PERSPECTIVE

Cause & Effect: U.S. Gasoline Prices

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IN BRIEF

- **Gasoline prices are very closely correlated with the price of crude oil.**
- **Oil prices, in turn, are tied to events largely outside of America's control.**
- **Oil prices depend on the interplay of supply, demand, and the perception of future changes in supply or demand.**
- **The only way to reduce our vulnerability to spikes in oil prices is to use less of it.**
- **We cannot "drill our way" out of this challenge**

Current Gasoline & Oil Prices

- The national average price of a gallon of regular unleaded gasoline in February, 2013 is $3.60
    - In 2012, gas prices ranged from $3.32 to $4 per gallon - a 68 cent swing, demonstrating price instability
    - Gas prices have increased 22 cents in the last two weeks, a 6.5% rise.
    - Gasoline prices often follow a cyclical pattern, rising in the Spring, peaking in the early Summer, and falling through the autumn.
- The spot price of crude oil traded at a price of between $88 and $128 per barrel (Brent) in 2012.
- As of February 2013 crude prices have risen to $117 per barrel the highest since September 2012.
- The 2012 spike in prices was different from recent spikes because, unlike in 2008 (peak of $4.11/gallon) and 2011 (peak of $3.96/gallon), in which prices increased by over 30% in just 6 months, prices were already high; there has only been an 8% growth

