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Report to the Chairman, Subcommittee on Energy and Power, Committee on Energy and Commerce, House of Representatives

March 1989

STRATEGIC PETROLEUM RESERVES

Analysis of Alternative Financing Methods

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Resources, Community, and
Economic Development Division

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March 16, 1989

The Honorable Philip R. Sharp
Chairman, Subcommittee on Energy and Power
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

This report responds to your March 2, 1988, request that we examine alternative, nontraditional methods of acquiring oil for the Strategic Petroleum Reserve (SPR). You were concerned with the budget deficit and sought to reduce government outlays for the SPR. As agreed in subsequent discussions with your office, our analysis summarizes and discusses a variety of nontraditional oil acquisition and financing methods.

We examined approximately 40 proposals in three broad categories that

- increase government revenues by selling financial instruments such as bonds, increasing taxes or user fees, selling government assets or using receipts from revenue producing assets, or selling futures or option contracts and dedicating these revenues to the acquisition of oil for the SPR;[1]
- acquire oil by means other than outright purchase, such as renting/leasing it, mandating that firms contribute oil to the SPR, or providing inducements to encourage private SPR contributions;
- set up a separate SPR entity to handle financing or acquire oil and manage the SPR.

We compared the alternatives that we identified to the current method of acquiring and financing SPR oil through congressional appropriations that are reported in the budget. Our comparison covered (1) short- and long-term acquisition and financing costs to the government, (2) the effect on the budget and national debt, and (3) other key considerations, such as who would control the SPR oil.

Results in Brief

When compared to the conventional method of financing oil for the SPR, most of the proposals have certain benefits or advantages, but all of them have economic or other disadvantages. Some proposals would reduce the budget deficit by increasing government revenues (new taxes

[1]GAO is currently reviewing its position on dedicated funding and will be issuing a report on this subject in the near future.

or fees) but would, for example, raise prices to the consumer. Other proposals could reduce short-term expenditures (asset sales, leasing oil or indexed bonds). However, the proposals might increase long-term expenditures by more than the initial reduction in outlays. We have consistently recommended against proposals such as asset sales, which would reduce outlays and the deficit in the short term but would increase the long-term deficit. Furthermore, most asset sales are excluded from the calculation of the deficit for purposes of the Balanced Budget and Emergency Deficit Control Act of 1985 (Gramm-Rudman-Hollings).

Some proposals involve exchanging future government "profits" on the value of oil already in the SPR (should oil prices rise in the future) for lower current expenditures (equity certificates, options). Some proposals would affect such concerns as government control of the oil, especially during drawdown in an oil supply disruption (leasing, equity certificates). Some proposals would establish a separate SPR entity. If the SPR entity is off-budget, its expenditures would not be reported in the budget. However, if the government provides funding to the entity, that funding would count against the deficit.

Background

The SPR, authorized by the Energy Policy and Conservation Act (P.L. 94-163, Dec. 22, 1975), as amended, is the nation's first line of defense in an oil supply disruption. By law it may not be drawn down and the oil distributed unless the President determines that a severe energy supply interruption has occurred or that drawdown is necessary to fulfill U.S. obligations under the international energy program, which under many oil disruption scenarios means sharing oil with other International Energy Agency members.

The Department of Energy (DOE) is responsible for the SPR's management, maintenance, operation, and construction, including buying and storing the oil. In the event of a drawdown, DOE would administer the withdrawal and sale of the oil from the SPR. DOE currently plans to auction the oil to the highest bidders at drawdown.

As of September 30, 1988, 554.7 million barrels of the currently planned 750 million barrels of oil were stored in the SPR. As of November 30, 1988, DOE had spent about $17 billion to acquire the oil, store it, and maintain the facilities. In fiscal year 1988, DOE disbursed $338 million from the SPR petroleum account for the acquisition and transportation of 20.8 million barrels of oil that were added to the SPR inventory. On the

basis of the amounts appropriated by Public Law 100-446 (Sept. 27, 1988), DOE plans an average fill rate of approximately 50,000 barrels per day during fiscal year 1989. Assuming this fill rate continues, the SPR will reach the 750-million-barrel level in about 10.7 years, in 1999. DOE estimates a total expenditure of about $22.5 billion for costs associated with filling the SPR to the 750-million-barrel level.

