



Issues in Economic Policy

Should the Strategic Petroleum
Reserve be Used to Reduce
Fluctuations in Oil Prices?

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**Volume 1, Number 1
Spring 2003**

Should the Strategic Petroleum Reserve be used to reduce fluctuations in oil prices?

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The Strategic Petroleum Reserve (SPR) was established in 1975 in order to reduce the nation's vulnerability to economic, national security, and foreign policy consequences of petroleum supply interruptions. The SPR can hold up to 700 million barrels of oil and should be used as the nation's "first line of defense" against import cutoffs. Releases of the Strategic Petroleum Reserve would not have the desired effect on prices and does not warrant changing the current policy, which states that the reserves be used for energy emergencies. A simple supply and demand analysis of domestic prices versus world prices was used to interpret how possible shifts in the domestic supply curve could affect the world equilibrium price of oil. Releases from the SPR will only have a moderate effect, if any, on price and does not warrant changing the current policy. The Strategic Petroleum Reserve is better suited to its current policy to be used in times of dire emergencies. The results from the analysis and past representations support keeping the current policy and not using the Strategic Petroleum Reserve to reduce high oil prices.

Introduction

President Ford established the Strategic Petroleum Reserve (SPR) when he signed the Energy Policy and Conservation Act (EPCA) in December 1975. It was established in response to the 1973-74 oil crisis, which cutoff the flow of oil into the United States from many Arab nations. During this crisis the United States government was forced to realize that our country needed some type of defense against any future disruptions to the oil supply. The Strategic Petroleum Reserve acts as the nation's "first line of defense" against the threat of an interruption in petroleum supplies (Fossil Energy Profile, 1) and is said to be the "cornerstone of our capability to respond to an energy supply emergency" (Furiga, 1).

The Strategic Petroleum Reserve consists of four sites; two in Texas and two in Louisiana, with the reserves held in salt caverns thousands of feet below the surface (Furiga, 2). The SPR has a storage capacity of 700 million barrels and is currently holding an inventory of approximately 570 million barrels (Fossil Energy quick facts, 1). The Strategic Petroleum Reserve is there to reduce the nation's vulnerability to economic, national security, and foreign policy consequences that may occur due to petroleum supply interruptions (Fossil Energy Profile, 2). The Energy Policy and Conservation Act authorizes the President to withdraw crude oil from the SPR during an energy emergency. Oil from the SPR is to be distributed at a competitive sales price (Fossil Energy Profile, 1). The Department of Energy (DOE) has 15 days from the date of the President's order of an emergency sale of Strategic Reserve oil to deliver the oil into the marketplace. The oil can be pumped from the Reserve at a maximum rate of 4.1 million barrels per day for up to 90 days, and then the drawdown rate, the speed at which

oil can be withdrawn from the SPR, begins to decline as storage caverns are emptied. At 1 million barrels per day, the Reserve can release oil into the market continuously for nearly a year and a half (Fossil Energy quick facts, 3).

The first and only release of the Strategic Petroleum Reserve occurred in 1990/1991 during Operation Desert Shield/Desert Storm when Saddam Hussein and his Iraqi troops invaded Kuwait. A portion of the SPR was released as part of an international effort to minimize world oil market disruptions (Fossil Energy Past Releases, 2).

Originally, 33.75 million barrels were ready to be released but it was reduced to 17.3 million barrels when prices began to stabilize (AGI, 3). This decision rapidly began to calm the global oil market and prices began to moderate, so there was no need to release any more than 17.3 million barrels. This quick release of the SPR had a great impact on keeping the World oil markets remarkably calm throughout most of the war. If the President had not quickly made a decision to release reserves from the SPR, prices would have sky rocketed, the release aided in moderating prices. After this release, Energy Secretary Watkins said, “We have sent an important message to the American people that their \$20 billion investment in an emergency supply of crude oil has produced a system that can respond rapidly and effectively to the threat of an energy disruption”(Fossil Energy past releases, 3).

Argument

The Strategic Petroleum Reserve was designed to deal with supply disruptions, not high prices. Releasing oil from the SPR will not decrease the price enough to warrant releasing oil and risk not having the oil in the reserve if and when an energy supply emergency occurs. Oil prices are not determined by the demand and supply in the United

States, rather it is determined by the demand and supply of the entire world oil market.