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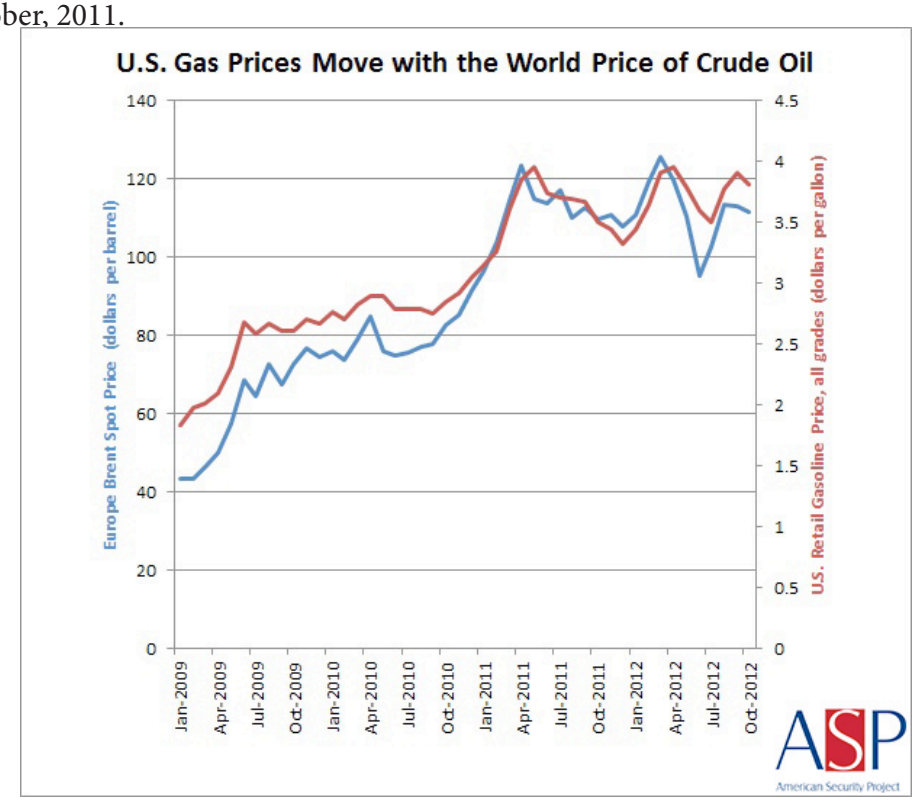
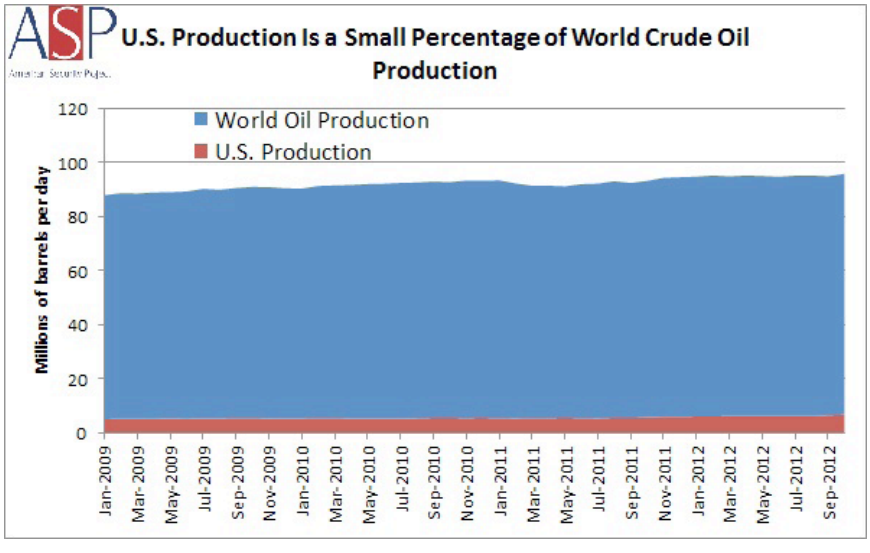
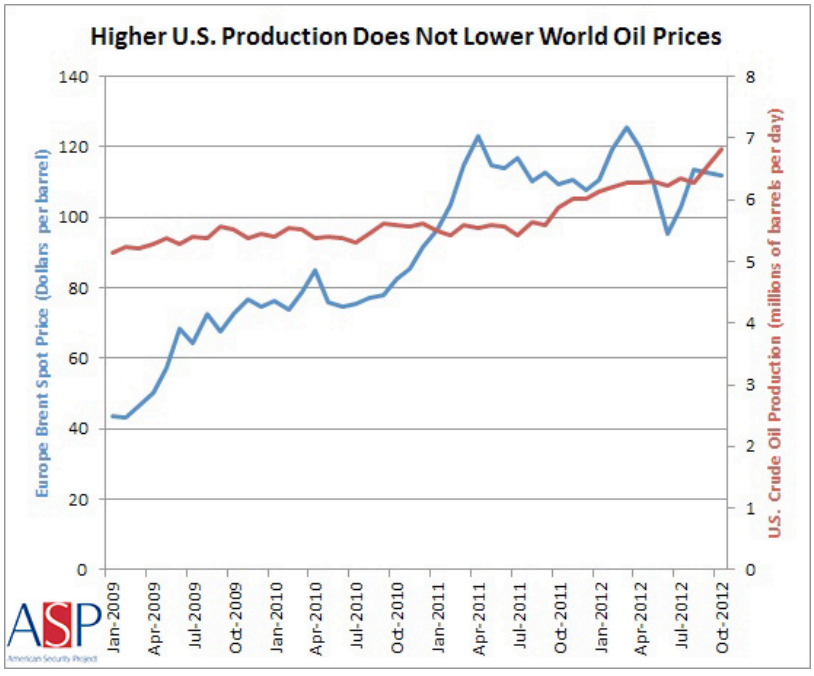


The price of gasoline is dependent on the **global** price of crude oil.

The price Americans pay at the pump closely follows the trend of the world price of crude oil, as this graph shows. World prices in turn are influenced by the global interaction of supply and demand as well as by expectations of how the price may change in the future.

