ASSOCIATION FOR THE STUDY OF PEAK OIL

# How the Oil Shock Brought the World Economy Down

## Oil and the „Great Recession“ 2008/2009

**A study by ASPO Switzerland**

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**Abstract**
This study by ASPO Switzerland shows how fundamental and continuous changes in global oil production occurring around 2005 led to a rapid increase in oil prices. This price shock, which drove US gas prices to record heights, first effected the burst of the real estate bubble and the crash of the subprime market in the United States, and later led to the crisis of the American auto industry and the outbreak of a recession of the US economy. The ASPO study traces these chain reactions and shows how they drove the global financial system to the brink in summer and fall 2008. Strangely, the decisive role that a scarce oil supply and exploding oil prices played at the forefront of the crash is excluded in most accounts of the most serious economic downturn since the 1930s. Largely misguided economic stimulus packages were the result.

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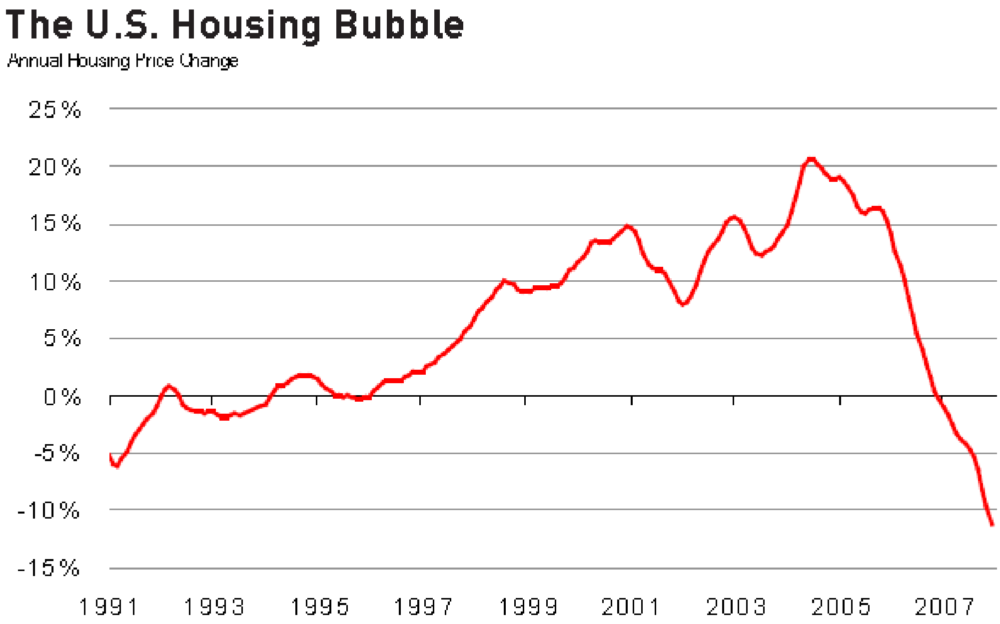
**Bad loans, greedy bankers and a burst housing bubble: These factors caused in 2008 a devastating financial crisis, which engulfed the world economy in the abyss. That, at least, is the official story of the most serious economic downturn since the 1930s, whose effects are still noticeable today. Strangely, the decisive role that a scarce oil supply and exploding oil prices played at the forefront of the crash is excluded in most accounts. Largely misguided economic stimulus packages were the result.**

Let's thus call to mind the run of events. The path to the crisis begins in the American suburbs. Since the 1980s, a big number of new suburbs were built in large distance to city centers that were not connected to public transportation. Today, only about half of US suburbs have access to any form of public transport. Particularly since 2005, many houses in these suburbs were "sold" by use of so called subprime loans to people who could not actually afford to buy a house. "Subprime", of course, was a huge euphemism. Many of these innovative financial constructs, for example, were so called NINJA credits – that means mortgages to families that possessed "no income, no job or assets".

A typical suburb in the United States (Source: *Horizontigo*, 18 April 2013.)