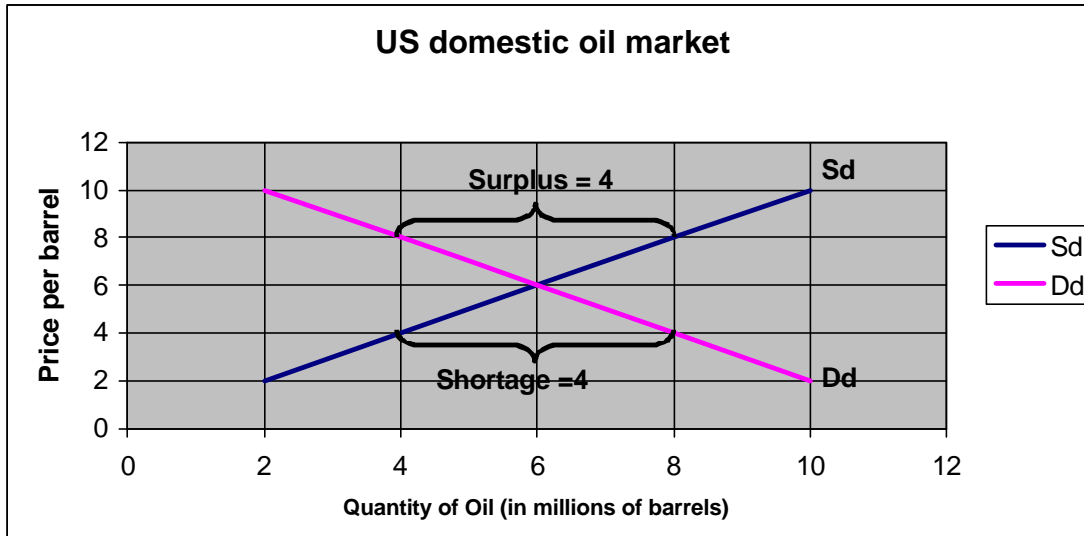
We should be more worried about releasing the reserves in the case of an energy supply emergency where we can't get enough oil to meet our import demand due to a oil supply cutoff or national emergency.

Analysis

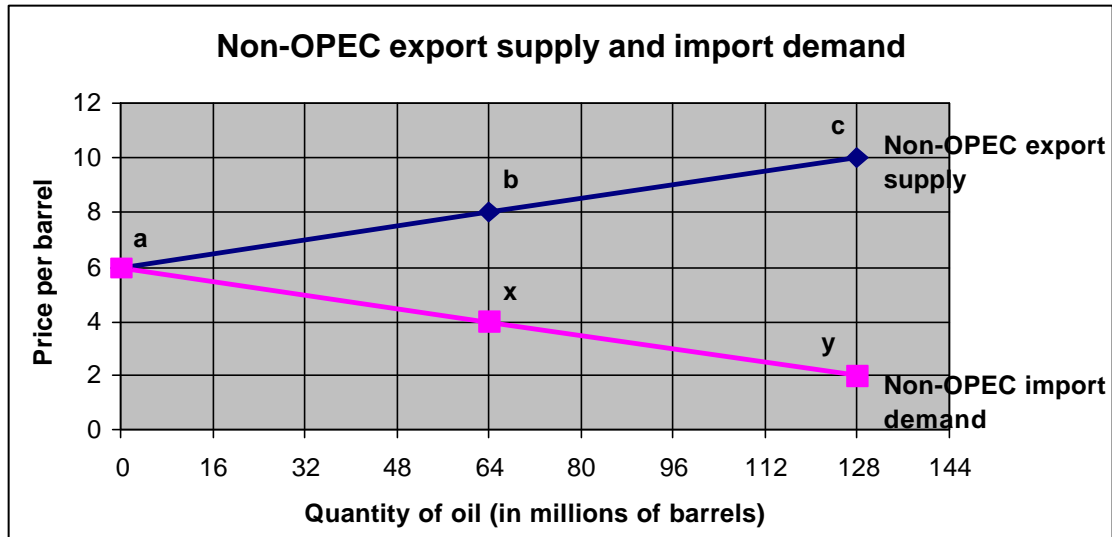
The oil market is a world market. I looked at the supply and demand of exports and imports to see if a release of the Strategic Petroleum reserve would have a significant impact on prices to warrant using the reserve to reduce fluctuations in oil prices. The amount of oil a nation will export or import depends on the differences between the equilibrium world price and the equilibrium domestic price of that nation (McConnell, 381). The equilibrium world price is determined by the interaction of world supply and demand, and the equilibrium domestic price is determined by the domestic supply and demand if it were a closed economy (McConnell, 381).

