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Gasoline Price Surge Revisited: Crude Oil and Refinery Issues

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December 23, 2004

Abstract. As gasoline prices rise, the matter is becoming more visible and politicized, resulting in calls for some sort of public policy remedy. Among the options discussed is release of crude from the Strategic Petroleum Reserve, a complicated measure with a list of pros and cons, and the relaxation of EPA rules regarding gasoline composition.

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Summary

Since late 2002, gasoline prices have been extremely volatile, with the national average spiking above $1.70 three times. Most recently, the nationwide pump price for regular fuel set a new record as momentum carried it over $2.00 per gallon. Prices in some states — reaching a high of $2.45 per gallon in California — are much above the national average. In addition to the market forces affecting pump prices in the United States, the Organization of Petroleum Exporting Countries (OPEC) announced a production cut effective in January 2005. At a minimum, this is likely to support crude prices; crude prices have significant impact on prices at the pump.

Apart from higher crude oil prices, gasoline prices are strongly influenced by the supply and demand situation at the pump. Since 1999, the only growth in U.S. oil consumption has been increased gasoline demand, which has risen by 600,000 barrels per day to a current annual average of 9.0 million barrels per day. While this might seem to be a relatively small amount, it has directly increased demand for imports of foreign gasoline, since U.S. refineries have not added capacity as gasoline demand has grown. Demand for imported gasoline now exceeds one million barrels per day.

In addition to the high demand for imported gasoline, the quality of gasoline sought from foreign refiners has become a factor. As the specifications for environmentally acceptable fuel have become more stringent, the complexity of manufacturing "U.S. spec" gasoline has increased. Not all refiners can economically make fuel that meets domestic requirements. U.S. gasoline marketers seeking imports must shop world markets for a scarce commodity; accordingly, prices are high. These high-priced incremental supplies play an important role in determining prices at the pump, because all gasoline tends to be priced by the market at the cost of the last units supplied.

Other factors contributing to the pump price situation include the state of gasoline and crude oil inventories at U.S. refineries. Both are recovering from low levels. Gasoline inventories available for consumption amount to less than two days of supply. Crude oil stocks — from which gasoline consumed is replaced — are still at low levels, although rebounding somewhat from last winter's record lows. Petroleum inventories are low because global oil supplies are tight, in part due to strong demand, especially in Asia. OPEC production policy is a consideration as well.

As gasoline prices rise, so does interest in finding some sort of public policy remedy that would return lower and more stable prices. Among the options generally discussed are a release of crude from the Strategic Petroleum Reserve and the relaxation of Environmental Protection Agency rules regarding gasoline composition. Both are controversial, with the wisdom and effectiveness of each challenged by some.

This report will be updated to reflect significant changes in the factors impacting gasoline markets and prices.

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Introduction

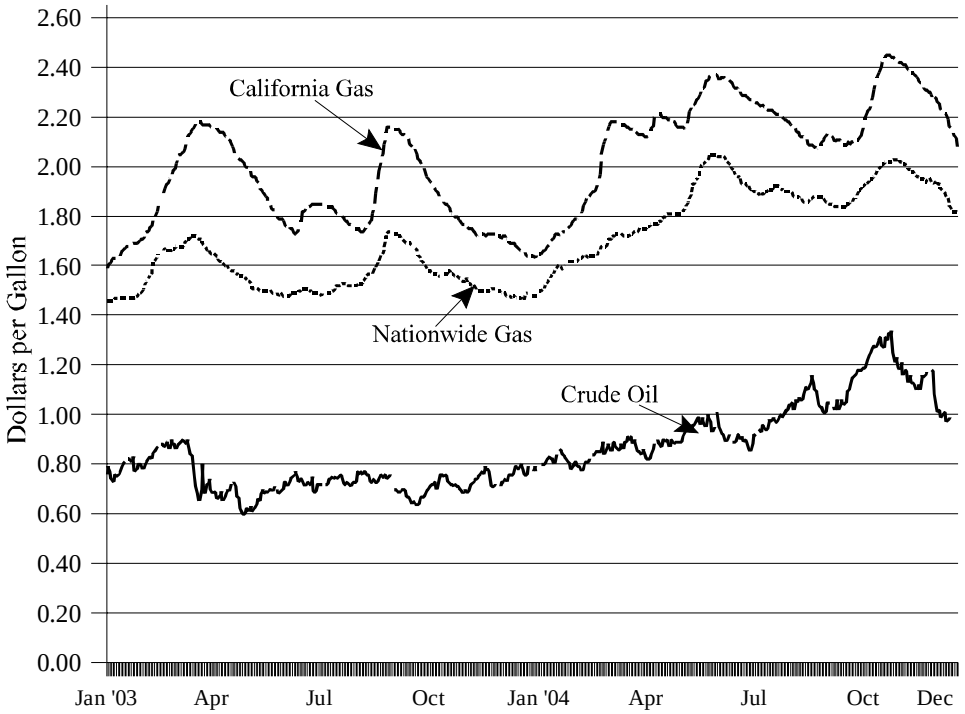
Gasoline prices have been extremely volatile for nearly two years, with three significant price spikes focusing the attention of consumers and policy makers on the gas pump. With 2004 national average gasoline prices setting a record of $2.05 per gallon (/gal) in mid-May — breaking the old summer 2003 record of $1.74/gal — gasoline market developments have been viewed with concern, even with a year-end decline to $1.80/gal. Crude oil prices also rose sharply during 2004, briefly exceeding $55 per barrel on the spot market. Despite a pullback, crude prices for 2004 remained above levels last seen when Kuwait was invaded during the 1990-1991 Gulf Crisis.