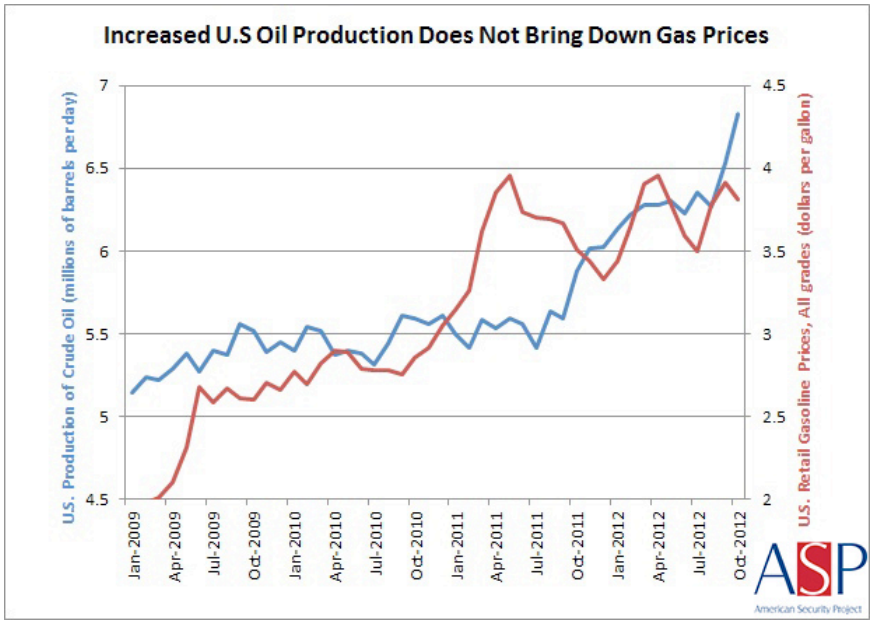


Even though U.S. production has spiked by 34% since January 2009, the surge is barely noticeable when you look at it compared to the approximately 89 millions of barrels per day (mbd) currently being produced. Our supply is simply not large enough to make a significant contribution to world supplies.



The surge in U.S. oil production has also not led to lower the price of oil. Even though U.S. crude oil production increased by an estimated 1.7 million barrels per day from January 2009 to November 2012, the price of oil also increased. This demonstrates the minimal impact that incremental additions to U.S. production have on global oil prices.

Since U.S. production has very little impact on global oil prices, the effect on gasoline prices is minimal. This graph demonstrates that in spite of robust increases in U.S. production, the average price of gas has also risen. Rising U.S. oil production simply cannot measurably lower the price at the pump.



Global Supply

Global Production of oil is about 89.6 million barrels of oil per day. If all else remains equal, we should expect increases in total supply to reduce oil prices over time. High prices should also work to drive greater supply over time by increasing the return on investment for oil production.

Global Demand

The global demand for oil today is about 89.1 mbd. The difference between supply and demand is used to build stockpiles, both by businesses and governments. Only in times of very high demand growth does demand exceed supply. Higher prices work to can put a reduce demand by pushing consumers towards substitutes or greater efficiency.

Predictions About Future Supply and Demand

The final factor in global oil prices is predictions about future direction of oil supply and demand. Often derided as 'speculators', the entities that buy and sell contracts for oil to deliver at a future date are essentially making bets about what the future price of oil will be.

This speculation allows businesses who rely on oil, like airlines, to 'lock-in' stable, long term oil prices.

In theory, futures markets smooth price changes by allowing predictions about future demand or supply shocks to be priced into the market. On the other hand, rapid swings in sentiment can cause quick shifts up and down, seemingly outside of the fundamentals of supply and demand. However, market pressures mean that futures markets will ultimately reflect underlying conditions.

"Spare Capacity"

Even more important than actual production is potential production that is not being used – termed "spare capacity" by the industry. The only major oil producer who generally retains spare capacity is Saudi Arabia. By keeping capacity in reserve, the Saudi government can respond to rapid changes in supplies elsewhere in the world in order to moderate supplies. By maintaining this spare capacity, the Saudi government manages the OPEC oligopoly and maintains control on prices.

How Does Increasing U.S. Domestic Production Affect Prices?

U.S. oil production today is about 6.8 mbd, while consumption is about 18.6 mbd. Over the past four years, the U.S. has seen a rapid increase in domestic oil production; with an increase of 34% since January 2009.

While that sounds large, we see that as a part of the larger global oil market; that growth is only 1.5% of global oil production – and it was overwhelmed by global demand growth of 5.1 mbd in that same time period.