The SPR is funded through annual appropriations from the Congress. The sources of these funds are general government revenues from, for example, taxes, duties, or borrowing (the sale of debt instruments). Most government expenditures are funded in this way, and SPR expenditures, for most of the SPR's history, were included in the annual budget. The Omnibus Budget Reconciliation Act of 1981 (P.L. 97-35, Aug. 13, 1981) established the SPR Petroleum Account, the account that pays for SPR oil acquisition and transportation, as an off-budget account. As part of the effort to control government expenditures, the Gramm-Rudman-Hollings act brought this account back on the budget. The SPR is now funded, as it was before 1981, through annual appropriations with funds from the U.S. Treasury, and oil is purchased at market prices.

GAO's Analysis of SPR Funding Proposals

Our analysis of alternative funding proposals compares those proposals with the current method of financing the SPR, noting similarities and differences. For clarity we have grouped these proposals into three categories: (1) revenue raising alternatives, such as bonds or taxes; (2) different ways of acquiring oil, such as renting; and (3) establishing a separate SPR entity.

Revenue Raising Alternatives

Revenue raising alternatives include special bonds and taxes, asset sales and receipts, and futures and options contracts. (See app. II.) These proposals generally address the means by which the government could raise money for funding the SPR, but they do not directly affect the purchase price of oil or other SPR costs. In practice, revenue raised in these ways could be used to finance any government expenditure—not just to purchase SPR oil. However, these proposals dedicate the revenues to funding the SPR.

The proceeds obtained from issuing special bonds to purchase SPR oil would substitute for conventional debt (i.e., the issuance of Treasury securities) that is normally used to finance government expenditures. If these bonds can be sold at a lower interest rate than comparable Treasury offerings by, for example, indexing the face value of the bonds to

the price of oil, then the government's interest cost might be reduced. However, if the price of oil rises, the government will have to repay a greater amount when the bonds come due. This additional amount may or may not be more than the interest saved over the life of the bond on a discounted present value basis.[2]

Additional revenues received from new or increased taxes or asset sales, such as the sale of government land, would lower the current budget deficit to the extent that they result in additional income, and budget expenditures are not increased. However, the sale of a revenue producing asset, such as the Naval Petroleum Reserve (NPR), would result in the loss of future revenue. The sale price of a revenue producing asset would need to reflect the discounted present value of future revenues for the government to avoid a loss. We have consistently recommended against asset sales and other proposals that would reduce outlays and the deficit in the short term but would lead to higher deficits in the long run. Furthermore, the proceeds of most asset sales are excluded from the calculation of the budget deficit for purposes of the Gramm-Rudman-Hollings procedure.

Raising revenue by selling futures contracts to purchase SPR oil does not seem feasible. To preserve oil for use in an emergency, DOE's selling price would need to be set at a disruption market price; consequently, in normal circumstances no one would buy such a high priced oil futures contract. (See app. II for details on futures contracts.)

The sale of options contracts on SPR oil, however, would raise revenues for the purchase of additional SPR oil. An options contract would give the purchaser the right (but not the obligation) to buy SPR oil at an agreed-to price on an agreed-to date. Such contracts might be attractive to firms that wish to ensure that they have access to oil should a disruption occur. To retain control of SPR oil, DOE could sell options contracts at a price that reflects the expected price of oil during a disruption. The per barrel selling price of such an options contract is likely to be low, reflecting that under current market conditions the risk of a disruption is also low. Therefore, this proposal is not likely to raise enough revenue for the government to purchase meaningful quantities of oil for the SPR.

[2]The discounted present value, also known as the net present value, is a concept that allows meaningful comparison of dollar flows, either money received or money spent, that occur at different times. In general, revenues to be received in the future are worth less than equal revenues on hand today because money on hand can be invested to yield a higher amount in the future or, in the case of the federal government, it can reduce the amount borrowed in the future. The farther into the future the expected revenues or costs are, the less value they have in today's dollars.

Selling options contracts at a disruption price, however, may be desirable as an energy policy alternative to facilitate early distribution of SPR oil.

