



Rising Gasoline Prices 2012

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March 1, 2012

Congressional Research Service

7-5700

www.crs.gov

R42382

CRS Report for Congress

Prepared for Members and Committees of Congress

Summary

Average national gasoline prices have increased by \$0.46 to \$3.78 per gallon between the end of December 2011 and the end of February 2012. This is \$0.20 higher than the 2011 average annual gasoline price of \$3.58 per gallon. In the first half of 2011, unrest in the Middle East and North Africa contributed to higher crude oil prices, which pushed gasoline prices higher. In early 2012, tensions with Iran are contributing to rising crude prices, which again are pushing up the price of gasoline.

Higher gasoline prices burden the budgets of households and businesses. Higher gasoline costs can increase indebtedness or reduce spending on other goods and services. They also yield a windfall for crude oil producers because the rise in gasoline prices is driven primarily by higher crude oil prices. The revenue increase is primarily for crude oil production as opposed to refining; crude oil is a cost for the refining business.

Crude oil prices are the main determinant of gasoline prices. A key issue affecting crude oil prices in recent months has been uncertainties around supply stemming from tensions with Iran as new U.S. and European Union (EU) sanctions come into place. Unrest in several small oil producers has also led to supply disruptions. Also, there are persistent concerns about the adequacy of global supply in the face of sustained demand growth in emerging economies. Recent refinery closures in the United States, Europe, and elsewhere may also contribute to higher gasoline prices, particularly in parts of the East Coast.

Many of the policies that may address rising gasoline prices are long term. Investments that produce or consume oil, such as new oil fields, pipelines, cars, or factories, are capital intensive and long term in nature. There are limited short-term options available to policy makers to address gasoline price increases. This report briefly covers several short-term options that have been considered by policy makers:

- strategic petroleum reserve release,
- gasoline tax holiday,
- relaxing fuel specifications,
- restricting refined products exports,
- limiting financial speculation,
- diplomatic measures.

It is unclear what the price impact of these short term options would be, and they involve various policy trade offs. Potential costs may include national security, fiscal, and public health priorities.

An additional set of option focuses on longer-term measures that may prevent negative impacts if gasoline prices rise in the future. Policy makers may choose to focus on measures that encourage efficiency, oil production, and alternative fuels. Pursuit of long-term measures in the absence of short-term measures, to the degree short-term measures may (or may not) be effective, may make it more likely that consumers will suffer from high gasoline prices for the time being. However, higher prices may also provide additional market based-incentive for investments by consumers and firms in efficiency, energy production, and alternative fuels.

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Background

Since 2008, U.S. gasoline consumers have been faced with three periods of sharply rising prices. The first ran from February to July 2008 when gasoline prices peaked at \$4.11 per gallon. The second ran from February to May 2011 when gasoline prices peaked at \$3.96 per gallon. The most recent period of price increases began in December 2011 and by the week of February 27, 2012, prices hit \$3.78 per gallon.^{1,2}

U.S. gasoline consumers are sensitive to rapidly increasing gasoline prices because they are highly visible, and the inelasticity of short-run gasoline demand means that consumer budgets may bear the full effect of the increased price.³

Beyond the effects on individual consumers, rapidly increasing gasoline prices can have larger implications. Because consumers have few short-run substitutes for gasoline, their increased fuel costs show up quickly as reduced expenditures on other goods and services, or as increased consumer debt. Reduced expenditures by consumers on a wide range of goods and services can slow economic growth, endangering the recovery of the economy in 2012.⁴

High gasoline prices drive up the profitability of the oil industry, whose profit levels tend to follow movements in the price of oil and petroleum products, including gasoline.⁵ Additionally, when the price of gasoline rises, the prices of the entire slate of petroleum products tends to rise. They are all affected by the price of crude oil and the demand for all products is affected by economic growth. These products include diesel fuel, home heating oil, jet fuel, lubricants, and propane, among others. As a result, transportation costs of all types come under cost pressure, raising the prices of a wide variety of goods that are shipped, including food, clothing and other necessary products.

Gasoline Price Increases

The data in **Table 1** show the U.S. monthly average retail price of gasoline in the United States from 2008 through February 2012. The price increases of 2008 resulted in a 34% increase in price over the five month period from February through July. The effect of price increases may also include an expectation generating effect. Consumers may not feel that they know when, and if, the price increases may end, and at what ultimate price level. As a result, they may engage in purchases and alterations in plans that may not be appropriate if the price increases reverse themselves.

¹ All gasoline price data used in this report are a composite U.S. average price for all grades and all formulations of gasoline. Source: Energy Information Administration (EIA), *Weekly Retail Gasoline and Diesel Prices*, February 27, 2012, http://www.eia.gov/dnav/pet/pet_pri_gnd_a_epm0_pte_dpgal_w.htm.

² A fourth period of increase since 2008 occurred in the first half of 2009, though this may better be viewed as a rebound from sharp declines in late 2008. See **Table 1**.

³ Price elasticity is measured as the percentage change in quantity demanded divided by a specified percentage change in price. Inelasticity means that the quantity response is less on a percentage basis than the change in price.

⁴ For more background about the impacts of oil prices on the economy, see CRS Report R42024, *Oil Price Fluctuations*, by Neelesh Nerurkar and Mark Jickling.

⁵ For an analysis of oil industry profitability see CRS Report R42364, *Financial Performance of the Major Oil Companies, 2007-2011*, by Robert Pirog.