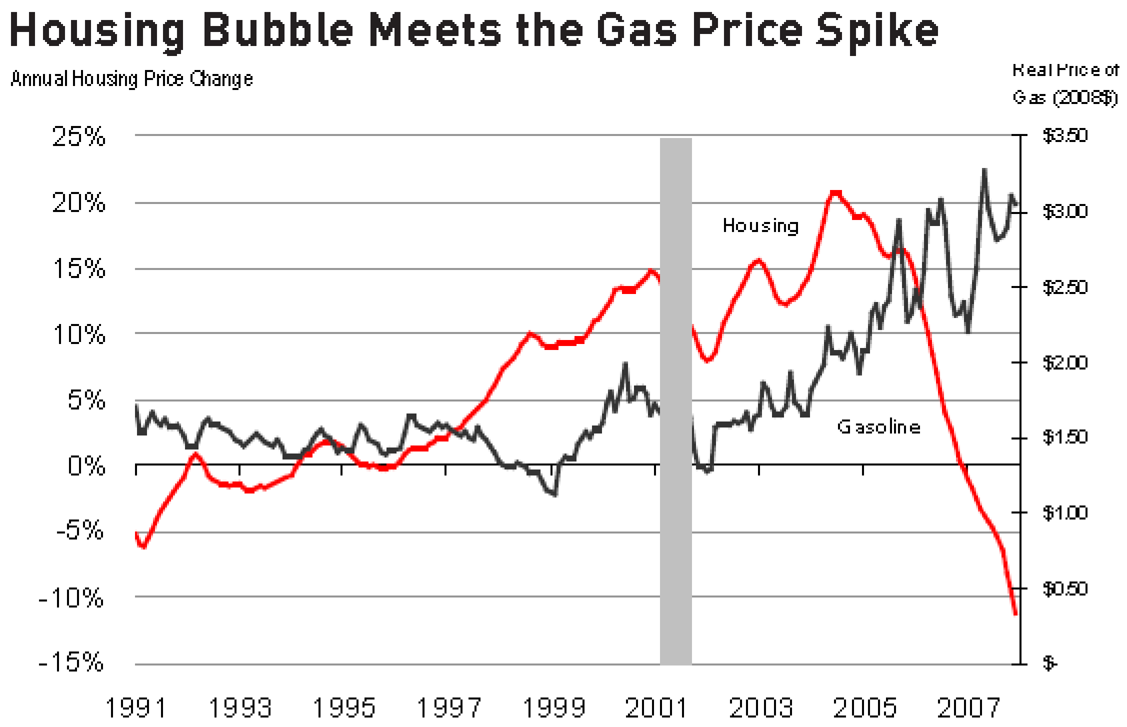
At the same time as an expansive monetary policy, reckless financial constructs, moral hazard, poor corporate governance, the shadow banking system and cheap money gave rise to a bubble of epic proportions**, the foundation on which life in suburbia was based on started to erode: cheap oil**. Since decades, the growth of the housing market in the suburbs had been fueled by cheap gas. Low and stable gas prices between 1990 and 2004 had made the sprawl economical and supported the rise of real estate prices. In early 2004, gas prices were inflation-adjusted lower than in 1990.




The US housing bubble (Source: Cortright, Driven to the Brink.)

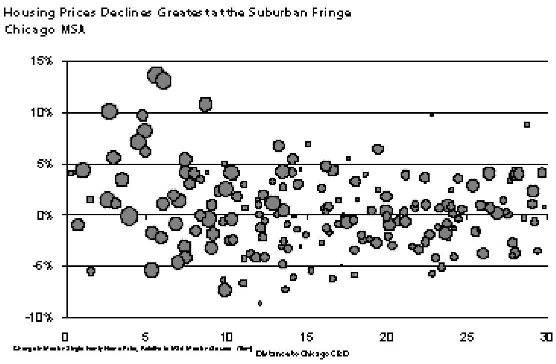
**Gas prices and the burst of the housing bubble**