By mid-May, the crude oil price increase to almost $42 per barrel accounted for as much as 20 cents per gallon of a total increase at the pump of 43 cents since the end of 2003. Simply stated, pump prices are essentially determined by the supply of and demand for gasoline, although the cost of crude figures into the equation. Other supply-side factors leading to high prices relate to the ability of domestic refineries to meet growing gasoline demand. With no new domestic refinery built for a quarter century, the nation relies on imports for roughly 11% — 1 million barrels per day (mbd) — of its 9 mbd gasoline needs. As U.S. gasoline specifications to meet clean air standards become tougher for all refiners to meet, the supply of foreign fuel available to U.S. importers is not always immediately available. In addition to meeting U.S. specifications, foreign supply difficulties include long in-transit time, and the cost and availability of vessels suitable for refined product transport have become tight. These factors have contributed to gasoline prices exceeding the observed increase in crude oil cost during much of 2004. As a consequence, while the increase in crude prices stands out, increased gasoline prices have a greater profile, drawing attention to the nation's energy situation.

Gasoline Prices

According to the American Automobile Association (AAA) daily survey of retail gasoline prices around the country, gasoline prices at the pump nationwide have exceeded previous records. Since the start of 2003, prices at the gas pump have fluctuated by as much as 55 cents per gallon, and reached peaks above $1.70 three times. **Figure 1** shows pump prices for the United States as a whole and California, where both price levels and peaks exceed the national averages — a result of various local conditions. California pump prices peaked in October at $2.45 for regular.

Figure 1. Daily Prices per Gallon for California and Nationwide Retail Gasoline and for Crude Oil, Jan. 2003 - Dec. 2004



Sources: Retail gasoline prices: Oil Price Information Service, *Daily Fuel Gauge Report* online, sponsored by the American Automobile Association, [http://www.fuelgaugereport.com].
Spot oil prices: EIA, *Weekly Petroleum Status Report*, Table 14.
[http://www.eia.doe.gov/oil_gas/petroleum/data_publications/weekly_petroleum_status_report/wpsr.html]

Also shown on **Figure 1** are crude oil prices for the benchmark NYMEX traded crude oil, West Texas Intermediate (WTI, for delivery at Cushing, OK). This is often referred to as the "spot market" price; the weighted average cost of different types of crude used by refiners tracks the NYMEX price, although it generally averages less than this benchmark. Gasoline is manufactured from crude oil, and this price series provides a baseline comparison between retail prices, wholesale prices (excluding tax), and raw material cost. When gasoline prices peaked in May, crude oil averaged more than $40 per barrel on the NYMEX, the equivalent of 95 cents per gallon, an increase of about 19 cents from the December 2003 average of $32 per barrel. Crude oil prices fluctuate markedly on a daily basis, posing a difficulty in updating the figures cited here.

While an oversimplification, every gallon of gasoline requires a gallon of crude added to refinery input. For much of the **Figure 1** time frame, crude oil prices track national average pump prices reasonably closely. But the peaks in gasoline prices — spring, late summer 2003, and more recently in May 2004 — exceeded what could be attributed to increased crude costs. While crude oil price increases are generally passed through to the gas pump on a penny-for-penny basis, and help explain much of the change in gasoline prices, the divergence between gasoline at the pump and crude points toward changed gross margins in refining and marketing. This is due to the fundamental supply and demand situation for gasoline, relating specifically to an