First, lets look at the domestic demand and supply of oil in the United States if it were a closed economy. The figure below shows the domestic supply curve S_d and the domestic demand curve D_d for oil in the United States, which for now is a closed economy. The intersection of S_d and D_d determines the equilibrium domestic price of 3 per barrel. Now I did not put any currency on this price to keep things simple. If the US economy were opened to trade and the world price was 8 the US would want to supply 8 million barrels of oil and the US demand would only be 4 million barrels. The US would have a surplus of 4 million barrels and would export it to the rest of the world. If the world price was 4 the US would want to supply 4 million barrels and the US demand would be 8 million barrels. The US would have a shortage of 4 million barrels and would

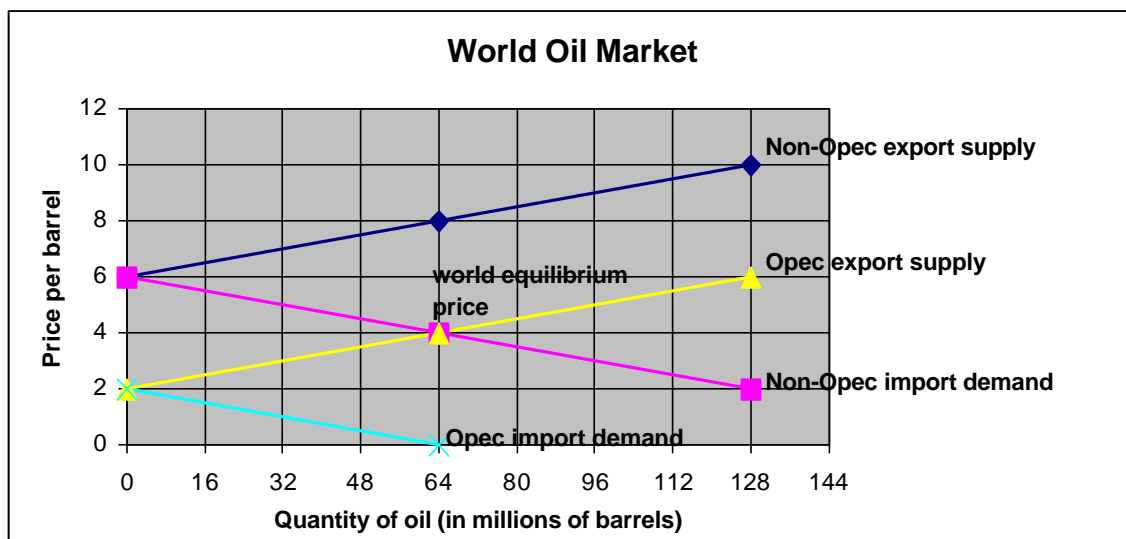
import it. Since the US economy is a price taker of oil and relies on other countries for imports we know that the US domestic price is higher than the world price and for this reason we import. (McConnell, 382)



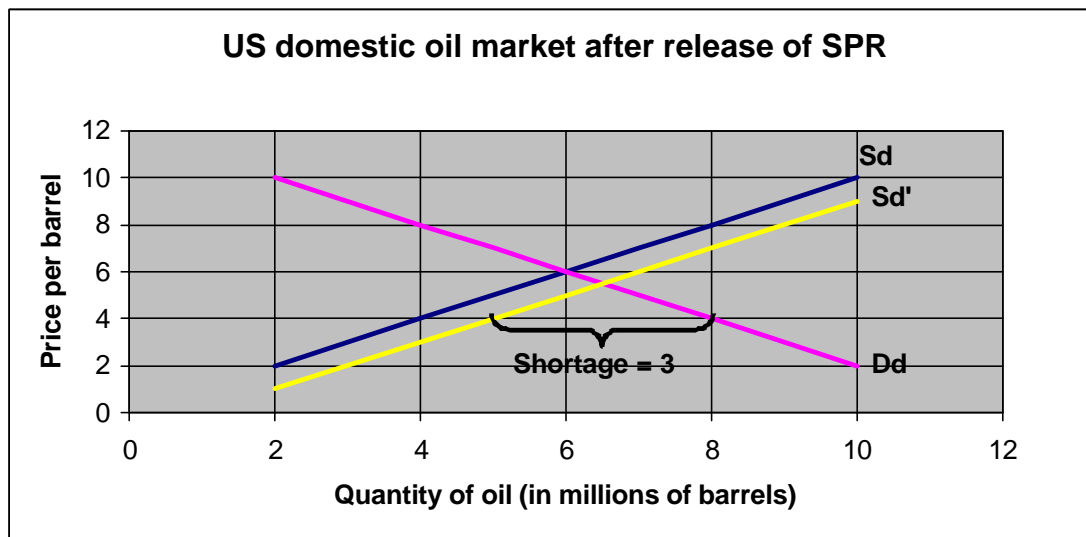
Using the above graph and US numbers we can come up with a hypothetical export supply and import demand curve for Non-OPEC countries, since the US is part of that part of the market. When the world price is 2, the Non-OPEC import demand is located at point y of 128 million barrels. When the world price is 4, the Non-OPEC import demand is located at point x of 64 million barrels. When the world price is 6, the Non-OPEC will neither export nor import at point a. When the world price is 8, the Non-OPEC export supply is located at point b of 64 million barrels. When the world price is 10, the Non-OPEC export supply is located at point c of 128 million barrels.



