

Congress of the United States

U.S. House of Representatives

Committee on Small Business

2361 Rayburn House Office Building

Washington, DC 20515-6315

Memorandum

To: Members, Subcommittee on Economic Growth, Tax and Capital Access
From: Committee Staff
Date: June 22, 2012
Re: Hearing, "High Fuel Prices: The Impact on Illinois Small Businesses and Job Creators."

On Monday, June 25th, at 10 a.m. the Subcommittee on Economic Growth, Tax and Capital Access will meet to discuss the effects of high gasoline prices on small businesses in Illinois. The hearing, "High Fuel Prices: The Impact on Illinois Small Businesses and Job Creators," will take place at Hampton Estates Village Hall, 1900 Hassell Road, Hoffman Estates, IL 60169.

Background

The use of petroleum products, particularly oil and gasoline, is a ubiquitous part of a modern, developed society. Petroleum is used in nearly every aspect of life from fuel for cars, trucks, and planes, to the manufacture of plastics, clothing, food additives, and medicines.¹

Petroleum is the number one energy source in the United States, in part due to its high energy density, transportability and relative abundance.² Refined petroleum-based products are the primary fuels used in transportation.³ In the United States, oil represents 94 percent of the energy used in transportation, but only one percent of the energy used to generate electric power.⁴

Since petroleum-based products are used for transportation fuel, the price of crude oil directly affects the price of gasoline and other transportation fuels. Between January 19, 2009, and June 11, 2012, the average national price of a gallon of regular grade gasoline rose from \$1.847 to \$3.572.⁵ While gasoline prices have moderated somewhat from their previous high of \$3.960

¹ UNIVERSITY OF TEXAS PETROLEUM EXTENSION SERVICES, FUNDAMENTALS OF PETROLEUM 1 (5th ed. 2011).

² Institute for Energy Research, Energy Overview, Petroleum (Oil), *available at* <http://www.instituteforenergyresearch.org/energy-overview/petroleum-oil>.

³ http://www.eia.gov/energy_in_brief/major_energy_sources_and_users.cfm. In terms of quadrillion British Thermal Units (BTUs), petroleum supplies 37% of total energy, while natural gas supplies 25%, coal supplies 21%, nuclear electric power supplies 9%, and renewable energy supplies 8%. *Id.*

⁴ *Id.*

⁵ http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMM_EPMR_PTE_NUS_DPG&f=W.

reached in May 16, 2011, the price of gasoline is still 93 percent higher than it was on January 19, 2009.⁶ Given the importance of transportation to the United States economy, the Committee is interested in how rising prices for crude oil and fuel-based derivatives thereof affect, directly and indirectly, America's small businesses.

What Determines the Price of Oil?

Oil is a globally-traded and fungible commodity, the price of which is determined by global supply and demand. According to the Energy Information Administration, approximately two-thirds of the cost of transportation fuels stems from the cost of crude oil.⁷

The market for oil tends to be forward-looking, meaning that prices are affected by future expectations as well as current supply and demand. Given the forwardness of the market, prices are less volatile when there is significant spare production capacity.⁸ The converse is also true; supply and demand that is in balance with little extra production capacity creates higher prices and more volatility.⁹ For example, during the most recent United States economic recession, the price of a barrel of crude oil fell to as little as \$30.28 as global demand for oil declined by three million barrels a day while spare production capacity was large.¹⁰

The supply and demand for oil are relatively inelastic, meaning that neither supply nor demand respond proportionally to changes in its price, at least in the short term.¹¹ For consumers that use petroleum-based fuels for transportation have few alternatives to reduce demand. Fuel efficient vehicles may be out of economic reach and substituting public transportation generally is available in only a few locations. Similarly, many oil producers may be unwilling to make a risky investment in new production unless they anticipate higher prices in the long-run.¹²

The Current Market for Oil

As mentioned above, oil is sold in global markets and its price is primarily determined by future expectations and current supply and demand fundamentals. On the demand side, global oil consumption is growing. While demand in the United States declined from 19.5 million barrels per day (mbd) in 2008 to 18.83 mbd in 2011,¹³ global oil demand has increased from 84 mbd in

⁶ *Id.*

⁷ <http://www.eia.gov/petroleum/gasdiesel/>

⁸ Robert McNally & Michael Levi, *A Crude Predicament*, FOREIGN AFFAIRS, at 102, July/Aug. 2011 (hereinafter "A Crude Predicament"). According to the authors, conventional wisdom has it that excess reserve capacity equal to at least five percent of supply provides a robust buffer against surprise developments in the market.