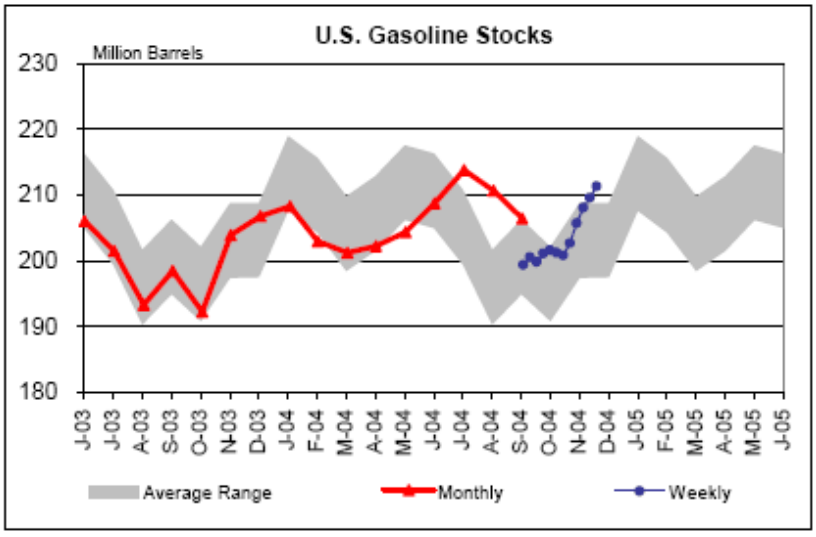
imbalance between the two that is resolved by a change in price. The most recent price spike seen in Figure 1 — taking place in fall 2004 — appears to coincide with an increase in crude prices. The coincidence here suggests that high gasoline prices seen in September and October 2004 may have been driven by crude cost push, rather than demand pull at the pump.

Rising gasoline prices often elicit questions about the federal government's ability to intervene in the market and roll back price hikes. It must be kept in mind that gasoline prices are not currently regulated, and there is no statutory authority to do so. A period of price controls, accompanied by supply allocation requirements, was in effect from August 15, 1971, until January 20, 1981. Those controls were often associated with shortages, resulting in episodes of long lines at gas pumps. In retrospect, it is not clear that the price controls resulted in retail prices that were lower than they might otherwise have been. As a result, the concept of government-mandated price controls during periods of rapid price increases has seen little support as a policy option since the 1970s.

Gasoline Inventory Considerations

Figure 2 shows U.S. gasoline inventories during the past two years. The gray area highlights the normal operating range — including seasonal fluctuations — for gasoline stocks. The horizontal line across the bottom of the figure shows the "lower operational inventory," which the Department of Energy (DOE) places at 185 million barrels, the equivalent of about 20 days of nominal supply. That is the level at which sporadic physical shortages begin to appear around the nation. The 185 million barrel figure can be thought of as the "fill" needed to keep the distribution system in normal operation; it cannot be drawn upon to meet a demand increment at the pump. When there is virtually no extra supply to act as a price cushion, price spikes, spot shortages, and localized "run-outs" are a possibility.

Figure 2. U.S. Gasoline Inventories, January 2003 to Present



Source: EIA, *Weekly Petroleum Status Report*, Figure 4.

The most recent peak gasoline demand — recorded in mid-summer 2003 — was a four-week average of about 9.4 mbd: gasoline demand consistently averaged about 9.0 mbd during 2004. The difference between stocks — which have run between 200 and 215 million barrels during 2004 — and DOE's "minimum operating level" is between 15 and 30 million barrels, the equivalent of roughly two or three days of supply available from refiners' stocks.

Gasoline inventories have bounced between the upper and lower ranges of "normal" during 2004. They were below the normal range when gasoline prices peaked in May. And, at the end of 2004, they were above the normal range for this time of year, a factor likely contributing to the year-end decline in pump prices.

Generally, when crude oil stocks were below the seasonal norm, pump prices rose. And when stocks were above the seasonal norm, prices fell. The ebb and flow of gasoline stocks during 2004 — a period of noteworthy gasoline price volatility — reflects a balance between gasoline inventories, seasonal driving demand, and the crude available to make more at U.S. refineries as well as the supply of imports.

Gasoline Supply — U.S. Production and Imports

U.S. refineries cannot currently manufacture all the gasoline called for by the nation's motorists.[1] About 11% is imported either as finished, ready-to-market gasoline or as blending components that can be mixed into the gasoline pool. Thus, two sets of gasoline supply figures should be watched; the "products supplied" series compiled by EIA, and "new gasoline supply," the combination of imports of finished gasoline, gasoline blending components, and net U.S. refinery production of gasoline. The "products supplied" data show gasoline flowing to consumers from inventory. "New supply" data show the amount of newly available gasoline — be it produced or imported — that may flow into inventories or directly to the pump.

Figure 3 shows gasoline supplied to U.S. markets since the start of 2003. These data consist of domestic refinery production,[2] imports of finished gasoline that meets U.S. specifications, as well as a significant amount — between 300,000 and 500,000 barrels per day — of blending components from refineries abroad.

