices and overall energy prices. In addition, considerably more energy was used to produce GDP than is the case today. As a result, energy purchases as a share of U.S. GDP moved relatively tightly with oil prices.



In early 2012, however, energy purchases as a share of GDP have not moved nearly as tightly with oil prices. That fact, suggests that the sharp rises in oil prices seen in early 2012 will not have nearly as much impact on overall economic activity as previous history might suggest.

Oil Price Shocks and U.S. Economic Activity: The New Wisdom

In early 2012, the sharp increases in gasoline and jet fuel prices brought about by higher crude oil prices have raised concerns about the possibility of slowing economic activity. Because natural gas prices have declined since mid-2011, however, the impact of oil price increases on the overall price of energy has been substantially blunted. In addition, reduced U.S. energy dependence means that oil price movements have not led to large changes in energy purchases as a share of GDP. These facts do not lessen the painful feeling at the pump, but they suggest that energy prices are creating much less headwind to overall U.S. economic activity than they did in the past.

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