⁹ *Id.* These characteristics explain why prices can jump if there is perceived or real instability in an oil-producing region.

¹⁰ INTERNATIONAL ENERGY AGENCY, OIL MARKET REPORT, TABLE 1, available at <http://omrpublic.iaea.org/tablearchive/searchres.asp?select5=2009&Submit222=Submit>. Note, this fall in price was only temporary. OPEC responded to this event by reducing supply. *A Crude Predicament*, *supra* note 8, at 103.

¹¹ <http://www.becker-posner-blog.com/2011/06/fluctuations-in-oil-prices-speculation-and-strategic-reserves-becker.html>.

¹² *A Crude Predicament*, *supra* note 8, at 105.

¹³ <http://205.254.135.7/cfapps/ipdbproject/IEDIndex3.cfm?tid=50&pid=54&aid=2>.

the second quarter of 2008 to 88.3 mbd in the fourth quarter of 2011. The International Energy Agency (IEA) has forecast global demand to be 89.9 mbd in 2012.¹⁴ Most of this growth in demand can be attributed to consumption growth outside the member nations of the Organization of Economic Cooperation and Development (OECD), particularly China, India and Saudi Arabia.¹⁵

Unfortunately, supply continues to be restrained. While United States production of crude oil increased by 1.571 mbd between 2008 and 2011, overall global oil production has increased by a mere 1.613 mbd.¹⁶ The IEA estimates that global supply in March 2012 was 90.3 mbd.¹⁷ Therefore, global spare production capacity is less than five percent of demand, signaling a tight market.

Given the lack of excess capacity and the inelasticity of demand, purchasers fear that a supply disruption in one part of the global supply chain could result in ripple effects across the whole market.¹⁸ For years, the spare production capacity of OPEC members, especially Saudi Arabia, has been expected to act as a cap on prices by increasing supply during periods of volatility.¹⁹ However, many oil market analysts have begun to question the willingness or ability of OPEC members to provide additional excess capacity to the market, especially as the cost of producing and holding this excess capacity grows.²⁰ It is for these reasons that many advocate an increase in domestic and world oil production, within and outside OPEC, as a solution to high prices.

What Determines the Price of Gasoline?

According to the Energy Information Agency, approximately 67 percent of the cost of a regular gallon of gasoline is derived from the price of crude oil, about 11 percent is from federal and state excise taxes, 16 percent is the result of refining and the remaining six percent is the result of distribution and marketing.²¹ As the single highest cost component of gasoline, the price of crude oil and changes in the global market have the most influence on its price.

In addition, federal regulations can have an effect on the price of gasoline. For example, the Clean Air Act (CAA) requires states and local communities to meet certain EPA-developed ambient air quality standards. As part of this effort, the EPA requires refiners to formulate special blends of gasoline that reduce emissions of particular hazardous air pollutants in certain

¹⁴ <http://omrpublic.iea.org/currentissues/full.pdf>.

¹⁵ <http://www.eia.gov/finance/markets/demand-nonoecd.cfm>.

¹⁶ U.S. ENERGY INFORMATION AGENCY, INTERNATIONAL ENERGY STATISTICS, *available at* <http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=5&pid=55&aid=1&cid=regions&syid=2008&eyid=2011&unit=TBPD>.

¹⁷ <http://omrpublic.iea.org/currentissues/full.pdf>.

¹⁸ DANIEL YERGIN, THE QUEST: ENERGY, SECURITY, AND THE REMAKING OF THE MODERN WORLD 276 (2011).