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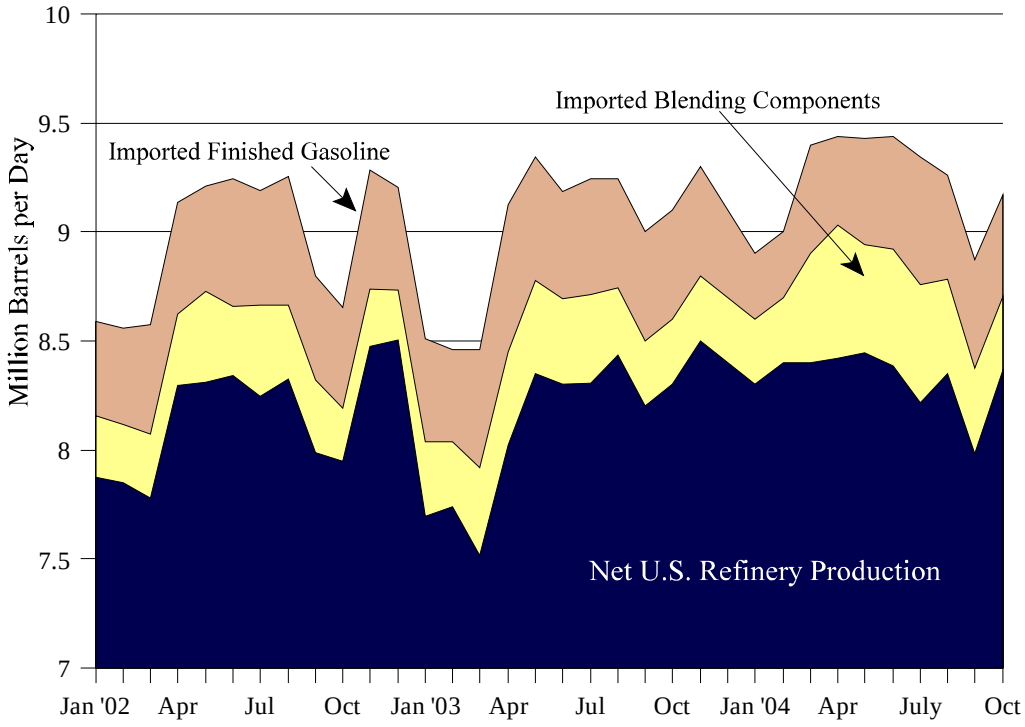
[1] For a discussion of the economics of the U.S. refining sector, see CRS Report RL32248, *Petroleum Refining: Economic Performance and Challenges for the Future*, by Robert L. Pirog.

[2] Defined as finished motor gasoline production at U.S. refineries minus imports of blending components, which are refined offshore.

Figure 3. Gasoline Production and Imports, Jan. 2002 - Dec. 2004



Source: Finished Imported Gasoline: EIA, *Petroleum Supply Monthly*, Table 54. Blend Components: EIA, *Weekly Petroleum Status Report*, Table 9. U.S. Net Refinery Production: see text of report.

These imported blending components lend a complexity to tabulating the data on gasoline production. EIA includes the blending components in its series on refinery production, even though they are not produced in U.S. refineries. Blending components are added to gasoline supplies at refineries and terminals. They appear in the EIA data collected from refiners and terminal operators as if they were the same as output from U.S. refineries' manufacturing process, whereas they are actually imported. EIA does this in order to avoid counting the components twice — as imports and as refinery output. Without these imports of blending components, gasoline supplied by U.S. refiners and terminal operators would be less on a barrel-for-barrel basis. Once they are blended into the pool of U.S. refinery output and meet marketability standards they become part of U.S. gasoline supply, although they are not identified by EIA as imports per se.

Imports of gasoline and components peaked at 1.1 mbd — including 426,000 barrels per day of components — in April 2003. Venezuela has historically been a supplier of refined gasoline to the United States, but petroleum sector labor unrest has hindered refining operations. U.S. gasoline supplies from Venezuela have suffered since late 2002, when a two month oil workers strike crippled production and refining. Reformulated gasoline (RFG) supplies in particular have suffered, with

the first post-strike cargo shipped to the United States in June 2003.[3] Subsequently, supplies from Venezuela — whose refineries have operated as if they were a part of the U.S. supply system — have been sporadic, as operational and labor problems have limited the output of difficult-to-produce gasoline that meets U.S. specifications.[4]

U.S. refineries maintained gasoline production of about 8.4 mbd through most of 2003, with total output of all products reflecting operating rates of between 92% and 96% of capacity. But refiner utilization typically falls in the month of January, as refiners "turn around" production to emphasize gasoline output instead of heating fuels and perform scheduled maintenance. Consistent with this pattern, capacity utilization in February and March of 2004 ran in the 89% area. April and May saw utilization rates as high as 96%, a figure which has historically represented maximum practical operating capability. It is noteworthy that these early-2004 months represented a period of rising pump prices, a development likely linked to high refinery runs.