The gasoline price increase during the first half of 2011 resulted in a 21% increase in prices over a period of only three months. The price increases from December 2011 through February 2012 resulted in nearly 10% increase.

Table I. Monthly Average Retail U.S. Gasoline Prices

Dollars per gallon; multi-month periods of increase in bold

	2008	2009	2010	2011	2012
January	3.095	1.840	2.769	3.148	3.440
February	3.078	1.975	2.699	3.264	3.640
March	3.293	2.011	2.824	3.615	
April	3.507	2.102	2.900	3.852	
May	3.815	2.316	2.890	3.960	
June	4.105	2.681	2.785	3.735	
July	4.114	2.582	2.782	3.705	
August	3.833	2.670	2.783	3.696	
September	3.756	2.609	2.757	3.667	
October	3.112	2.605	2.853	3.506	
November	2.208	2.706	2.913	3.443	
December	1.745	2.663	3.048	3.326	
Average	3.299	2.406	2.835	3.576	

Source: U.S. Energy Information Administration (EIA).

Note: February 2012 data are based on the first three weeks of the month.

Although small so far compared to the other recent episodes of increasing prices, uncertainty concerning how high prices will rise creates concern among consumers. Some are speculating that \$5 per gallon gasoline is possible during the second quarter of 2012, which can create additional uncertainty.⁶

Prices tend to be higher than the national average in some local markets. Los Angeles appears to be experiencing among the highest prices with an average of \$4.40 per gallon during the week of February 27, 2012. Miami had prices of \$3.94, while New York City had prices averaging \$3.84. In contrast, prices are lower in parts of the Gulf Coast, Midwest, and Rocky Mountain regions; gasoline in Denver is \$3.18.

Why Gasoline Prices Have Increased

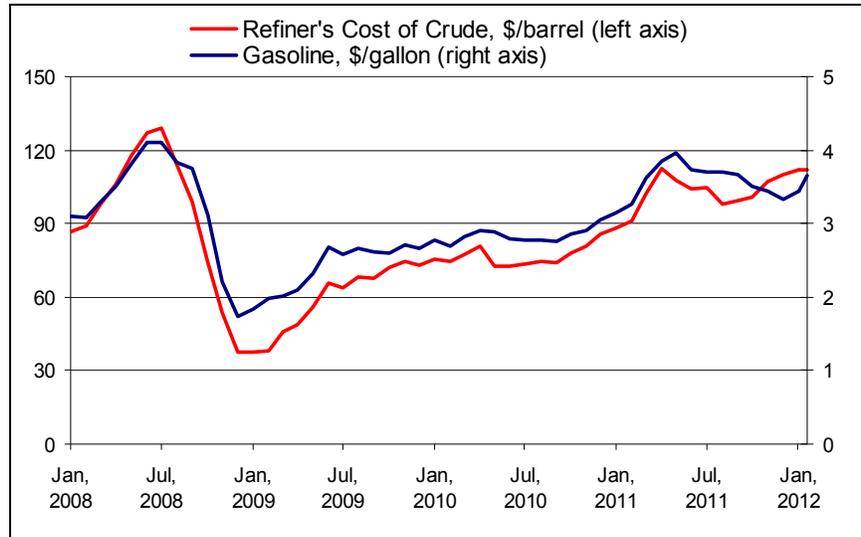
The primary determinant of gasoline price changes is changes in the price of crude oil. According to EIA, the cost of crude oil made up about 76% of the cost of gasoline in December 2011.⁷ As

⁶ ABC News Report, *Gas Prices Could Skyrocket After Iran Tensions*, aired on February 21, 2012, available at <http://www.abc.com>.

⁷ For 2011 on average, the share was about 68%. Crude's share rises as the cost of crude climbs if the cost of other (continued...)

illustrated in **Figure 1**, gasoline prices generally track the price of crude oil. Crude oil prices had been increasing from late 2011, particularly from November 2011 through February 2012. Gasoline price increases followed shortly thereafter.

Figure 1. Crude Oil Costs and Gasoline Prices



Source: EIA.

Notes: Refiners Acquisition Cost (RAC) of Crude until December 2012. 2012 values extrapolated based on changes in WTI. Gasoline price is national average, all grades, all formulations.

Why Crude Oil Prices Increased

Figure 1 shows how rising crude prices in the first half of 2011 corresponded to higher gasoline prices.⁸ That increase was due at least in part to unrest in Libya and elsewhere in the Middle East and North Africa. In early 2012, developments around Iran and their implications for global oil supply have been a key factor in recent oil and gasoline price changes. Sustained demand growth in emerging economies and several other factors have also played a role.

A series of developments around Iran are likely contributing to higher crude oil prices. The European Union (EU) elected to ban Iranian oil imports by July 1, 2012. Additional U.S. and EU sanctions have made it more difficult for Iran’s customers to finance and insure Iranian crude shipments.⁹ Japan, South Korea and others are reducing imports of Iranian crude to avoid U.S. sanctions on foreign banks that deal with Iran’s Central Bank.¹⁰ Iran’s largest customers, China and India, have publicly rejected non-U.N. sanctions. China reduced imports from Iran in January

(...continued)

components (refining, distribution and marketing, and taxes) remain the same or rise by less. Energy Information Administration, *Gasoline and Diesel Fuel Update*, February 21, 2012, <http://www.eia.gov/petroleum/gasdiesel/>.

⁸ CRS Report R41683, *Middle East and North Africa Unrest: Implications for Oil and Natural Gas Markets*, by Michael Ratner and Neelesh Nerurkar.