Alternative Ways of Acquiring Oil

Alternative ways of acquiring oil (other than the current method of government purchases) include rent and lease, and compulsory or induced private contributions. (See app. III.) The government could rent or lease oil at an initial cost less than outright purchase; but over several years, this alternative is likely to prove more costly since the "rent" is likely to reflect both the private sector's higher cost to borrow money and its desired profit. In addition, lease proposals might complicate drawdown unless the question of whose oil (the government's or the lessor's) comes out first is settled during negotiation of the lease. The government, under existing provisions of SPR legislation, could require or induce the private sector to store oil, to which the private sector retained title, in the SPR. Mandatory oil contributions may be challenged by the industry, which would probably assert that the government was taking firms' oil without compensation. However, the Congress, under its constitutional authority over interstate commerce, can mandate private storage of oil as a fee to industry for the right to do business. If oil suppliers are required to store oil in or for the SPR, they would probably deduct the cost of this oil as a necessary business expense against their taxable profits. Any such reductions would have to be considered when estimating the proposal's effect on the federal budget. On the other hand, the private sector might be induced to store oil in the SPR in return for some form of compensation, such as the receipt of government-owned SPR oil at less than disruption prices at drawdown. Such an agreement would allow the government to reduce its current costs in exchange for reduced expected future revenue gains (profit) resulting from the sale of SPR oil. Like leasing proposals, these alternatives might complicate drawdown.

Establishing a Separate SPR Entity

Some proposals suggest the establishment of a separate SPR entity—a government corporation, such as the Tennessee Valley Authority, or a trust.[3] (See app. IV.) Such an entity could obtain oil by using some of the alternatives outlined in appendixes II and III. For example, it could use funds from the sale of assets or debt to buy oil, or be the beneficiary of

[3]A trust, as used in this report, means an entity with the power to undertake financial transactions on behalf of another person or institution, in this case, the SPR. The Treasury also maintains separate receipt and expenditure accounts, usually called Trust Fund Accounts; these are not referred to here.

dedicated revenue. If the entity is off budget, its expenditures would not be reported in the budget. However, if the government provides funding to the entity, that funding would count against the deficit. If the public participates in the SPR entity, depending upon how this participation is structured (i.e., if the public owns stock in the "corporation"), some or all of the benefits of any rise in the price of oil might be transferred to investors.

Separate government entities have sometimes been established for business-type activities that generate receipts from selling products or services and finance their costs primarily by such receipts. The SPR is now an integral part of DOE and generates no revenues.

Scope and Methodology

To identify and obtain information about the proposals contained in this report, we interviewed DOE and other federal officials, as well as private sector authorities. We then reviewed DOE, Office of Management and Budget (OMB), and congressional documents, and documents and studies by other organizations. With one exception, the proposals reviewed date from 1981. Appendix I describes in greater detail our methodology and also defines certain terms and concepts used in our analysis.

The proposals are not mutually exclusive; they could be mixed and matched in many ways. We did not consider combinations except under our discussion of separate entities in appendix IV. For our analysis, we assumed that a funding proposal has only those features that are specified in this report. We then evaluated the proposals against the normal method of financing through appropriations on the basis of three criteria: (1) the government's oil acquisition and financing costs (that is, whether the government could either acquire oil or raise money more cheaply over both the short and long term); (2) the effect on the budget deficit and the national debt; and (3) other considerations, such as who would pay for the oil and the effect on government control of SPR oil.

As agreed with your office, we did not attempt to precisely quantify either the costs or benefits of specific proposals. Instead, we assessed the likely impacts of each proposal on federal spending. Further, as agreed, we did not include any proposals involving foreign contributions to the SPR.

We discussed the information provided in this report with DOE and OMB officials and incorporated their comments as appropriate; however, we have not obtained official agency comments at your request.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will provide copies to the Secretary of Energy and other interested parties and make copies available to others upon request. This report was prepared under the direction of Flora H. Milans, Associate Director, Energy Issues. Other contributors are listed in appendix V.

Sincerely yours,

Keith O. Fultz

Keith O. Fultz
Director, Energy Issues

Contents

Abbreviations

DOE	Department of Energy
FFB	Federal Financing Bank
GAO	General Accounting Office
IPR	Industrial Petroleum Reserve
NPR	Naval Petroleum Reserve
OMB	Office of Management and Budget
SPR	Strategic Petroleum Reserve

Approach, Methodology, and Definition of Terms

Approach

We identified approximately 40 proposals for alternative funding of the Strategic Petroleum Reserve (SPR). To do this we interviewed Department of Energy (DOE) and other federal officials, as well as private sector authorities, and reviewed DOE and Office of Management and Budget (OMB) documents and studies by various public and private parties. The proposals came in various forms; some were fully developed while others were mere suggestions. We combined those that contained essentially similar features and eliminated some that were impractical as well as any that involved foreign participation.