Total gasoline production and imports made available to commercial inventories and end markets (illustrated by the top line in **Figure 3)** peaked in August 2003 and declined through the winter. Refinery production and imports increased as the 2004 driving season approached; in early May over 9.1 mbd was made available. Gasoline supplied, including inventory withdrawals, peaked at 9.4 mbd in August 2003, as **Figure 4** shows. This is significantly more than levels of 8.6 to 8.7 mbd in winter 2003-2004, and allowed inventories to stabilize above 200 million barrels, exceeding minimum levels. Above-minimum gasoline inventory levels and increased gasoline availability may well be a price stabilizing factor, having contributed to the decline of pump prices from their all-time highs during the last part of 2004. But to maintain such an inventory expansion, domestic refiners would need to produce sufficient gasoline, and imports — which have not been robust — would need to increase for the bulk of the driving season just ahead. For U.S. refiners to run more gasoline, their own supplies of crude must exceed minimum operating levels so that they have enough crude for expanded operations. Depending on how events unfold, the softening in retail gasoline prices seen during the final weeks of 2004 may be temporary.

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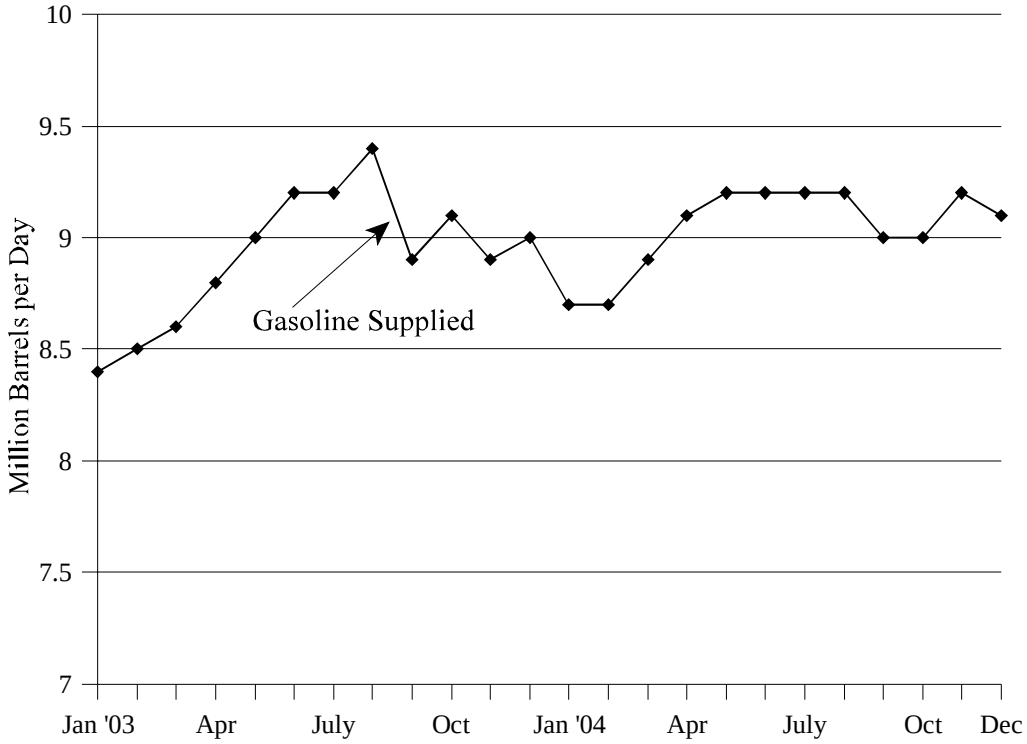
[3] "Venezuela Plans Cut in RFG Exports to U.S." *Platts Oilgram News*, August 29, 2003. p. 3.

[4] Refiners must deal with several challenges, including a requirement effective at the start of 2004 calling for a substantial reduction in gasoline sulfur content, and the need to reduce volatility while meeting fuel performance standards.

Figure 4. Gasoline Supplied, Jan. 2003 - Dec. 2004



Source: EIA, *Weekly Petroleum Status Report*, Table 10.