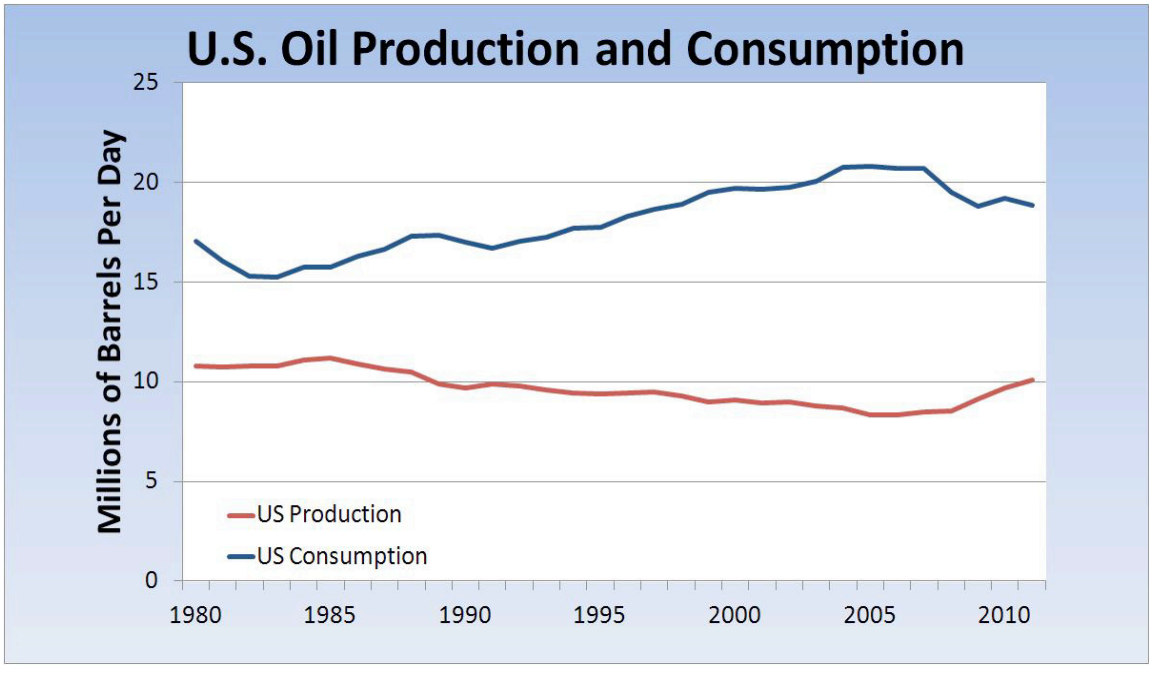
The U.S. is the world's single largest consumer of oil, but consumption has dropped by 15% over those same four years (Jan 2009 - present). However as America's share of oil consumption has waned, growth in oil consumption in countries like Brazil, China, and India has been faster than our decline.

There are two reasons why the growth in U.S. domestic production does not reduce oil prices.

First, the increased production is simply not large enough, in contrast to global supplies, to make a difference.

Second, for the most part, the new oil production brought on line over the past five years has a high extraction and investment cost, coming from either shale oil formations or deep offshore.

To generate an economic return, this new production relies on the high price of crude oil; if global crude prices collapsed, exploration companies would not make enough return on investment to justify drilling. This production requires a high price of crude oil to be economic; with lower prices, drillers simply would not make enough return on investment to drill.



The problem is that, with only 9% of global oil production, and demanding 20% of global production, changes in U.S. supplies or in U.S. demand cannot be large enough to move the global oil market.

How War – or Even the Threat of War – Drives Oil Prices

Wars can take oil off the global market. And the threat of war to global supplies is enough to drive up prices in anticipation of a conflict-related supply shock.

Libya: In 2011, the Revolution in Libya disrupted oil production, reducing that countries production by about 1.5mbd. This resulted in a significant price increase that pushed oil above $115 per barrel. Even though the U.S. relies on Libya for very little oil, American gasoline prices were pushed up because American-based refiners rely on the global oil market to purchase crude oil.

Iran: Tightened sanctions on Iran over its nuclear program, passed with bipartisan majorities of Congress, have had the effect of reducing that country's production by about 1 mbd. Saudi Arabia pledged to make up for any shortfalls, so there was little impact on global supply. Even so, prices have spiked upwards under speculation of conflict with Iran.