⁹ Isaac Arnsdorf, “EU’s Iran Sanctions Curb Asian Insurance for Crude Tankers,” February 26, 2012.

¹⁰ Sanctions were included in provisions of the National Defense Authorization Act for Fiscal Year 2012 (P.L. 112-81).

2012; this may have been to press for a discount on oil.¹¹ India reportedly increased imports in January, and has negotiated to pay for some Iranian imports in Indian rupees instead of dollars.¹² However, some Indian companies may be having difficulties finding shippers willing to transport crude from Iran.¹³ For more on Iran sanctions, see CRS Report RS20871, *Iran Sanctions*, by Kenneth Katzman. Tightening sanctions have prompted Iranian officials to threaten closing the Strait of Hormuz, a critical thoroughfare of the global oil trade. For more about this, see CRS Report R42335, *Iran's Threat to the Strait of Hormuz*, coordinated by Kenneth Katzman and Neelesh Nerurkar.

Developments that reduce, reshuffle, or create risks to oil supply can contribute to higher crude oil prices. Those no longer buying Iranian crude oil are looking for supplies from elsewhere, potentially bidding up the cost of oil. Those who continue to buy crude from Iran may be able to negotiate a discount as Iran has fewer customers to choose from, but it is unclear whether the Iranians have been willing to offer such a discount, though they do appear ready to be flexible on other payment terms, such as currency. If these adjustments take place, it could reduce pressure on global oil prices. If instead Iranian oil supply is shut-in as a result of Iran not being able to find buyers, this could reduce global oil supply and create a more durable impact on global oil prices.

There are additional concerns about the adequacy of global supply. Unrest has reduced production from several smaller producers in recent months, including South Sudan, Yemen, and Syria.¹⁴ Oil production from the newly independent Republic of South Sudan has shut down due to transit fee disputes with the Republic of Sudan (North Sudan).¹⁵ Saudi Arabia, which holds most of the world's spare oil production capacity, has stated that it stands ready to make up for supply disruptions elsewhere. However, some worry that Saudi Arabia does not have as much spare capacity as it claims (others disagree), and there is concern that if oil trade through the Strait of Hormuz were disrupted, that this additional Saudi supply would have little way to reach international markets.¹⁶

While global oil supply is slated to grow from numerous sources, including from the United States, new production takes time. In the short run, oil supply is inelastic to prices, which means supply is slow to ramp up in the face of an oil price spike, even if it makes such production profitable. There is a long lead time for investment to yield higher output. (Some investors may fear that prices may have eased by the time the new oil is actually produced.) The exception is oil produced from existing spare capacity, which is mostly held by Saudi Arabia, as mentioned earlier.

Meanwhile, global demand has reached new highs. According to EIA, global oil consumption is expected to grow at an above trend rate, led entirely by emerging economies, despite rising oil prices.¹⁷ Some such as China continue to experience strong oil demand growth, due largely to

¹¹ Judy Hua and Chen Aizhu, "China's Jan crude oil imports from Iran down 14 pct m/m," *Reuters*, February 21, 2012.

¹² Benoit Faucon, "India Lifts Imports of Iran's Oil," *Wall Street Journal*, February 9, 2012.

¹³ "Global sanctions on Iran impact India's oil imports," *India Today*, February 29, 2012.

¹⁴ "Brent crude oil below \$124, supply worries support," *Reuters*, February 24, 2012.

¹⁵ For background, see CRS Report R41900, *The Republic of South Sudan: Opportunities and Challenges for Africa's Newest Country*, by Ted Dagne.

¹⁶ CRS Report R42335, *Iran's Threat to the Strait of Hormuz*, coordinated by Kenneth Katzman and Neelesh Nerurkar.

¹⁷ In its February *Short Term Energy Outlook* (<http://www.eia.gov/forecasts/steo/index.cfm>) EIA projects global consumption growth of 1.3 Mb/d in 2012 versus a 10-year average of 1.0 Mb/d.

their rapidly expanding economies. Several one-off events may also be contributing to a tighter supply demand balance: Japan is using more oil in power generation to offset nuclear outages and China may be adding crude oil to its own new strategic petroleum stockpile.¹⁸ European oil demand was boosted in February 2012 due to colder weather.¹⁹

Global developments may be difficult to understand from the U.S. perspective, where oil production is rising, demand growth remains weak, and no oil is imported from Iran. However, the market for oil is globally integrated; events anywhere can affect oil prices. The United States imported almost no oil from Libya prior to unrest there in 2011. However, when refineries elsewhere that did buy Libyan crude had to find oil from elsewhere, they bid up global oil prices. A similar effect may be taking place as customers shift away from Iranian oil. While U.S. imports have declined in recent years, the United States remains the world's largest oil importer.²⁰ Further, recent positive economic data for the United States point to a recovering economy,²¹ which also may mean recovering demand for gasoline and other oil products. Just as concerns about future supply disruptions can drive up prices, so too can concerns that oil demand will be greater than previously anticipated.

Refinery Closures

Reflecting the reduction in U.S. gasoline demand that began after the gasoline price increases of 2008, and in conjunction with the recession, refinery capacity utilization rates fell from an average of 86% in 2008 to 83.6% in 2009. This decline contributed to a reduction in profitability in the refining industry. Although profitability increased in 2010 and 2011, this varies by region. Refining economics are better in the Midwest, which has access to relatively low cost crude, and the Gulf Coast, which has sophisticated refineries and the option to export refined products. In contrast, conditions are not as profitable on the East Coast. Two large oil refiners in the Northeast, Sunoco and ConocoPhillips, have decided to sell or close refining assets.