Methodology

For analysis we grouped the proposals into three categories:

- revenue raising alternatives, such as bonds or taxes;
- alternative ways of obtaining oil, such as renting; and
- a separate SPR entity.

These categories are not mutually exclusive; for example, the revenue from an indexed SPR bond could be used to lease as well as to buy oil. Our analysis, however, starts from the current method of financing the SPR, in which oil is purchased with funds appropriated annually. We have assumed, therefore, that a funding proposal has those features that are specified in this report, but otherwise uses current methods of funding and filling the SPR. To use the example cited above, for instance, we assumed that funds raised from issuing an indexed bond would be used to buy oil at market prices.

We evaluated the proposals in three ways. Our analysis covered (1) the effects on the government's oil acquisition and financing costs, (2) the effects on the budget deficit and the national debt, and (3) other considerations, such as who would pay for the oil and the proposal's effect on government control of SPR oil. How we applied these criteria is explained below.

In our analysis we did not attempt to precisely quantify our results. Instead, we assessed the likely impacts of each proposal, for example, whether it would tend to increase or decrease annual expenditures or the national debt.

Government's Oil Acquisition and Financing Costs

The analysis considered both short- and long-term acquisition and financing costs. Where appropriate, we compared the present value of additional long-term costs with current savings:

- Acquisition costs are the government's expenditures for oil over time. These costs can change as a result of a change in either the amount of oil purchased or the price of oil.
- Financing costs are considered to be the government's expenditures associated with money borrowed to finance oil purchases. For instance, the government pays interest when it borrows money and, with some types of debt instruments, may also have to repay a principal amount that exceeds the amount it has borrowed. The government's financing cost can change as a result of a change in either the interest rate the government pays when borrowing money or the total amount borrowed.

Effects on the Budget Deficit and the National Debt

Our analyses, in subsequent appendixes under this heading, present the effects on the budget deficit and the national debt from outlays (expenditures) for the SPR program. The deficit is the amount by which the government's budget outlays exceed its budget receipts for a given fiscal year. Certain nongovernment entities, such as the government-sponsored enterprises, are not included in the budget (off budget). However, in the event that the government makes payments to these off-budget entities, these amounts would be included in the deficit.

The following definitions are presented to facilitate an explanation of how the terms budget deficit and national debt were used:

- Gross national debt consists of public debt and agency debt and includes all public and agency debt issues outstanding.
- Public debt is that portion of the federal debt incurred when the Treasury or the Federal Financing Bank (FFB) borrows funds directly from the public or another fund or account. To avoid double counting, the FFB borrowing from the Treasury is not included in the public debt. (The Treasury borrowing required to obtain the money to lend to the FFB is already part of the public debt.)
- Agency debt is that portion of the federal debt incurred when a federal agency, other than the Treasury or the FFB, is authorized to borrow funds directly from the public or other fund or account. To avoid double counting, agency borrowing from the Treasury or the FFB and federal fund advances to trust funds are not included in the federal debt. The Treasury or FFB borrowing required to obtain the money to lend to agencies is already part of the public debt (i.e., shown as part of the federal

deficit). Agency debt may be incurred by agencies within the federal budget (such as the Tennessee Valley Authority) or by off-budget federal entities (such as the Postal Service). Debt of government-sponsored, privately-owned enterprises (such as the Federal National Mortgage Association) is not included in the federal debt.

Other Concerns

In subsequent appendixes under this heading, we identify some additional important effects that would follow adoption of a particular proposal. Those include

- who pays for the oil (taxes, user charges);
- who controls oil in the SPR and whether the proposal would complicate drawdown (rent/lease, mandated contributions);
- the feasibility of the proposal (options); and
- legal issues.

Our discussion may not include all possible impacts.