¹⁹ A Crude Predicament, *supra* note 8, at 101.

²⁰ *Id.* at 103.

²¹ <http://www.eia.gov/petroleum/gasdiesel>.

areas of the country.²² Given the limited production runs of such fuels, refiners incur greater costs to manufacture them. At times when the demand and supply of refined fuels is tight, reformulated gas requirements could result in higher gasoline prices in certain markets that suffer from unusually high levels of air pollution during certain parts of the year.

Small Business Concerns

High fuel prices can affect the economic health of small businesses in myriad ways. The extent of the impact depends on whether small businesses operate in industries where fuel prices are a significant component of the cost of providing goods and services. Irrespective of the impact on the production function of businesses, higher fuel prices also may modify the basket of goods that consumers buy thereby reducing demand for products and services offered by small business.

For example, small businesses in certain industries, like trucking and other delivery-based businesses where fuel prices are a significant expense, likely will feel the direct effects of increases in fuel prices. According to one estimate, every five-cent increase in the cost of fuel increases a truck driver's operating costs by \$1,000.²³ Many small businesses operate on thin margins, and an increase in the cost of one business expense, such as fuel, can mean the difference between a business operating at a profit or a loss.²⁴

Small businesses generally have less flexibility to reduce the effects of rising input costs. Large business may be able to: raise the price of their goods or services; negotiate discounts with suppliers; or adopt sophisticated hedging strategies to reduce their exposure to high input costs. Small businesses, on the other hand, rarely have market power to pass on costs to customers,²⁵ or negotiate lower prices with suppliers. Nor do they have the financial acumen or resources to purchase derivatives to hedge against input cost increases. As a result of this reduced flexibility to address rising input costs, the median commercial sector industry has a small entity energy cost per sales ratio that is 2.7 times greater than that of larger industries.²⁶

In addition to the aforementioned direct effects, rising fuel costs also impose indirect economic effects on small businesses. As previously mentioned, high fuel prices also induce shifts in the

²² <http://www.epa.gov/otaq/fuels/gasolinefuels/rfg/index.htm>.

²³ *The American Energy Initiative: A Focus on Gas Prices: Hearing Before the Subcomm. on Energy and Power of the H. Comm. on Energy and Commerce*, 112th Cong. (2012) (testimony of Chris Milburn at 4), available at <http://republicans.energycommerce.house.gov/Media/file/Hearings/Energy/20120307/HHRG-112-IF03-WState-MilburnC-20120307.pdf>.

²⁴ *Id.* at 4-5.

²⁵ Michelle Hirsch, *How Gas Prices Are Still Slamming Small Business*, THE FISCAL TIMES, April 23, 2012, available at <http://www.thefiscaltimes.com/Articles/2012/04/23/How-Gas-Prices-Are-Still-Slamming-Small-Business.aspx#page>.

²⁶ ANDY BOLLMAN, OFFICE OF ADVOCACY, UNITED STATES SMALL BUSINESS ADMINISTRATION, CHARACTERIZATION AND ANALYSIS OF SMALL BUSINESS ENERGY COSTS 2 (2008) (SBAHQ-06-M-0475), available at <http://archive.sba.gov/advo/research/rs322tot.pdf>. The study examined 31 commercial sectors and derived the median energy costs based on these 31 sectors. *Id.* at 28.

basket of goods and services consumers buy. When consumers must devote more of their income to gasoline purchases, they have less money available to spend on non-essential purchases. For example, a March 2012 survey by the American Automobile Associations estimated that 33 percent of survey respondents planned to scale down their spring travel plans.²⁷ Similarly, restaurants and other retailers often report declines in sales during periods of high prices as consumers eat out less or put off purchasing new clothes or other non-durable goods.