This graph and these numbers are used to come up with the world oil market equilibrium price. I will include this graph with the export supply and import demand curves of OPEC countries to come up with the world equilibrium price. Again, these are all hypothetical numbers, but this is the way it works in the oil market and any export and import market with real prices. As you can see from the graph below, the world equilibrium price would be set at 4 with a quantity of 64 million barrels of oil being exported and imported.



Now let's see what would happen if the US were to release reserves from the Strategic Petroleum Reserve. The graph below shows that the US domestic supply curve would shift to the right (S_d'), simply decreasing the amount of oil that would be imported to 3 million barrels instead of 4 million barrels at a price of 4. Before the release they were imported 4 of the 64 million barrels, now they would only be importing 3 million barrels. This would be a decrease of 1 out of 64 million barrels (1.5%). Since this makes up such a small percentage of the import demand it is highly likely that the other Non-OPEC countries will pick up most of what the US dropped in imports and the equilibrium price would be unlikely to change significantly. If it did decrease the import demand it would be by such a small percentage that we wouldn't have much of a difference on the equilibrium price. This would not be enough of a difference in price to warrant releasing the SPR in order to reduce the fluctuations in oil prices.



Results

As one can see from the above analysis if the President were to release oil from the Strategic Petroleum Reserve to reduce oil prices it would only have a moderate effect, if any, because “the market for oil is worldwide and the draw on the SPR would have to be measured in relation to demand worldwide, not merely demand in the United States” (Anderson, 5). Since the US makes up a small percentage of the importing countries the other countries would still be purchasing oil at the higher prices and counter the effects that the reserve may have had otherwise. Also, OPEC may respond to the release of the reserves by cutting production even further. Not only would drawing of the Strategic Petroleum Reserves to decrease prices only have a moderate effect it would also reduce the availability of the reserves for its “original purpose of meeting the greater emergency that would arise if there were an interruption of exports from major suppliers” (Anderson, 5).

Discussion

When looking at the results of US domestic supply and demand schedules with that of the world market one can see that drawing oil from the Strategic Petroleum Reserves would not have the intended impact on reducing price to warrant using the Reserve for something other than its original purpose. Other countries would still be purchasing the oil at higher prices and OPEC would initiate their own response by cutting production even further to offset the release of reserves. It only makes sense to use the Reserves when the United States cannot get the oil from anywhere else and there isn't enough oil to meet our domestic demand at world prices.

Conclusion

These results go to show that the best way to use the Strategic Petroleum Reserve is for its original purpose. The purpose of the Strategic Petroleum Reserve is to draw from the reserve in times of energy emergency. Should the United States be unable to meet its demands due to being cutoff from imports it has the Strategic Petroleum Reserve to ensure that there will not be another oil shock like the one in the 1970's, which caused long lines at gas stations and high heating oil prices because the government had no means of moderating the oil prices. Drawing from the Reserve will not have the desired effect on prices and thus does not warrant risking the reserves. The policy should remain the same. As Anderson stated, "The most sensible course now appears to be no change in present policy—that means continuing to hold the Strategic Petroleum Reserve for dire emergency, not for tweaking minor changes in the market" (Anderson, 7).

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