Revenue Raising Alternatives

Numerous revenue raising proposals offer ways to fund SPR oil purchases. The proposals include issuing bonds, assessing taxes and user fees, selling government assets, and using receipts from revenue producing assets. The proposals generally address the means by which the government could raise money and do not directly affect the purchase price of oil for the SPR. In practice, the revenue raised from these proposals could be used to fund any government expenditure. These proposals envision dedicating the revenues to fund SPR oil purchases.

Bonds

Several proposals have been made to issue various bonds to generate extra revenue for the government to purchase oil for the SPR. A bond is a debt instrument that generates funds, which must be repaid in the future, and is issued by the government or a corporation. The principal, or face value of the bond, represents the amount that the debtor will repay to redeem the bond on maturity.[1] The value of the bond at any given time will vary in the market place from its redemption value. In addition to receiving the face value at maturity, bondholders usually receive specified interest payments on a fixed schedule over the life of the bond. The proposals for SPR financing generally use one of two types of bonds: (1) conventionally structured bonds and (2) indexed bonds. Bonds associated with the SPR might be issued by the Treasury, DOE, or a government corporation.

The Proposals

Conventionally Structured Bonds. Conventionally structured bonds have a fixed face value at maturity and the bond holders typically receive periodic interest payments during the life of the bonds representing a fixed percentage of the face value. Conventional, fixed-rate proposals include (1) borrowing from the FFB and (2) issuing mortgage bonds backed by SPR oil. The latter is a conditional pledge of the oil to a creditor as security against default.

The FFB is an entity of the U.S. Treasury authorized to lend money to federal agencies or government-sponsored, privately-owned entities. The FFB buys bonds and notes issued or guaranteed by federal agencies or government-sponsored, privately-owned entities. The FFB in turn borrows from the Treasury, which issues Treasury debt instruments to obtain the funds needed.

[1] Maturity is the date upon which the principal is payable unless otherwise specified.

The SPR could borrow from (sell debt instruments to) the FFB and use the proceeds for oil acquisition. This approach would change only the financing mechanism—not how the oil purchases would be made. Such borrowings from the FFB would be offset by additional Treasury borrowing with the interest recorded as current expenditures (outlays) in the budget.

Indexed Bonds. An indexed bond differs from conventional financing in that the face value of the bond is tied to another unit of value, such as a foreign currency or a commodity. In the case of oil-indexed bonds, as oil prices change, the face value of the bonds changes as well. Investments in this type of debt instrument may offer a hedge against inflation. To the extent that the price of oil tracks inflation, the value of the bond's principal (face value) does so as well. During the 1980s oil prices have fallen despite a rise in the overall price level. However, major economic forecasters' expectations appear to be that in the future oil prices will at least keep pace with those of other goods and services; therefore, the bond's principal may be protected from loss of purchasing power. Because the bonds' face value is linked to oil prices, borrowers may be able to sell an indexed bond to investors while offering a lower interest rate than necessary to sell a conventional bond.

Indexed bond proposals include the following:

- bond issues with a variable redemption value linked to the price of oil (30-year term) which may be sold with a lower interest rate,
- bond issues sold at a discount (zero coupon) with a minimum and maximum redemption value (7- to 12-year term), and
- bond issues tied to an agreement with the government to purchase specific amounts of oil at a minimum price, and financed at a lower rate of interest than conventional Treasury debt.

In the first proposal, bonds would have a stated par value,[2] such as $1,000, and could be converted into the dollar equivalent of a specified number of barrels of oil.[3] For example, if the specified conversion price is $20 per barrel, then at maturity the holder of a bond with a face value

[2]Par value is usually synonymous with face value. The term means that value for which the debt instrument can be redeemed from the seller.

[3]Although these bonds are sometimes called convertible oil bonds, the bonds themselves would not be convertible into oil and they would be backed by the full faith and credit of the U.S. Treasury, not by the oil stored in the SPR.

of $1,000 could convert that bond into the dollar equivalent of 50 barrels of oil ($1,000 divided by $20 per barrel conversion price). This bond would have a value at maturity of at least $1,000. However, if the price of oil increases, the bond would appreciate in value. For example, if the price of oil rose to $100 a barrel in 30 years, the bond's value would become $5,000 (50 barrels times $100—the then current market price of oil). Furthermore, throughout the life of this 30-year bond, the bondholder would receive a fixed annual interest payment. The originators of this proposal believe that the government could successfully market these bonds with an interest payment of 3 percent, or $30 per year on a $1,000 bond. They also believe that these bonds could carry a conversion price slightly higher than the price of oil at the time the bonds are issued, such as $20 per barrel based on current oil prices.