Combining direct and indirect costs means that increased energy prices may have disproportionate impacts on small businesses. According to a recent survey by the Small Business & Entrepreneurship Council, 72 percent of small businesses report some difficulties as the result of rising fuel prices. Of these businesses, 41 percent report that they have altered hiring plans and 22 percent have cut back on employee hours.²⁸ These more recent findings buttress those of the National Federation of Independent Business which found that fuel costs, including gasoline, were the second highest source of concern to small businesses.²⁹

Solutions to High Fuel Prices

If high demand and limited supply result in higher crude oil prices, then one potential solution is to increase supply. Such supply increases with constant demand and a forward-looking market will result in lower prices and reduced volatility. Alternatively, if supply is held constant and demand for crude oil goes down, the result will also be lower prices and less volatility in the market.

In terms of increasing supply, the United States contains significant quantities of technically recoverable onshore and offshore oil resources.³⁰ Most of these resources are located on lands or in waters controlled by the federal government and have not been open for significant fossil fuel energy exploration or development.

²⁷ *Harnessing American Resources to Create Jobs and Address Rising Gasoline Prices: Family Vacations and U.S. Tourism Industry: Hearing Before United States House Comm. on Natural Resources*, 112th Cong. (2012) (testimony of Mark Brown at 2), available at <http://naturalresources.house.gov/UploadedFiles/BrownTestimony03.27.12.pdf>.

²⁸ SMALL BUSINESS AND ENTREPRENEURSHIP COUNCIL, *ENTREPRENEURS AND THE ECONOMY STUDY* (March 2012).

²⁹ BRUCE PHILLIPS AND HOLLY WADE, *SMALL BUSINESS PROBLEMS AND PRIORITIES* 12, NATIONAL FEDERATION OF INDEPENDENT BUSINESS (June 2008), available at <http://www.nfib.com/Portals/0/ProblemsAndPriorities08.pdf>.

³⁰ Proved reserves are the quantities of hydrocarbons estimated with reasonable certainty to be commercially recoverable from known fields and reservoirs under current economic and regulatory conditions. Undiscovered economically recoverable resources are hydrocarbons in undeveloped and unexplored fields and reservoirs that are assumed to exist on the basis of geologic knowledge and theory, while undiscovered technically recoverable resources are quantities assumed to exist on the basis of geologic knowledge and theory, but without consideration of economic viability. UNITED STATES DEPARTMENT OF INTERIOR, *SURVEY OF AVAILABLE DATA ON OCS RESOURCES AND IDENTIFICATION OF DATA GAPS, REPORT TO THE SECRETARY, OCS REPORT MMS 2009-015, APPENDIX A, LIST OF TERMS USED*, available at <http://www.doi.gov/archive/ocs/report.pdf>.

For instance, the United States Department of Interior estimates there are 85.88 billion barrels of technically recoverable crude oil located in federal waters along the Outer Continental Shelf (OCS) of the United States.³¹

The United States also contains significant undeveloped onshore crude oil resources, much of which is located on federal lands. In a multiagency report, the Departments of Interior, Agriculture and Energy estimated federal lands contained 24.2 billion barrels of undiscovered technically recoverable resources.³²

In order to access these lands for oil development, producers must first secure leases and permits to drill. However, a previous hearing by the Committee on Small Business found that the federal government routinely denies or limits access to lands and waters containing potential oil deposits, imposes significant and sometimes costly stipulations on oil drilling and production activities, or fails to approve permits to drill in a timely manner. These barriers significantly reduce the potential to produce more domestic crude oil.

Another strategy to increase supply is to encourage the use of alternative transportation fuels that supplement or supplant the use of crude oil-based fuels. For example, vehicles that run on a combination of ethanol and gasoline, especially at high ethanol-to-gasoline concentrations, could be a strategy to supplement oil-based fuel stocks. In contrast, vehicles that run on electric power or natural gas would, for the most part, supplant the use of refined crude oil as a transportation fuel. Finally, efforts to promote efficiency, such as increasing federal excise taxes on gasoline to encourage consumers to purchase more fuel efficient vehicles or undertaking investments in new mass transit systems that provide an alternative to travel by vehicle, could, assuming no major decline in crude oil production, increase the amount of excess reserves in the market, thus reducing prices and price volatility.