Sunoco announced the closure of its Marcus Hook, Pennsylvania refinery on December 1, 2011, followed by ConocoPhillips's closure of its Trainer, Pennsylvania, refinery later that month. Sunoco also plans to sell, or close, its Philadelphia refinery. Together, these three refineries comprise over 50% of refining capacity in the Northeast. EIA observed that higher wholesale price margins would be required in the Northeast to draw supplies from other areas to make up for the loss in refining capacity.²²

Europe, a major source of U.S. gasoline imports, has also experienced a reduction in refining capacity recently. It has been reported that Petroplus, the largest European independent refiner, has begun shutting down three of its five refineries.²³ (As a result of these closures, Europe may also seek to draw greater supplies of diesel fuel from U.S. refineries.) Separately, the Hovensa

¹⁸ International Energy Agency, *Oil Market Report*, February 11, 2012, <http://www.iea.org>.

¹⁹ Gene Ramos et al., "Brent jumps to 6-month high on Europe cold snap," *Reuters*, February 6, 2012.

²⁰ CRS Report R41765, *U.S. Oil Imports: Context and Considerations*, by Neelesh Nerurkar.

²¹ Rana Foroohar, "Is America's Economic Recovery Real?," *Time*, February 21, 2012.

²² Energy Information Administration, *Reductions in Northeast Refining Activity: Potential Implications for Petroleum Products Markets*, December 23, 2011, p.2.

²³ "Refinery Closures Raise Fears on Oil Prices," *Financial Times*, January 12, 2012.

Refinery in the U.S. Virgin Islands is also closing.²⁴ Most U.S. refined product imports from Europe and the Virgin Islands go the East Coast.

These refining industry developments reflect a realignment of the industry toward Asia and the Middle East, and away from weaker growth markets. The result may be a period of higher consumer petroleum product prices as markets adjust to the new demand and supply balance. To the degree that gasoline from alternative sources has to travel farther to reach markets like the U.S. East Coast, higher transportation costs could contribute to higher prices at the pump, though the impact is likely to be secondary relative to the general impact of rising crude prices. Refineries also require periodic maintenance, normally scheduled for the winter months when gasoline demand tends to be relatively low. The combined effect of refinery closures and maintenance could be a contributing factor to higher gasoline prices.

Short Term Policy Options Are Limited

Oil production- and consumption-related investments are long term in nature, such as new oil fields, pipelines, passenger cars and trucks. This makes many policy options long term in nature, requiring several years or even decades to implement. Short-term policy options that may reduce the cost of gasoline are limited and can entail difficult national security, economic, fiscal, and public health trade-offs. Several options that have been considered by policy makers are briefly discussed below.

Strategic Petroleum Reserve Release

To provide a readily available short term policy option, Congress created the Strategic Petroleum Reserve (SPR) in the Energy Policy and Conservation act of 1975 to be used in case of “severe energy supply interruptions.” The policy was established in reaction to the 1973-1974 Arab oil embargo. The government-owned SPR currently holds 696 million barrels of crude oil, equivalent to roughly 77 days’ worth of imports at 2010 import levels.²⁵ The SPR has a maximum capacity of 727 million barrels. The crude oil is stored in five underground salt domes in Texas and Louisiana. The government also holds 2 million barrels of heating oil in above-ground storage in the Northeast Home Heating Oil Reserve (NHOR).²⁶ The President has the authority to release oil from the SPR. There have been three emergency SPR releases: in 1990-1991 around Iraq’s invasion of Kuwait and Operation Desert Storm, after Hurricanes Katrina and Rita in 2005, and in June 2011 in response to a prolonged loss of oil from Libya. In addition, there have been a number of SPR exchanges, test sales, and non-emergency sales.²⁷ For more information on the

²⁴ Eric Watkins, “Hovensa to close 500,000 b/d Virgin Islands refinery,” January 18, 2012.

²⁵ The amount of oil held in the SPR is frequently described as a fraction of U.S. daily average imports. Were SPR oil released, it can only be pumped at a maximum rate of 4.4 Mb/d for up to 90 days. Then the drawdown rate begins to decline as storage caverns are emptied. At full capacity, the SPR can send oil to the market for about 180 days.

²⁶ The Heating Oil Reserve is held to supplement commercial heating oil supplies should the heavily heating oil-dependent North East region be hit by a severe heating oil supply disruption. Since its creation in 2000, the Heating Oil Reserve has not been used for emergency purposes. Oil has been sold from the Heating Oil Reserve for budgetary reasons and to convert inventories to fuel with lower sulfur content. For more details, see <http://www.fossil.energy.gov/programs/reserves/heatingoil/index.html>.

²⁷ See list at <http://www.fe.doe.gov/programs/reserves/spr/spr-drawdown.html>.

SPR, see CRS Report R41687, *The Strategic Petroleum Reserve and Refined Product Reserves: Authorization and Drawdown Policy*, by Anthony Andrews and Robert Pirog.