Iran's threat to the world oil market does not lie with the 2 mbd of oil it can produce. Instead, aggressive action by Iran could threaten the passage of over 15 mbd (17% of total world supplies) of oil from reaching world markets by closing the Strait of Hormuz to oil traffic. The very chance of such a catastrophic shock to global oil supplies has caused speculators to bid up the price of oil futures.

Can We Reduce Gasoline Prices?

Although this paper has proved that increased domestic drilling is not a way to reduce oil prices, either in the short or long term, there are ways to reduce oil prices, and there are ways to reduce the impact that high oil prices have on economic growth. None of them, however, are cost-free.

1. **The Strategic Petroleum Reserve** is the only "spare capacity" that the U.S. government controls. Releasing large amounts of oil from the SPR, especially in conjunction with allies around the world, would reduce prices in the short term. Unfortunately, draining the reserve in the face of high prices, not an actual disruption in supply, would undermine its ability to bridge actual supply gaps in the future.

2. **A Gasoline Tax Holiday** could reduce gas prices by 18.5 cents per gallon, but that reduction would be unlikely to last, and it would have the effect of undermining the Highway Trust Fund, from which highway improvements are funded, and would increase the U.S. Government's already large budget deficit.

3. **Restricting Exports of Refined Fuel Products** could reduce gas prices for a short time, as the U.S. has become a major exporter of refined fuels like gasoline and diesel. However, altering the free market in such a way would only cause refiners to reduce production of fuel.

4. **Limiting Financial Speculation** in the markets could remove the ability of traders to drive prices up – but it also removes the ability of short-selling traders to drive prices back down. Moreover, in a global oil market, limits on speculation in the U.S. would only drive traders to foreign centers like London.

5. **Diplomatic Measures to Reduce War Fears** would drive down the global price of oil dramatically, if true. A large amount of speculation in the market right now is in regards to the fear that a war with Iran will cause a disruption in markets. If the threat of war were reduced, that fear would ebb, and prices would go down.

Can We Reduce the Harm of High Oil Prices?

While there are few ways to reduce the price of oil that have no side-effects, there are ways to reduce the harm that high oil prices cause. Unfortunately, these are mostly medium to long-term solutions.

1. **Increased Auto Fuel Economy** – one of the most effective ways to reduce the harm that high oil prices cause is for individuals to buy more fuel efficient cars. The recent deal between the Automakers, the Unions, and the Government to double fuel economy standards by 2025 mean that the American economy is less harmed by price spikes.

2. **Changing to Alternative Fuels** – though not a short term measure, building the infrastructure and technology to have biofuels or other alternative fuels will enable consumers to switch fuels when the price goes up.

3. **Redesigning Infrastructure** – the U.S. is particularly harmed by oil price spikes because we have become so dependent upon cars for daily transportation. Reduced commutes and alternatives to cars, like mass transit, would give consumers the option of not using gasoline when the price spikes.

Due to the nature of the global market and supply of oil, the only way to reduce the harm of gas price increases is to use less of it.

Building a New American Arsenal

The American Security Project (ASP) is a nonpartisan initiative to educate the American public about the changing nature of national security in the 21st century.

Gone are the days when a nation's strength could be measured by bombers and battleships. Security in this new era requires a New American Arsenal harnessing all of America's strengths: the force of our diplomacy; the might of our military; the vigor of our economy; and the power of our ideals.

We believe that America must lead other nations in the pursuit of our common goals and shared security. We must confront international challenges with all the tools at our disposal. We must address emerging problems before they become security crises. And to do this, we must forge a new bipartisan consensus at home.

ASP brings together prominent American leaders, current and former members of Congress, retired military officers, and former government officials. Staff direct research on a broad range of issues and engages and empowers the American public by taking its findings directly to them.

We live in a time when the threats to our security are as complex and diverse as terrorism, the spread of weapons of mass destruction, climate change, failed and failing states, disease, and pandemics. The same-old solutions and partisan bickering won't do. America needs an honest dialogue about security that is as robust as it is realistic.

ASP exists to promote that dialogue, to forge consensus, and to spur constructive action so that America meets the challenges to its security while seizing the opportunities the new century offers.

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