The efficacy of these strategies, either alone or in combination, as a means to reduce the cost of oil-based transportation fuels is dependent on a number of factors the discussion of which is beyond the scope of this memorandum. However, in addition to the above mentioned benefits, it should also be acknowledged that each of these strategies carry their own downsides and risks.

For instance, increasing oil production could result in adverse effects on the environment, the quality of life of residents in local communities where drilling takes place, and the effects of airborne pollutants when crude oil is produced, refined and burned as a transportation fuel. While modern production practices and technologies can minimize environmental effects, they

³¹ UNITED STATES DEPARTMENT OF INTERIOR, MINERALS MANAGEMENT SERVICE, REPORT TO CONGRESS: COMPREHENSIVE INVENTORY OF U.S. OCS OIL AND NATURAL GAS RESOURCES, vii (2006), available at <http://www.boemre.gov/revaldiv/PDFs/FinalInventoryReportDeliveredToCongress-corrected3-6-06.pdf>.

³² DOI, UNITED STATES DEP'T OF AGRICULTURE & U.S. DEP'T OF ENERGY, INVENTORY OF ONSHORE FEDERAL OIL AND NATURAL GAS RESOURCES AND RESTRICTIONS TO THEIR DEVELOPMENT, PHASE III INVENTORY- ONSHORE UNITED STATES viii (2008), available at http://www.blm.gov/pgdata/etc/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION_/energy/EPCA_Text_PDF.Par.18155.File.dat/Executive%20Summary%20text.pdf

cannot be eliminated entirely. Also, while increased oil production has brought economic benefits to many communities, including local small businesses, where drilling takes place, it can also lead to new strains on local resources and infrastructure.³³

Similarly, efforts to reduce demand could also result in unwelcome effects. For example, if government decided to reduce demand via an increase in the excise tax on gasoline, consumers could respond by cutting back on the purchase of other goods and services. In addition, given the inability of current government revenues to meet current obligations, the federal, state and local governments may find it difficult to invest public transportation projects without increases in taxation or cuts in other spending priorities, since many of these systems require significant government investment to not only construct, but to subsidize ongoing operation expenses.

Conclusion

High fuel prices may have adverse economic effects on certain parts of the American economy, including small businesses that rely on consumer spending. Given that high fuel prices are the result of global supply and demand fundamentals, the United States federal government should pursue an energy policy that combines increasing the supply of oil with strategies to reduce oil-based fuel consumption.

In expanding crude oil supply, the United States should allow producers access to potential onshore and offshore oil resources. While such access is unlikely to ever supplant foreign oil imports into the United States, it is important to remember that the price American's pay for crude oil is based on global supply and demand fundamentals and any policy which contributes to global supply, holding all else constant, should increase global reserve capacity.³⁴

In terms of expanding the total supply of liquid transportation fuels, the federal government should continue research into liquid transportation fuels that can supplement or even supplant the use of oil-based fuels. Ethanol and biodiesel are two such fuels that can more easily be utilized by current fleets of vehicles to supplement crude oil supply, while the growing availability of natural gas and improvements in battery technology that improves their output and lowers their cost may make them fuels that could supplant crude oil. Unfortunately, at this time, the alternative fuels industry continues to struggle to meet the ability to produce supplemental alternative fuels on a commercial scale and it could take decades in order to build an adequate infrastructure to support large-scale use of natural gas powered or all electric vehicles.

In terms of reducing demand, the government should consider new investments in public transportation systems, provided the revenues these systems would generate through ridership are adequately sufficient to minimize, if not eliminate, the commitment of public resources to

³³ Ryan Holeywell, *North Dakota's Oil Boom Is A Blessing And A Curse 1*, GOVERNING August 2011, available at <http://www.governing.com/topics/energy-env/north-dakotas-oil-boom-blessing-curse.html>.

³⁴ Additionally, the federal government would realize new revenues from the sale of leases and the payments of royalties on produced crude oil.

construction and operating expenses. To assist in this goal, it could ease many of the environmental assessment and permitting requirements associated with the construction of large-scale public transportation systems to reduce their cost.