SPR releases can be coordinated with the International Energy Agency (IEA), whose members have also committed to hold strategic reserves.²⁸ More than 4 billion barrels of oil are held in stocks of IEA members, of which 1.6 billion barrels are held by member governments. Another 2.6 billion barrels are held by companies in IEA countries.²⁹ European IEA members meet most of their commitment to hold strategic reserves by mandating that industry hold stocks for emergencies. Most of Europe's stock holdings are in the form of refined products, in contrast to strategic stocks held by IEA members in North America and the Pacific, which are largely in the form of crude oil and held by governments. IEA government-held stocks could be brought to market at a maximum rate of 14.4 Mb/d in the first month of an IEA collective action.³⁰ The three emergency SPR sales listed above were all coordinated actions with the IEA.³¹

The SPR provides a short term tool to respond to supply disruptions at home or abroad. But what constitutes a significant enough supply disruption, or whether the SPR should be used to reduce oil prices, is debated. Previous emergency releases and IEA coordinated actions have been in response to physical disruptions to crude oil supply, although there is precedent of releases in non-emergency situations. As mentioned above, there are some smaller disruptions taking place right now in Syria, Sudan, and Yemen. The potential loss of Iranian exports to the market is not a physical disruption in the sense of the historic examples. Nonetheless, sanctions policy appears to be having a similar effect and some argue that releasing the SPR could reduce upward pressure on the prices of oil by increasing supply.³² In doing so, it could contribute to reducing gasoline prices.

On the one hand, releasing crude oil from the SPR leaves less oil to use in case there are future disruptions and leaves open the risk that the SPR may have to be refilled at higher prices in the future. On the other hand, being too cautious about the use of the SPR may mean its full value is never utilized. Further, market participants, including oil exporting countries, may discount the possibility that the United States would use this policy tool.

²⁸ The United States and other members of the Organization for Economic Co-operation and Development (OECD) agreed to hold strategic reserves and coordinate their use through the 1974 Agreement On An International Energy Program treaty (<http://www.iea.org/about/docs/IEP.PDF>). The treaty established the International Energy Agency (IEA) to carry out this coordination. IEA members are required to hold 90 days' worth of oil imports in reserve and coordinate their use. The United States counts commercial inventories to satisfy the remainder of the 90-day requirement not met by the SPR.

²⁹ International Energy Agency, *IEA Response System for Oil Supply Emergencies*, 2011, http://www.iea.org/textbase/nppdf/free/2011/response_system.pdf.

³⁰ International Energy Agency, *Fact Sheet: IEA Stocks and Drawdown Capacity*, February 25, 2011, http://www.iea.org/files/Potential_IEA_Stockdraw_Capacity.pdf.

³¹ As more of the world's oil is being consumed by developing countries, some of those nations have started to develop strategic stocks. Both China and India are building strategic stockpiles of oil. The IEA has engaged with them to explore opportunities for coordination should a strategic release become necessary.

³² Philip K. Verleger, *Using US Strategic Reserves to Moderate Potential Oil Price Increases from Sanctions on Iran*, Peterson Institute for International Economics, February 2012, <http://www.iie.com/publications/interstitial.cfm?ResearchID=2048>.

Gasoline Excise Tax Holiday

During periods of high gasoline prices, some have proposed the motor fuel excise tax be temporarily suspended. Virtually all transportation fuels are taxed under a complicated structure of excise tax rates and exemptions that vary by transportation mode and fuel type. Gasoline used in highway transportation is taxed at a rate of 18.4 cents per gallon. The tax revenue is earmarked for the Highway Trust Fund (18.3 cents per gallon) and the Leaking Underground Storage Tank Trust Fund (0.1 cents per gallon). The Highway Trust Fund, already under financial pressure in recent years, would be in increased danger of being unable to carry out its mission in the wake of a gasoline tax holiday. Concerns about the loss of revenue to the Highway Trust Fund, along with worries that its impact on prices would be limited and it could drive up consumption, contributed to opposition to calls for a gasoline tax holiday during the gasoline price run-up of 2008.

The market response to a cut in the excise tax would be a tendency to reduce consumer prices by an amount less than or equal to the tax cut. Issues related to market structure and economic conditions may result in refiners not passing on the full benefit of the tax reduction to consumers.

Relax Fuel Specifications

Federal regulations have more stringent specifications for gasoline in the summer when higher temperatures can more readily cause gasoline to contribute to “smog” or ground level ozone formation. In conjunction, certain parts of the country with particularly poor air quality have additional gasoline specifications either as required by the Clean Air Act or as part of state plans to meet National Ambient Air Quality Standards (NAAQS) authorized by the Clean Air Act. Gasoline meeting summer blend or more specific standards can be more difficult and expensive to produce.³³ Regionally dividing the U.S. gasoline market into “boutique fuels” may also add to costs by adding logistical difficulties and raise the susceptibility of these smaller regions to price spikes in the event of regional disruptions.

Producing gasoline that meets federal summer blend requirements and state and federal requirements for certain areas with poor air quality is more difficult than conventional winter blend gasoline. Meeting these standards may limit what components may be used to make gasoline. Some European refiners that can make winter blend U.S. gasoline may not be able to make summer blend gasoline, potentially limiting imports.³⁴ Some have suggested that relaxing these standards may reduce gasoline costs. This was done briefly in 2005 after Hurricanes Katrina and Rita, which forced closure of refineries and pipelines.³⁵ Relaxing these standards long-term may require states that use special blends as part of their plan to meet NAAQS to come up with alternative—potentially more commercially costly—means to meet air quality targets. Or, NAAQS requirements themselves could be relaxed, but this would result in greater smog and impose public costs. Either of these actions may require an amendment to the Clean Air Act. For more see CRS Report RL31361, “*Boutique Fuels*” and *Reformulated Gasoline: Harmonization of Fuel Standards*, by Brent D. Yacobucci.