Crude Oil Inventory Considerations

Crude oil in refiner inventories is shown of **Figure 5**. Note that crude stocks recently fell below the lower observed limit during early winter 2003-2004, but recovered, reflecting lower refinery runs during January 2004. For gasoline supplies to maintain levels sufficient to avoid run-outs and price spikes, crude must be available at refineries. With domestic crude production at its maximum, imported crude oil will be called on to provide the needed incremental supply.

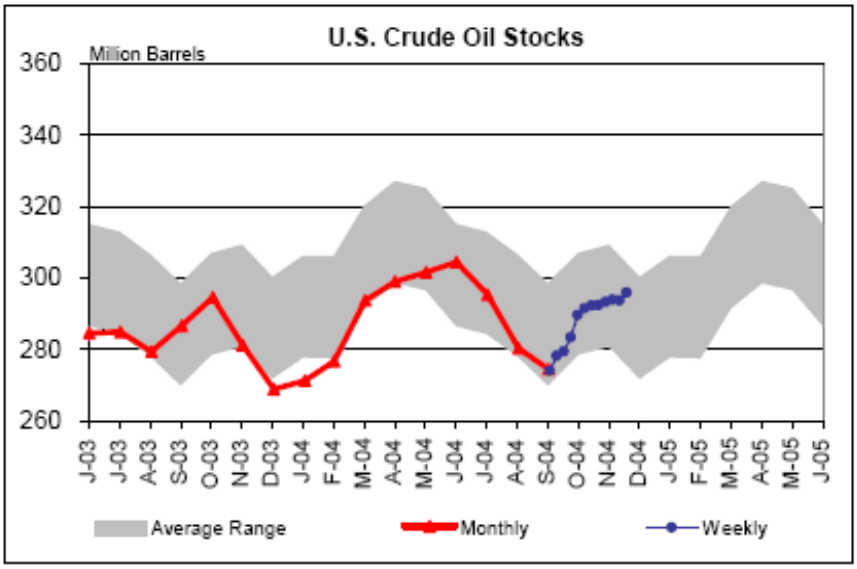
In the recent past, crude oil imports peaked in September 2003 at 10.3 mbd, and they fell to a low of 9.3 mbd in early 2004. At the end of 2004, crude imports had peaked again at 10.3 mbd. This supply of imports has permitted crude stocks to rise to about 300 million barrels in early May, a level equivalent to two days of refinery operations above minimum operating levels. Crude availability may ultimately become a factor in meeting gasoline supply needs. Absent sufficient inventories — and some assurance that they can be replaced at prices commensurate with selling prices for gasoline and other refined products — refiners may be reluctant to run barrels of what might be viewed as scarce crude. In other words, a refiner may be unwilling to refine high-priced crude, and sell the resulting gasoline at an effective price below crude cost.

The current world crude situation is characterized by many cross-currents, notably OPEC production policy and growing demand, chiefly from Asia. OPEC has pursued a supply and price policy that has resulted in prices that — exceeding $50

on the NYMEX briefly — are well above its recently stated target band of $22 to $28 per barrel (measured at the point of export). This has resulted in much higher prices in the United States.

Asian demand appears to be growing at a much higher rate than previously expected. The International Energy Agency (IEA) reports that surging demand in China and other non-OECD Asian economies has raised the assessment of global oil demand growth for 2004 to an average of 1.65 mbd over 2003.[5] Growing demand for the world's oil — even U.S. demand grew by 500,000 barrels per day between 2003 and 2004 (a 2.5% increase) — has given OPEC some pricing power as it tries to manage markets.

Figure 5. Crude Oil Refiner Inventories, January 2003 to Present



Source: EIA, *Weekly Petroleum Status Report*, Figure 3.

Other Factors Contributing to High Gasoline Prices

U.S. gasoline quality and composition regulations have created unusual fuel requirements that are not easily met by foreign refiners. In a nation where refinery capacity can only meet about 90% of gasoline needs, calling for significant supplies from abroad, meeting U.S. product "specs" for imports can present a barrier to supplying market demand. In addition to U.S. requirements for reformulated gasoline, low sulfur requirements began in 2004. Further, the ban on use of the additive MTBE now in effect in California, New York, and Connecticut has resulted in increased need for low-volatility gasoline, because the MTBE ban necessitates the use of ethanol in the gasoline "cocktail." Since ethanol increases the vapor pressure (volatility, measured by the Reid Vapor Pressure Index or RVPI) of gasoline, low-cost, high vapor pressure components such as butane and pentanes must be removed

[5] IEA, *Oil Market Report*, March 11, 2004. See Highlights.

from the RFG pool. The gasoline base stock suitable for blending with ethanol such that an acceptable RVP is achieved is relatively difficult and costly to refine, and not available from every refiner.