The second proposal also calls for indexing the face value of the bonds to the price of oil. However, this proposal limits the amount that investors receive if the bonds are redeemed at drawdown. The oil price used to adjust the bonds' face value is limited to the price in the month immediately preceding disruption and drawdown plus 15 percent. Another difference between this proposal and the first is that this proposal calls for the issuance of bonds that require no periodic interest payments by the borrower. Investors purchasing this type of bond (commonly called a zero coupon bond because there are no explicit interest payments) earn their return from the difference between their (lower) purchase price and the bonds' face value. These bonds would be sold by auction, with the winning bids determining the implied yield to investors and cost to the government.

Under the third proposal, DOE would agree to buy periodically, through an intermediary, a certain amount of oil with a guaranteed floor price. With this guarantee the intermediary would then sell options to sell the agreed quantity of oil.[4] The intermediary would also issue 5-year, government-guaranteed SPR bonds, the revenue from which DOE would use to purchase oil. Although these bonds would be sold to the public at market rates, the government's interest cost would be lower than with

[4]An option is a contract that gives the buyer the right to buy or sell, and the seller the contingent obligation to sell or buy a specified futures contract at a specific price on or before a specified expiration date. The exercise price (sometimes referred to as "strike price") is that price in an options contract at which the holder of the option may either buy or sell the security or commodity covered in the option. A futures contract is a standardized agreement to purchase or sell a commodity for delivery in the future at a price that is determined at initiation of the contract. A futures contract is traded on a board of trade, or exchange, by members of the exchange; is used to assume or shift price risk; and obligates each party to the contract either to fulfill the contract's terms or offset the contract by entering into an opposite transaction.

conventional securities because the intermediary would pay part of the interest. The proposer is willing to be the intermediary because it anticipates receiving enough revenue from selling options (for the sale of oil to the government) to reduce the government's interest payments and still earn a profit. Oil producers and sellers may be interested in buying these options to protect themselves against a fall in the price of oil. Under this proposal, the government can reduce its financing costs by giving up the chance to buy cheaper oil should the price of oil fall below the guaranteed floor price. The higher the floor price, the more the intermediary will receive from selling options and, therefore, the larger the reduction in interest rate the government might receive.

Government's Oil Acquisition and Financing Costs[5]

For the conventional bond proposals and the first two indexed bond proposals, there is no effect on oil acquisition costs because oil would continue to be purchased as it is now. The third indexed bond proposal, however, could result in higher oil acquisition costs if the market price falls below the floor price that the government guarantees to sellers.

For conventional bonds, the government's financing cost will be the same as or possibly slightly higher than (e.g., in the case of agency bonds) conventional Treasury debt because the interest rate will be the same or slightly higher. For indexed bonds, the government's financing cost compared to the cost of conventional Treasury bonds will initially be lower. However, the appreciation of principal that the Treasury must pay at maturity will depend on how fast oil prices rise during the life of the bonds. The net financing and acquisition cost of the third indexed-bond proposal, obligating the government to pay a floor price for oil, could be greater than the current approach only if oil prices are significantly below the floor. If oil prices stay at or above the floor, the government's net costs would be lower under this proposal.

Some proponents of indexed bonds believe that the government's expected financing costs will be smaller because investors would be willing to accept a lower expected return to get the inflation protection afforded by linking the bonds to oil prices. For example, if conventional Treasury debt pays 9.5 percent, and oil prices are expected to rise at 4 percent, these proponents believe that investors would accept a 3 percent interest rate on indexed bonds. If oil prices rise at 4 percent as they expect, the government's financing cost will be 7 percent—lower than the 9.5 percent paid on conventional Treasury debt in this example.

[5]The government's acquisition and financing costs are defined in app. I.

Large oil purchasers interested in a hedge against oil price inflation (such as utilities or airlines) might accept this lower expected return. Other experts we spoke with suggest that investors might not be willing to accept a lower rate of return and instead might require a premium to compensate for the uncertainties of oil price inflation. For example, such investors might require an interest rate of 6 percent so that their expected return is 10 percent, exceeding the return on riskless Treasury securities.