³³ Basically, refiners cannot blend in as much of certain hydrocarbons that may be less expensive but also evaporate relatively easily, thus contributing to smog.

³⁴ Tom Kloza, “Gasoline Cipherin’ and Gezintas,” Oil Price Information Service, February 3, 2012, <http://blogs.opisnet.com/archive/2012/02/03/gasoline-cipherin-and-gezintas.aspx>.

³⁵ CRS Report RL33124, *Oil and Gas Disruption From Hurricanes Katrina and Rita*, by Lawrence Kumins and Robert Bamberger.

Restricting Refined Product Exports

The United States became a net exporter of finished motor gasoline in 2010, meaning that it exported more than it imported. However, when import and export of finished motor gasoline and motor gasoline blending components are included, the United States continues to be a net gasoline importer.³⁶ Nonetheless, the rising export of gasoline and other refined products in recent years has raised concerns and prompted some to call for restrictions on exports as a means of reducing domestic fuel prices. (The United States remains a large net oil importer because it is a large net importer of crude oil.³⁷)

Export of finished motor gasoline increased from 136,000 b/d in 2005 to 478,000 b/d in 2012.³⁸ Preliminary data suggest that finished motor gasoline exports have averaged about 600,000 b/d in the first seven weeks of 2012. For context, U.S. gasoline consumption is about 8.7 million b/d. Most gasoline exports, nearly 60% in 2011, went to Mexico. At least some of these exports are processed at refineries that themselves are importing crude oil from Mexico.³⁹ Apart from Mexico, the remainder went almost entirely to other countries in the Western Hemisphere or Europe. Nearly all of these exports came from the Gulf Coast region (PADD 3), which has the largest concentration of U.S. refining capacity.

While the export of crude oil is generally prohibited by statute,⁴⁰ there are almost no domestic restrictions on refined product exports.⁴¹ Under provisions of the Energy Policy and Conservation Act (EPCA), the President has the authority to restrict the export of petroleum products though this authority has never been exercised.⁴²

U.S. international trade commitments may limit the ability to prohibit exports. The General Agreement on Tariffs and Trade (GATT), to which the United States is a signatory, prohibits members from maintaining prohibitions or quotas on the exportation of any product. However,

³⁶ Finished motor gasoline exports come primarily from the U.S. Gulf Coast. Imports of gasoline blending components are primarily into the East Coast. Gasoline blending components are naphthas (e.g., straight-run gasoline, alkylate, reformate, benzene, toluene, xylene) used for blending or compounding into finished motor gasoline. These components include reformulated gasoline blendstock for oxygenate blending (RBOB) but exclude oxygenates (alcohols, ethers), butane, and pentanes plus. (http://www.eia.gov/dnav/pet/TblDefs/pet_move_wkly_tbldef2.asp). One barrier to selling more crude oil from the Gulf Coast to the East Coast may be a statutory requirement that all waterborne shipping between points within the United States be carried by vessels built in the United States, owned by U.S. citizens, and manned with U.S. citizen crews. The supply of tankers that meet this criteria are limited. For more on this issue, see CRS Report RS21566, *The Jones Act: An Overview*, by John Frittelli.

³⁷ For background, see CRS Report R41765, *U.S. Oil Imports: Context and Considerations*, by Neelesh Nerurkar.

³⁸ Total oil products exports averaged nearly three million barrels a day in 2012, of which the large portion was distillates, such as diesel. EIA, "Exports," February 28, 2012, http://www.eia.gov/dnav/pet/pet_move_exp_dc_NUS-Z00_mbb1pd_m.htm.

³⁹ For instance, a Pemex subsidiary owns 50% of the Deer Park Refinery in Texas. Deer Park processes significant quantities of Pemex's Maya heavy crude oil and Pemex buys back 50% of the gasoline produced at Deer Park to meet Mexican demand. While Mexico is significant crude oil exporter, it lacks sufficient refining capacity to process enough fuels for domestic demand. Source: Carlos Manuel Rodriguez, "Pemex Seeks to Buy 'Significant' U.S. Refining Asset This Year, CEO Says," Bloomberg, March 9, 2011.

⁴⁰ Domestically produced crude oil cannot be exported as per provisions of the Energy Policy and Conservation Act as well as several other statutes. There are a few exceptions including for crude of foreign origin, crude exports to Canada, or where the President determines it is in the national interest to allow exports (15 CFR 754.2).

⁴¹ An exception is products refined from crude oil in the Naval Petroleum Reserve (15 CFR 754.3).

⁴² 42 U.S.C. 6212 (a).

this prohibition contains an exception for temporary measures to prevent critical shortages of foodstuffs or other essential products. The GATT also contains general exceptions including for conservation of exhaustible natural resources if in conjunction with limits on domestic production and consumption, and export restrictions posed in conjunction with price stabilization plans. Separately, under Article 605 of the North American Free Trade Agreement (NAFTA), the ability to restrict exports to Canada is more limited than under GATT. (Mexico is not party to Article 605.) However, NAFTA signatories may invoke Article 2102, which provides a general exception to NAFTA provisions for national security purposes. For more on this, see CRS Congressional Distribution Memorandum “Possible Trade Agreement Implications of Import and Export Restrictions on Oil and Natural Gas,” by Jeanne Grimmett.⁴³

To what degree prohibiting gasoline exports would reduce prices is unclear. Some contend that there may be a decline in gasoline prices if gasoline exports were restricted. Others suggest there will be no decline in gasoline prices if such measures were adopted.⁴⁴ Export proponents may point out that the import of relatively less expensive crude oil and the export of relatively more expensive refined products can support economic growth.