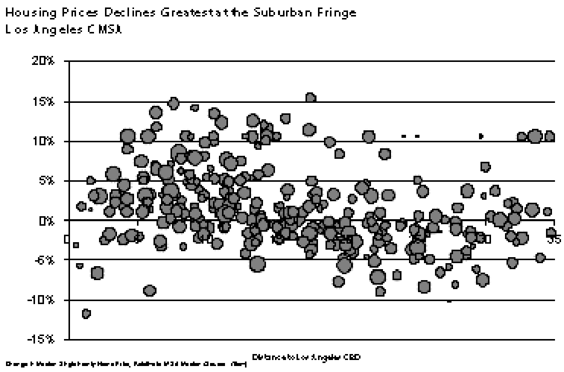
In 2005 oil prices began to climb rapidly, from less than 40 dollars a barrel to more than 145 dollars a barrel in summer 2008. In his new book *Societies beyond Oil*, John Urry, a Professor of Sociology, points out that it has barely been recognized how many subprime suburbs were driven to the brink in the years before the financial crisis by their dependence on oil and the oil price spikes. The rising oil price, however, was not the only reason, why US suburbanites suddenly had to pay much more at the gas station. In summer 2005, the hurricanes Rita and Katrina subdued not only the dikes of New Orleans but also incapacitated a large number of oil refineries in the Gulf of Mexico. Jeff Rubin calculates how these damages on refineries show the twofold danger to which car drivers in the United States are exposed to: Hurricanes threaten not only about one quarter of US oil production located in the Gulf of Mexico but also 40 percent of US refining capacities. Due to the restricted capacities the costs of refining jumped from 10 dollars to 50 dollars a barrel of oil. As a consequence, gas prices at the pump rose by 50 percent to 3 dollars a gallon (3.79 liters). Car drivers in North America suddenly faced a gas price that corresponded to an oil price of almost 100 dollars a barrel, despite oil prices that were in fact about 30 dollars lower.




Real gas prices and the development of housing prices in the United States.
(Source: Cortright, Driven to the Brink.)

**It was the spike of gas prices that burst the housing bubble.** The decisive impact of the gas price as the trigger of the US subprime crisis is documented by Joe Cortright, who shows that the demand for real estate and, accordingly, housing prices fell first and deeper in more remote suburbs with poor connection to public transport. The expensive gas dealt a severe blow to the purchasing power of suburban households, which suddenly had to spend up to 30 percent of their income for transportation. Much less was left for consumption – and mortgage payments. Millions of financially weak households that should never had bought a house in the first place, and had just managed to scrape up the money for their mortgage payments now fell off the cliff. They defaulted and soon received foreclosure notices. The banks, on the other hand, had to write off billions of property assets. And thus the unimaginable happened: The housing prices, which adjusted for inflation had doubled over the preceding decade, started to fall.




Relationship between housing price changes (median single family home price) relative to the metropolitan average and distance from the center of the region for Chicago (left) and Los Angeles (right)
(Source: Cortright, Driven to the Brink.)

