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The Economic Case for Drilling Oil Reserves

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Energy is critical to the operation of our economy and the maintenance and improvement of our standard of living. Restricting access to energy hurts the economy, drives income down, and, of course, drives up prices of other goods. Opening access to our own petroleum reserves can help our economy as it helps restrain rising energy costs.

Petroleum Prices Hurt Economy. The past several years have seen a dramatic increase in the price of petroleum and petroleum products. The price of petroleum doubled in the past year, though it has eased in the past two months. The resulting increases in gasoline, diesel fuel, and heating oil prices directly impact household budgets while reducing jobs and income.

For example, the EPA estimates that a typical light vehicle travels 12,000 miles per year and averages about 20 miles per gallon.[1] Doing the math indicates that the typical vehicle uses about 600 gallons per year. Further, the Department of Transportation data show that the average household owns nearly two cars.[2] Therefore, the cost to the average household of a $1 per gallon price increase is about $1,100 per year. But the damage to the economy does not stop there.

Higher petroleum prices squeeze the production side of the economy from both the demand and the cost directions. Consumers' demand for output drops as they divert expenditures from other items to gasoline and heating oil. In addition, petroleum products are used to produce and distribute many goods and services.

Faced with these higher costs, producers try to raise their prices. But the lower demand prevents the prices from rising enough to completely offset cost increases. This leads to production cuts and, therefore, lower employment. In turn, these conditions put downward pressure on wages and salaries.

The effect of high petroleum prices in the U.S. is a weaker economy; the cause of the high petroleum prices is a change in supply and demand. In the past decade, worldwide demand for petroleum has grown faster than supply and has virtually erased spare capacity. With over 5 million barrels per day as recently as 2002, spare capacity has dropped below 2 million barrels per day in the past couple of years. When supply is pushed up against its capacity constraints, as it is now, additional demand in one part of the world can be met only with demand reductions elsewhere.

When there was spare capacity on the order of 3–5 million barrels per day, the demand of a new car owner in the developing world could be met with additional pumping from existing wells. With no spare capacity, fuel for a new driver can be provided only when the price rises high enough to force drivers elsewhere out of their cars. In this situation,

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slight changes in supply can also lead to large changes in price.

What If Petroleum Output Rose? Increasing domestic production of petroleum will affect the economy two ways: First, it will reduce the amount we spend on imported oil. Second, it will lower the price of petroleum. The two effects work together to reduce energy expenditures, reduce the trade deficit, and expand economic activity.

The impact of increased production on world petroleum prices depends on the market conditions into which the additional oil is supplied. In a letter to Representative Jack Kingston (R–GA) dated July 2, 2008, Guy Caruso, administrator of the Energy Information Administration, estimated each additional million barrels of oil would lower world price by $20 per barrel. This price impact is consistent with other recent research.[3]

Adjusting consumption of gasoline, heating oil, and other petroleum products is difficult for consumers to do in the short run. As a consequence, a 1 percent increase in price reduces consumption by only 0.05 percent. So a 1 percent change in supply requires a 20 percent change in price to bring markets back into balance. It is understood that the price impact would be smaller over time once the world economy fully adjusts to the increased production.

It seems probable that world petroleum markets, which are not currently in long-run equilibrium, will continue to see strong demand growth, especially over the long-run.[4] Nevertheless, if the world petroleum market eases significantly by the time this increased production comes on line, the price and economic impacts will be less pronounced. But this reduced impact would occur in a world that already had significantly lower petroleum prices.

Increasing domestic production by 1 million barrels per day would reduce imported petroleum costs by $123 billion, generate an additional $7.7 billion in economic activity, and cost $25.6 billion in additional oil production costs. The net gain to the economy would be $105 billion. The impact on employment would be an increase of 128,000 jobs.

Applying the same analysis to a 2 million barrel per day increase in domestic petroleum production yields net economic gains to the economy of 270,000 jobs and $164 billion.

Untapped Resources. The Artic National Wildlife Refuge (ANWR) and the off-limits part of the Outer Continental Shelf (OCS) are estimated to contain 28 billion barrels of petroleum. The 10 billion barrels estimated to be in ANWR are enough to fuel all the vehicles for 7.4 million households for 50 years. In addition, the Mineral Management Service conservatively estimates there are nearly 18 billion barrels of petroleum in the restricted areas of the outer continental shelf alone.[5]

While bringing an additional 1–2 million barrels per day of petroleum out of these resources is not a trivial enterprise, it could be done in less time than the decades often mentioned. A single platform in the Gulf of Mexico is slated produce one-quarter of a million barrels per day within the next year. Estimates claiming less than this amount from the whole OCS are not believable.

A bit of petroleum history is also worth reviewing. The Alaska Oil Pipeline took two years, two months, and four days from the first shovel of dirt

1. U.S. Environmental Protection Agency, "Emission Facts: Greenhouse Gas Emissions from a Typical Passenger Vehicle," EPA420-F-05-004, February 2005, at *http://www.epa.gov/oms/climate/420f05004.htm* (September 30, 2008).
2. U.S. Department of Transportation, Federal Highway Administration, "Distribution of Vehicles and Persons per Household," at *http://www.fhwa.dot.gov/ohim/hiq/bar2.htm* (September 30, 2008).
3. See Jonathan E. Hughes, Christopher R. Knittel, and Daniel Sperling, "Evidence of a Shift in the Short-Run Price Elasticity of Gasoline Demand," NBER Working Paper No. 12530, September 2006.
4. In its most recent Mid-Term Oil Market Report, the International Energy Agency projects a return to spare capacities of less than 2 million barrels per day after a slight easing over the next two years. See International Energy Agency, "Medium-Term Oil Market Report," July 2007, at *http://omrpublic.iea.org/currentissues/mtomr2007.pdf* (October 1, 2008).
5. U.S. Department of the Interior, Minerals Management Service, "Oil and Gas Resources in OCS Areas Unavailable for Leasing and Development," revised May 2007, at *http://www.mms.gov/revaldiv/PDFs/OilandGasResources0507.pdf* (October 1, 2008).

until completion. This engineering marvel covers 800 miles, crosses three mountain ranges, and traverses 800 rivers and streams.[6] Within 24 months of completion, the pipeline throughput reached 1.5 million barrels per day. ANWR is about 75 level miles from the head of this pipeline, which has over 1 million barrels of unused capacity right now.

In addition, billions of barrels of petroleum are located close by under the waters off the southern California coast—much of which can be tapped with existing oil infrastructure and horizontal drilling from onshore.

Drilling Will Not Hurt. We cannot drill our way out of all energy problems, but we can certainly lower petroleum prices if we commit to developing our own resources instead of blocking access to them. Modern technology allows for safe and clean extraction of petroleum. There is no need to become ever more dependent on unfriendly and unreliable foreign producers when we have billions of barrels of petroleum in our own back yard.

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6. Alyeska Pipeline Service Company, "Pipeline Quick Facts," updated May 9, 2008, at *http://www.alyeska-pipe.com/pipelinefacts.html* (September 30, 2008).