Without the option to export, refiners that had been exporting gasoline may either find a way to sell additional volumes within the United States or operate at lower levels of capacity utilization. The former option may to some degree require discounting gasoline to sell it into the domestic market, but this is limited by the latter—if refiners cannot buy crude, process it, and sell products at a profit, they will curtail operations.⁴⁵ Gasoline consumption is relatively “inelastic” (unresponsive) to price and more responsive to income and economic growth: It may take large discounts in price to try to sink additional volumes into a weak economy. Some may argue that sufficient discounts may be uneconomic for refiners to carry out, and that such refiners would instead reduce production.⁴⁶ While how this may play out is uncertain, what is clear is that any impact on gasoline prices would be bounded by the price of crude oil, which is the main driver of higher gasoline prices as described above.

Instead of prohibiting exports, some have suggested a federal tax, tariff or duty on exports. However, these are generally prohibited by Article 1, section 9 of the U.S. Constitution, which states that “No Tax or Duty shall be laid on articles exported from any State.”

Limit Financial Speculation

Some consider price movements such as those of 2008, early 2011, and so far in 2012 to be more extreme than warranted by oil supply and demand. Their explanation for unstable commodity prices focuses on financial markets for derivatives contracts linked to the price of oil—futures, options, and swaps. Some derivatives trading is by commercial hedgers, companies using

⁴³ Available by request.

⁴⁴ American Petroleum Institute, “More domestic oil key to addressing higher gasoline prices,” press release, February 22, 2012, <http://www.api.org/news-and-media/news/newsitems/2012/feb-2012/more-domestic-oil-key-to-addressing-higher-gasoline-prices.aspx>.

⁴⁵ Crude oil is an input to refining, so higher crude prices represent higher costs to refiners, not profits—though they may represent higher profits for the upstream arm of integrated oil companies that both produce crude and refine it.

⁴⁶ One option that may help refiners sustain production in the face of gasoline export restrictions may be the continued ability to export diesel, for which there strong demand abroad. Stopping all refined product exports, instead of gasoline alone, may make it more likely that refiners reduce capacity utilization.

derivatives to offset the risk from the business of producing, processing, transporting, distributing, or using oil. However, many market participants are pure financial speculators, who never deal in physical oil, but earn large profits if they can correctly forecast price trends.⁴⁷

Between December 2011 and February 2012, noncommercial participants in financial markets increased the balance of their bets (i.e., “net length,” the difference between long and short positions in futures, options, and swaps) that the price of oil and gasoline will increase.⁴⁸ In February 2012, noncommercial net length in the main New York Mercantile Exchange (NYMEX) crude oil contract approached levels last seen in the Spring of 2011, when unrest in the Middle East and North Africa was threatening global oil supply. Noncommercial net length in the main NYMEX gasoline contract reached an all-time high in February 2012. According to reports, these trends are at least in part motivated by anticipation around Iran tensions.⁴⁹ The NYMEX gasoline contract may also be boosted by expected price changes following closure of refineries serving the Northeast (the contract is based on gasoline delivered into New York).

Some suggest there is causation—that capital inflows from financial investors can themselves bid up the price of oil and gasoline.⁵⁰ Opponents argue that there is no empirical evidence of financial investors causing an increase in oil prices; that they may just be following oil prices which are rising for fundamental reasons.⁵¹ Still others argue that, while fundamentals are the main driver of oil prices, financial investment can lead to prices overshooting levels justified by fundamentals for short periods of time.⁵² Although the relationship between speculation and commodity prices has been studied extensively, consensus has not emerged as to whether speculative trading causes unusual oil price volatility.

Congress included several provisions in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (P.L. 111-203) that would affect the trading of energy derivatives. It included measures that aim to increase market transparency, expand federal anti-manipulation authority, and establish position limits. Full implementation of relevant Dodd-Frank provisions by the Commodity Futures Trading Commission (CFTC) have been delayed due to the complexity of reforms.⁵³ Of particular interest to some policy makers has been the delay in implementing position limits—restrictions on how large a position a trader can accumulate in derivatives markets (excludes bona fide hedgers). The CFTC adopted a final position limits rule on October 18, 2011.⁵⁴ The rule took effect on January 17, 2012; however, market participants are not

⁴⁷ CRS Report R41986, *Speculation, Fundamentals, and Oil Prices*, by Rena S. Miller and Neelesh Nerurkar.

⁴⁸ LCM Commodities, “CFTC: Commitment of Traders Report – February 24, 2012,” February 24, 2012.

⁴⁹ Bill Banker and Richard Stubbe, “Iran Drives Hedge Fund Oil Bets to 10-Month High: Energy Markets,” February 27, 2012, as reported in the San Francisco Chronicle.

⁵⁰ U.S. Congress, Senate Committee on Energy and Natural Resources, Subcommittee on Energy, *Speculative Investment in Energy Markets*, Committee Print, 110th Cong., 2nd sess., September 16, 2008, pp. 10-12.

⁵¹ Because oil supply and demand do not respond much to price changes, at least in the short-term, some argue that relatively small changes in supply or demand can trigger significant price movements. An interagency task force led by the CFTC found that the 2003-2008 increase in oil prices was largely due to fundamental supply and demand factors. Interagency Task Force on Commodity Markets, “Interim Report on Crude Oil Markets,” July 2008, <http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/itfinterimreportoncrudeoil0708.pdf>.