There is also a volumetric loss with ethanol blended gasoline. Because approximately two gallons of MTBE are being replaced by one gallon of ethanol, the net volume loss must be replaced with some other high-octane blend component with low vapor pressure. In addition to the need for more gallons of gasoline in the blend, the availability of blending components of the needed quality, such as alkylate and iso-octane, is limited.

In addition to manufacturing challenges at U.S. refineries, two purely economic factors have operated to raise the cost of importing gasoline. There is a shortage of smaller, clean tankers in which gasoline cargoes are transported, resulting in high tanker rates, which are passed on to the pump.[6] If the incremental cost of imported product is high by virtue of this, it tends to erect a price umbrella, supporting higher prices for all gasoline sold in the nation.

The other economic factor is the structure of gasoline price futures that took shape in 2003 and prevailed for much of 2004, a situation traders call "backwardation." This refers to the hierarchy of prices for gasoline for delivery in future months, in which near months have higher prices than out-months. A purchaser of current-market gasoline knows that, at the time it is scheduled to be shipped and delivered, the market price at that future point in time is expected to be lower than the price paid when the deal was crafted. If this event comes to pass, the purchaser may not be able to sell the gasoline for what he paid for it. This phenomenon tends to discourage the immediate purchase of gasoline for future sale, keeping inventories from growing.

Gasoline Prices and the Strategic Petroleum Reserve

The recent increase in the prices of crude oil and gasoline have prompted calls for use of the Strategic Petroleum Reserve (SPR). While some have called for a drawdown, the first issue is whether to cease the current fill program, which critics assert has aggravated a tight oil supply situation and contributed to high gasoline prices. On November 13, 2001, the President ordered fill of the SPR to its current capacity of roughly 700 million barrels, principally through royalty-in-kind (RIK) acquisitions of the government's share of production from federal offshore leases. Historically, the Treasury has taken this royalty in the form of a cash equivalent. However, an RIK program was established for the purpose of adding crude to the SPR. Continued deliveries of RIK oil were scheduled through October 2004, and if left in place will average between roughly 65,000 and 200,000 barrels per day (b/d), depending upon the month. Further deliveries will be scheduled with the

[6] "Low Imports Pose Risk to U.S. Gasoline Supply," *Platts Oilgram News*, March 23, 2004. p. 1.

intention of filling the SPR to capacity sometime in 2005.[7] The SPR currently holds roughly 650 million barrels.

Some have argued that these RIK deliveries are contributing to currently high oil prices and should be suspended so that the RIK oil can be offered in markets. Others have argued that the volumes involved are too small to have a significant impact, and that fill should continue in the interests of national security. On March 11, 2004, in its debate on the FY2005 budget resolution, the Senate called for a suspension of deliveries and a sale instead of 53 million barrels of RIK oil. Proceeds (pegged at $1.7 billion) would be used for deficit reduction and increased homeland security funding for states. Some Members of the House have also voiced support for deferring fill. The Administration has argued that the volumes of RIK being added to the SPR are too small to put significant pressure on crude oil prices, and that it will continue its current fill policy.

If there is to be any use of the SPR in the current situation, the deferral of oil deliveries — and allowing this oil to enter into markets — might be a logical first step. However, some supporters of using the SPR are also urging President Bush to also authorize a "swap" or exchange of SPR oil, comparable to one held in September 2000 when the Clinton Administration made 30 million barrels available.[8] Under the terms of a swap, interested parties are invited to bid to borrow crude from the SPR, to be returned at a later date. Awards are made on the basis of how much oil a bidder will return in exchange for a barrel now; in other words, for every barrel taken in a swap, the refiner or bidder will return something more than one barrel at an agreed-upon future date. The bidding and award process was completed in two weeks in 2000, with oil picked up soon thereafter. Oil borrowed in the fall of 2000 was returned to the SPR by early 2004. The swap had the effect of ultimately adding oil to the SPR at a time — as is the case now — when Congress was not authorizing funds for outright purchase of oil for the reserve.

While historically the use of the SPR (or simply announcement of its intended use) has resulted in some decline in crude prices, nearly every occasion has been unique. Each situation has had other external circumstances surrounding the event such that it is difficult to isolate the extent of any price moves that can be attributed solely to the use of the SPR.[9]

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[7] DOE posts the delivery schedule under "Current Inventory" at [http://www.fe.doe.gov/programs/reserves/].

[8] Under the original statute (P.L.94-173), the SPR was not supposed to be used to affect prices, but to compensate for a loss in physical supply that may express itself in higher prices. An amendment in the Energy Policy Act of 1992 (P.L. 102-486) broadened the drawdown authority further to include instances where a reduction in supply appeared sufficiently severe to bring about an increase in the price of petroleum "severe" enough to "likely . . . cause a major adverse impact on the national economy."