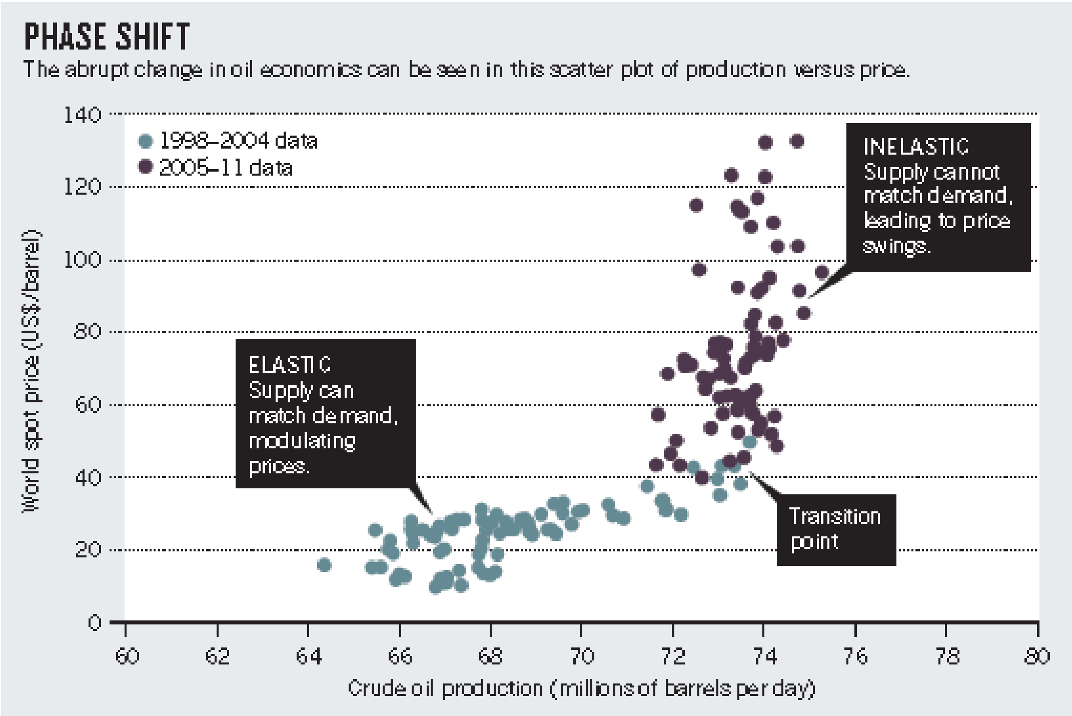
### Vicious circles and chain reactions

In 2006, the bubble turned into a vicious circle: The foreclosures accelerated the decline of housing values. This, in turn, led to new foreclosures etcetera. The rapid increase in insolvent subprime borrowers then provoked a chain reaction: The hundreds of unregulated non-bank mortgage lenders who had been at the forefront of the business with subprime credits and heavily relied on short-term financing from larger banks, saw the renewal of their lines of credit refused and started filing for bankruptcy. By late summer 2007, the balance sheets of an extraordinary range of financial institutions showed a bewildering array of “toxic” assets. The estimated losses on subprime mortgages already amounted to 50 to 500 billion dollars. Yet there were no clear signs that these would be the beginning of a colossal banking crisis.

**The problems in the housing market and the subprime crisis alone would not have driven the global banking and financial system to the brink of collapse.** They were around for some time before 2008 and burdened the economy without causing a recession. At least, the situation was stable: While the decline in the housing sector had reduced the annualized real growth rate of US GDP by 1.04 percentage points between the second quarter of 2006 and the third quarter of 2007, the average effect was only a decrease by 0.91 percentage points between the fourth quarter of 2007 and the third quarter of 2008. Something else must thus have driven the world economy to the brink.