⁵² Marco J. Lombardi and Ine Van Robays, *Do Financial Investors Destabilize the Oil Price*, European Central Bank, Work Paper Series Number 1346, June 2011, <http://www.ecb.int/pub/pdf/scpwps/ecbwp1346.pdf>.

⁵³ See CFTC progress on implementing Dodd-Frank at <http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/022912doddfrankupdate.pdf>.

⁵⁴ 17 CFR Parts 1, 150 and 151.

required to comply until CFTC completes several other actions. Limits would apply to 28 core physical commodity contracts—including the NYMEX Light Sweet Crude Oil contract, the NYMEX New York Harbor Gasoline Blend contract, and the NYMEX New York Harbor Heating Oil contract—and economically equivalent futures, options, and swaps. Limits will be applied in two phases.⁵⁵

- *Spot-month position limits.*⁵⁶ Spot-month limits will be effective sixty days after the term “swap” is further defined under the Dodd-Frank Act. The limits adopted at that time will be based on the spot-month position limit levels currently in place at designated contract market. Thereafter, the spot-month limits on energy commodities are to be adjusted biennially. These subsequent limits are to be based on the Commission’s determination of deliverable supply.
- *Non-spot-month position limits* (i.e., limits applied to positions in all contract months combined or in a single contract month). For energy contracts, the limits are to be made effective by CFTC order after it has received one year of open interest data on physical commodity cleared and uncleared swaps under the swaps large trader reporting rule. The non-spot-month limits are to be adjusted biennially based on open interest in the reference contract.

CFTC Chairman Gary Gensler discussed the timing of actions necessary before position limits can go into effect. He expects the CFTC will finalize jointly with the Securities and Exchange Commission the further definition for the term swap (Product Definition rule) this Spring. He stated the year of data collection on swap open interest—data needed to apply position limits formulas—runs through August 2012.⁵⁷

For additional information on speculation in oil markets, see CRS Report R41986, *Speculation, Fundamentals, and Oil Prices*, by Rena S. Miller and Neelesh Nerurkar.

Separately, for information of illegal pricing of physical oil, see CRS Report RS22236, *Gasoline Price Increases: Federal and State Authority to Limit “Price Gouging”*, by Adam Vann and Kathleen Ann Ruane. For manipulation of physical markets or the impact of exchange rates, see CRS Report R42024, *Oil Price Fluctuations*, by Neelesh Nerurkar and Mark Jickling.

Diplomatic Measures

If sanctions aimed at stopping Iranian nuclear development contribute to higher oil prices, relaxing such measures could reduce oil prices. However, many find the national security implications of this option unacceptable, and some have suggested that that a greater medium- and long-term risk to the oil market may be an Iran with nuclear weapons capabilities.⁵⁸

⁵⁵ Adapted from “Fact Sheet: Final Regulations on Position Limits for Futures and Swaps,” Office of Public Affairs, Commodity Futures Trading Commission, http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/pl_factsheet_final.pdf.

⁵⁶ The spot month contract is the contract nearest to expiry, usually this is the contract that expires the following month.

⁵⁷ U.S. Congress, House Committee on Agriculture, *The Commodity Futures Trading Commission 2012 Agenda*, 112th Cong., 2nd sess., February 29, 2012.

⁵⁸ Testimony of Robert McNally, U.S. Congress, House Committee on Foreign Affairs, Subcommittee on Terrorism, Nonproliferation, and Trade, *Changing Energy Markets and U.S. National Security*, 112th Cong., 1st sess., December 16, 2011.

Diplomatic measures are currently focused on isolating Iran and reducing its oil income as a means to deterring its development of nuclear capabilities.

In the past, diplomatic measures to reduce oil prices have focused on convincing OPEC members to increase oil production. Saudi Arabia, the only major holder of spare oil production capacity, has already signaled a willingness to increase supply to offset the impact of sanctions.⁵⁹ For more on diplomatic issues around current Iran concerns, see CRS Report RS20871, *Iran Sanctions*, by Kenneth Katzman.

Conclusions

Gasoline prices have been driven up by rising crude oil prices, which are responding to supply worries, particularly around Iran and the Middle East, as well as sustained demand growth in emerging economies. It is unclear how these factors will develop; if they result in supply disruptions or if demand grows faster than anticipated, it could result in additional crude price increases. Alternatively, if geopolitical tensions subside or global economic growth weakens, crude prices could fall, bringing gasoline prices down with them.

Many of the policies that can address the impact of rising gasoline prices on consumers are long-term in nature due to the long-term nature of investments which produce or consume energy. Many short-term options face competing national security, public health, and fiscal priorities. And it is uncertain how significant an impact any of them may have and if other developments, such as those mentioned above, may offset impacts.

An additional set of option focuses on longer-term measures that may prevent negative impacts if gasoline prices rise in the future. Policy makers may choose to focus on measures that encourage efficiency, oil production, and alternative fuels. Pursuit of long-term measures in the absence of short-term measures, to the degree short-term measures may (or may not) be effective, may make it more likely that consumers will suffer from high gasoline prices for the time being. However, higher prices may also provide additional market based-incentive for investments by consumers and firms in efficiency, energy production, and alternative fuels.

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⁵⁹ “Oil minister: Saudi Arabia can make up for Iranian crude,” *CNN*, January 16, 2012.