[9] For details on the historical use of the SPR, see CRS Issue Brief IB87050, *Strategic Petroleum Reserve*, or see the detail provided by the Department of Energy at [http://www.fe.doe.gov/programs/reserves/spr/drawdown.shtml].

More to the point in this particular report is whether the availability of SPR crude would have an effect on gasoline prices. As noted elsewhere in this report, gasoline supply — in some regions — is constrained by the refining capacity to produce fuel that meets local or seasonal requirements. While a release of SPR oil may soften crude prices to some extent, it may be little reflected in local gasoline prices if demand for fuel remains high where refining capacity is tight. (It may even be possible that a release of SPR crude, to the extent that it benefitted supply in some regions of the country, might widen the observed disparity between gasoline prices on the West Coast and elsewhere.) Moreover, in the spring of 2004, prices appear especially sensitive to weekly reports on crude and product stocks. While release of SPR might benefit crude stock levels, gasoline stocks will improve only if demand levels and refining capacity (plus imports) allow refiners to add to stocks. As suggested, this is likelier in some regions of the country than others.

In sum, opinion appears divided on the effect that the Administration's current fill policy is having on crude price and product supply, as well as on the benefits that might be more than short-term if RIK oil is diverted to the markets, or a swap/exchange of SPR is held.

Concluding Observations

The nation experienced its third gasoline price spike in little more than one year, with a new nationwide record for the average price for unleaded regular reaching $2.05 in mid-May 2004. While prices have fallen as supplies have increased, the supply-demand-price situation remains volatile. Several general gasoline supply issues have contributed to the recent episode:

- A shortage of refinery capacity — resulting from a lack of new construction — has led to increasing reliance on imports of blending components and finished gasoline. Increasingly challenging fuel specifications — including the MTBE ban in several states and the 2004 standards for reduced sulfur content — have added to the complexities of refining and distribution.

- Steadily growing gasoline demand, which has increased by 600,000 barrels per day since 1999, has risen from 8.4 mbd to 9.0 mbd for the whole of 2004. This has accounted for virtually all the nation's increase in oil consumption.

- Gasoline inventories were low; in early April 2004, there was less than two days of available supply in the system.

- Crude oil stocks were below normal seasonal levels for much of 2004, only recently rebounding from below minimum operational levels. There is little U.S. refining capacity to make more gasoline; while crude availability might not be an immediate concern, this situation could easily change.

- OPEC has gained power on crude supply and price. Members actually reduced oil exports by about 400,000 barrels per day during April 2004, and that contributed to prices rising over $41.[10] This set the stage for crude prices surging over $50, despite what subsequently proved to be a steady flow from OPEC during the last half of 2004. OPEC output for November was the highest since 1979.[11] This may have led to crude declines to the $45 area, and on December 10, OPEC announced a 1 mbd production cut.[12]

The recent gasoline price surge was especially severe in California, where prices peaked at $2.45/gal, setting a new state record. California's situation is unique because of state requirements for especially clean gasoline and its ban on the use of MTBE. Fuel meeting California specifications is not readily available from all refineries, especially those abroad. Additionally, California has no east-to-west pipeline system through which gasoline can be shipped from Gulf Coast refineries. Even high prices — which would under other circumstances attract extra supply — cannot easily self-correct a supply shortfall. With insufficient West Coast refinery capacity to meet regional needs and a dependency on imports, California has generally seen gasoline prices trending above national averages for the past several years. And because the state cannot quickly get make-up supply from other domestic refineries, small operational difficulties in the refining and transport system can lead to out-sized price spikes.

An important energy policy aspect of the gasoline price situation involves the potential use of the SPR. Various measures involving release of SPR crude — by whatever mechanism — to stabilize the market have been proposed, and it is likely that more will be forthcoming if prices remain volatile at elevated levels. Options for using SPR oil must be evaluated in context of the complex nature of oil markets.

By statute, the SPR is intended to be used to offset demonstrable supply shortages that are contributing to high prices. As has been noted, factors other than crude supply have had a significant role in fuel markets. Under some circumstances, adding crude to markets — in the absence of incremental refining capacity — will not boost supply or reduce price in a timely fashion.

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[10] "OPEC Should Delay Oil Cuts Until June, Kuwaiti Says." *Bloomberg News*, March 25, 2004. At Bloomberg.com.

[11] "OPEC Crude Output Climbs to 30.5 mil b/d In November." *Platts Oilgram Price Report*, December 2, 2004. P.1.

[12] "OPEC To Cut Production By 1 mil b/d."*Platts Oilgram Price Report*, December 13, 2004. P.1.