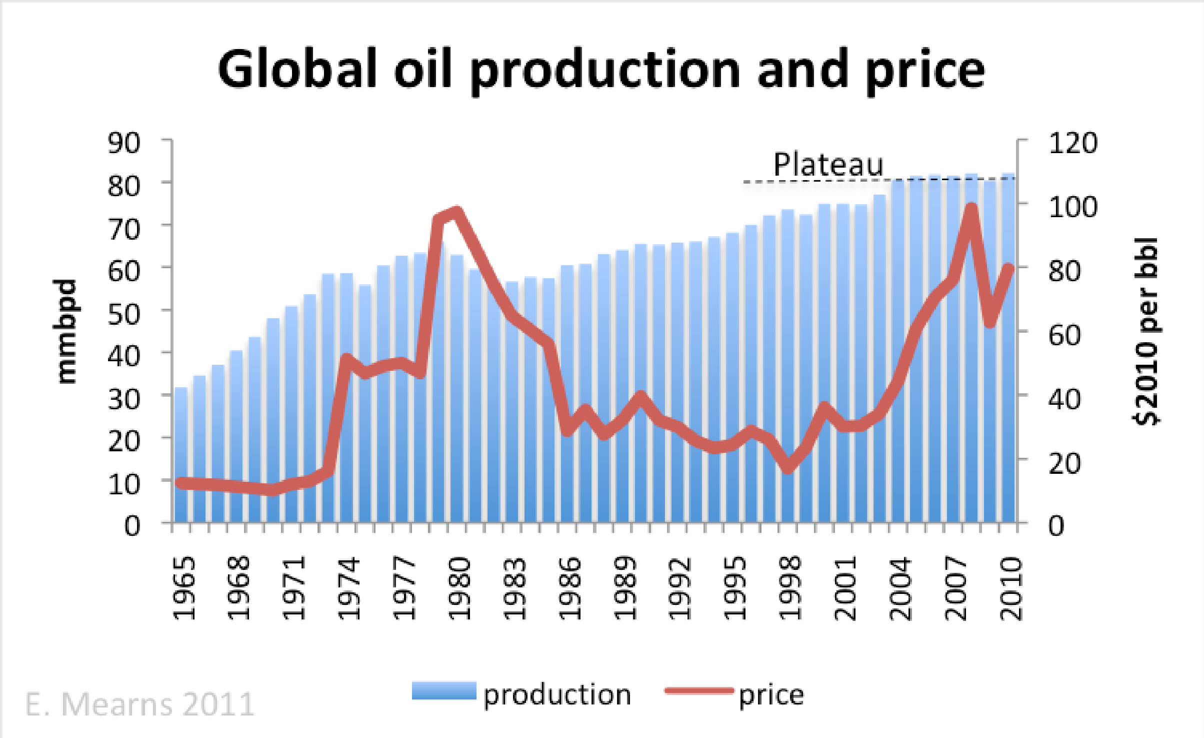
### Oil passes the tipping point

The basis of the “Great Recession” was a fundamental shift in the oil market. In the mid-2000s (in 2006 according to the IEA), the production of conventional oil – the oil that is cheap and easy to produce – reached its global peak. Thereby the oil market passed a tipping point. For decades, an elastic oil supply was one of the factors that enabled globalization and the rapid growth of the world economy. A high price elasticity of supply meant that, every time the demand for oil rose due to growing economic activity, already a minimal increase in the oil price was enough to expand oil production and to cover the new demand. As a result, oil was continually available in sufficient quantities, and for stable and relatively cheap prices. Since World War II, this was a foundation of wealth in the Western world – with the exception of the long decade between 1973 and the mid-1980s shaped by three political oil crises in the Middle East.




The shift from an elastic to an inelastic oil supply around 2005 (Source: Murray/King, Oil's Tipping Point.)

Now the world entered an era of a low (short term) price elasticity of oil supply. **This engendered that global oil production could no longer be expanded between 2005 and the beginning of the worldwide economic crisis in 2008** – despite a heavily increasing demand, particularly in the BRIC states (Brazil, Russia, India, China) and in the oil producing countries of the Middle East. Since the demand for oil, on the other hand, depends primarily on income, and on a global scale on the state of the world economy, it reacted very inelastic as well. Starting in 2005, the price for oil therefore began to escalate. In 2008 it skyrocketed.

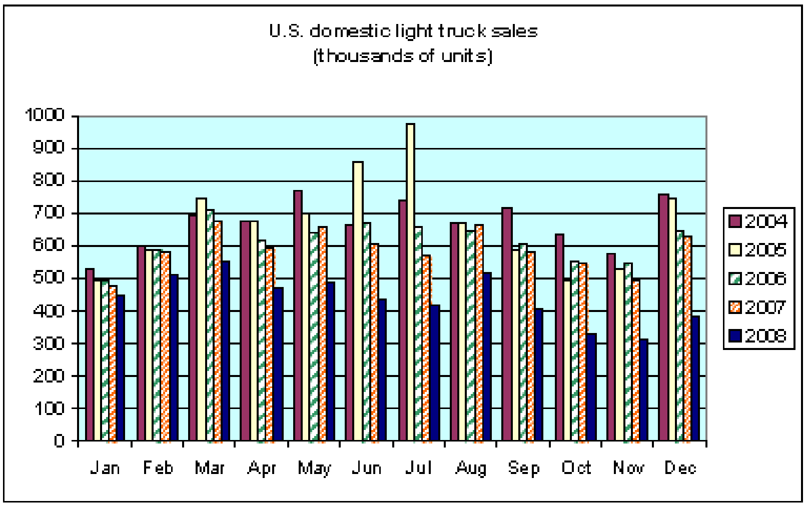


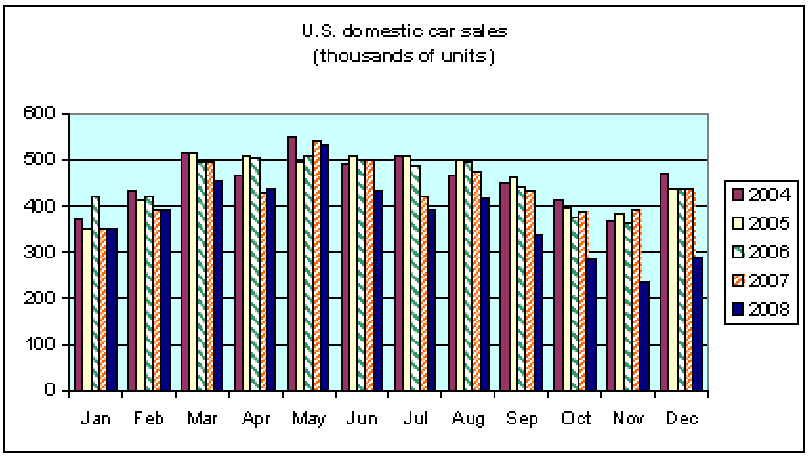

Global oil production and oil price: production plateau vs. price shock
(Source: Ugo Bardi, 'Peak Oil: Has It Arrived?', *Extracted*, 18 June 2012.)

**The oil shock triggers the recession**
The rapidly rising prices for oil and gas led to a drop in car sales in the United States beginning in early 2008. In May, June, and July 2008, the sales of the heavy, gas-guzzling SUVs (Sport Utility Vehicles) were more than 25 percent below the previous year. By contrast, the sales figures of lighter and more energy-efficient automobiles declined considerably less and car imports even increased. James Hamilton of the University of California San Diego shows that the sharp decline of SUV sales and the decrease in total US car sales in the first two quarters of 2008 were caused by the rising gas prices (rather than falling incomes). The result was a significant shock for the US auto industry, which shrunk by 34 billion dollars between the last quarter of 2007 and mid-2008. This naturally had an effect on the employment figures: In August 2008 the industry employed seasonally adjusted 125,000 workers less than in July 2007.

At the same time, the high gas prices decreased consumer spending and consumer sentiment. In light of continually higher bills at the pump, less and less money was available for consumers to spend. Suddenly, the importance of energy for a typical family budget was as high as it had not been since the 1970s. On Memorial Day 2008 (26 May), gas prices climbed up to 4 dollars a gallon. For the average American car driver, a tank of fuel for an SUV hence cost more than a weekly ration of food for the whole family. **The crisis of the automobile industry, caused by the oil price shock,**

**and decreasing consumer spending were responsible for the US economy falling into a recession between autumn 2007 and summer 2008** – long before the collapse of Lehman Brothers in September.

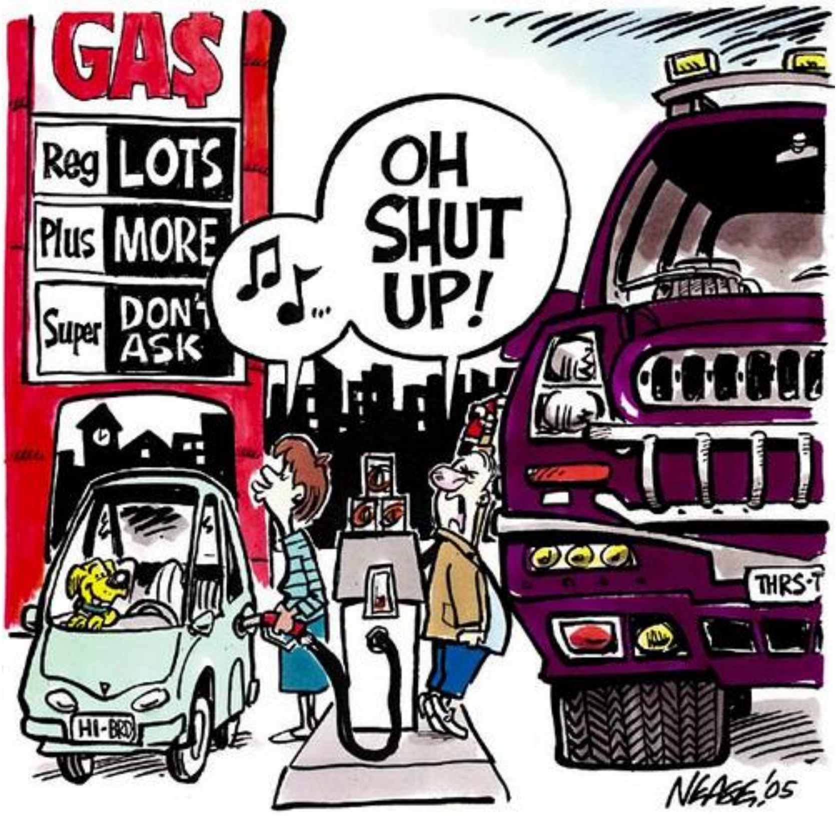



Sales of motor vehicles in the United States (Source: Hamilton, The Oil Shock of 2007-08.)

The emergence of the “Great Recession” is usually explained in the following way: The collapse of Lehman Brothers in September 2008 had set off a terrible financial crisis, which had itself caused the crash of the real economy. If one studies the chronology of the events in 2008, however, it becomes obvious that something is wrong with this version. The global economic cycle collapsed already weeks before the Lehman crash. When the investment bank filed for bankruptcy on 15 September, all important business indicators were already in abrupt decline for some time past. Thomas Fricke, at the time the chief economist of *Financial Times Deutschland*, provides a list of declining economic indicators in June, July, and August 2008 that includes industrial production and the number of new filings for unemployment benefits in the United States, orders at US companies, US exports; indicators of consumer sentiment and business climate indexes in the euro zone; and a number of leading economic indicators in Japan and even in China.

Between June and August 2008 the business indicators fell around the globe at almost the same time. However, no dramatic deterioration took place on the financial markets in this period. The subprime writedowns had even declined in the second quarter. In contrast, the oil price climbed to heights considered impossible to reach in those weeks. In early 2008, the price for a barrel of oil had broken the 100 dollars sound barrier for the first time and climbed to 125 dollars in early May. On 26 June, the oil price came to 140 dollars and it reached an all-time high of 147 dollars a barrel on 11 June in the course of geopolitical tensions over Iranian missile tests. Moreover, in light of the exploding oil price, an inflation panic set in in June that caused the interest rate expectations to shoot up. In the meantime, consumer spending continued to fall.




In 2008 gas prices in the United States reached all-time highs and destroyed the market for SUVs.
(Source: *Treehugger*, 12 January 2009.)

**The recession drives the banks to the brink**

In mid-September, only a few days before the Lehman crash, hurricane Ike created heavy devastation in Houston and in the heartland of the US oil processing industry, which further sent up the refining costs of crude oil. Although Ike, in contrast to Katrina and Rita, barely had any influence on the oil price, gas prices rocketed upwards; up to 5 dollars a gallon in many states on the Gulf of Mexico. As late as 2002, a gallon had been available for 1.10 dollars at American gas stations. These extraordinary gas prices ultimately broke the expectation of continuing growth in light of the already lingering crisis. We can therefore record: **A recession of the real economy that was largely caused by the oil price shock drove an instable financial system to the brink of collapse and triggered the massive banking crisis.** With the collapse of Lehman Brother, crashes of the real and the financial economy eventually reinforced one another. The financial house of cards that had been built on the basis of cheap money, cheap credits, and cheap oil during the preceding decade collapsed.

What happened in 2008 was not extraordinary in principle. In the twentieth century, which was fueled by cheap and abundant oil, rapid increases in oil prices almost always led to an economic slowdown. Additionally, four of the last five global recessions were triggered by oil price shocks. From the 11 recessions in the United States since World War II, 10 were preceded by a considerable increase in the oil price. And the rise of the oil price by more than 500 percent between 2002 and summer 2008 was almost twice as much as the price increases in the course of the OPEC oil crises in the 1970s. Although the “Great Recession” was at least as much the result of an oil crisis as it was the outcome of a financial crisis, it is almost exclusively portrayed as a financial crisis in politics, the media, and the public. This misconception admittedly serves powerful economic groups but has dire social implications: Governments all over the world reacted to the crisis by throwing financial lifebelts to auto manufacturers and financial companies. The energy supply, on the other hand, received no lifebelt. Far too much was invested in the past instead of a sustainable future.

The fundamental shifts in the oil market that were a contributory cause of the world economic crisis are here to stay. This is the decisive difference to the earlier oil crises. The era of cheap oil is gone for good and the production of conventional oil will decrease rapidly in the next years. Even the IEA predicts a fast decline from existing conventional fields by 40 million barrels a day until 2035. That means that an additional Saudi Arabia has to be developed every four to five years, only to keep global oil supply steady. The number of barrels of black gold that is pumped out of the ground everyday will certainly not be greatly expanded anymore – despite the expensive and environmentally very hazardous development of unconventional deposits of deep sea oil, tar sands, and shale oil. Therefore, oil will remain expensive and the next price shock with devastating effects on the economy is only a matter of time, if we continue with business as usual and the global demand for oil increases further on. Politicians and economists should thus recognize that high energy prices are a central challenge. This would enable them to see the **necessary solution**: **The decoupling of economic growth and oil consumption and the development of energy systems and societies that use considerably less fossil resources.**

*Links:*
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Nouriel Roubini/Stephen Mihm, *Crisis Economics: A Crash Course in the Future of Finance*, New York: Penguin Press, 2010.

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