Effects on the Budget Deficit and the National Debt

The issuance of special SPR bonds would affect annual expenditures and, therefore, the budget deficit through interest payments and expenditures for the oil. Interest rates below Treasury borrowing rates would reduce net government interest outlays. Because these bonds would substitute for conventional Treasury borrowing, the interest cost paid on these bonds is less than the amount saved from reducing conventional borrowing. Under certain proposals the government could face increased future costs, even if the bonds are issued at a lower rate of interest than Treasury debt. The present value of these increased future costs might exceed the reduction in interest expense.

These proposals do not affect the total national debt in the short term because they substitute one form of debt for another, i.e., special SPR bonds for Treasury bonds. Over the long term, indexed bonds could either increase or decrease total U.S. government liabilities as a result of differences in the required interest rate plus the increased principal due at maturity, and in the case of the third indexed bond proposal, possible changes in oil acquisition costs.

Other Concerns

There is no effect on government ownership, control, or drawdown from these bond proposals.

Taxes and User Fees

Various types of taxes and user fees have been proposed as potential sources of additional revenues that could be dedicated to fund SPR oil purchases. A tax is a broadly based revenue source to fund government activities; a user fee is a revenue source that is collected from those who directly benefit from a related government activity.

The proposals include

- a tax on gasoline and/or other petroleum products,
- a fixed or variable import tax on crude oil and imported petroleum products,
- a refiners' tax on imported crude oil and imported petroleum products, and
- a user fee on oil companies for the use of federally financed facilities such as harbors and waterways.

The Proposals

A Tax on Gasoline and/or Other Petroleum Products. A dedicated gasoline tax has been proposed as a way to raise money to fund oil purchases for the SPR.[6] A per gallon tax would be imposed at the gas pump. The tax rate could be structured so that it would rise and fall with oil consumption and/or the price of oil. Some persons believe that the revenue from a gasoline tax would be large, predictable, and adjustable. For example, the Congressional Budget Office estimated, on the basis of a study of a gasoline tax of 12 cents per gallon, that each cent per gallon of the tax would generate tax revenue of about $1 billion per year. This tax could be used to cover annual SPR expenditures.

Another proposal is to tax other petroleum products in conjunction with a tax on a selected product such as gasoline. A tax on other petroleum products would decrease the amount needed to fund SPR oil purchases from a gasoline tax alone.

Import Tax on Crude Oil and Petroleum Products. A per barrel tax on imported oil and petroleum products has also been proposed as a way to raise money to fund the SPR. The tax rate could be fixed or variable. A fixed tax rate would remain constant on a per barrel basis; revenue would reflect the number of barrels imported. A variable tax rate could change on the basis of such factors as the import level or the price of oil to produce a constant stream of revenue.

Refiners' Tax on Crude Oil and Imported Petroleum Products. A tax on each barrel of imported crude oil refined into petroleum products in the United States, and an equivalent tax on each barrel of petroleum product imported into the United States, could raise additional revenue to fund the SPR.

[6]This tax would be in addition to the current gasoline tax that is earmarked for the highway trust fund.

User Fee for Use of Certain Federal Facilities. Another revenue raising proposal is a user fee (tax) paid by oil companies that use certain federally financed facilities, such as harbors and waterways, to finance the SPR. The fee could be seen as a way of compensating the government for the use of the facilities.

Government's Oil Acquisition and Financing Costs

There would be little change, if any, in the net cost to purchase oil except for import taxes because the oil would be purchased from the market as it is now. Under the import tax proposal the domestic price of oil would rise, thereby increasing the government's acquisition cost if it purchases domestic oil. If the government continues to purchase imported oil, however, it would bear the expense of the tax but it would also receive these revenues elsewhere. In the latter case, there would be no effect on the acquisition price of oil net of taxes, unless the import tax reduces world oil prices.

Because SPR oil purchases would be paid for from the new taxes or user fees, the government would be able to reduce its borrowing if there is no increase in other expenditures. As a result, in the future the government would incur smaller financing costs. The reduction in government borrowing, however, is unlikely to be large enough to affect the interest rate the government pays.[7]

Effects on the Budget Deficit and the National Debt

If revenues are increased from dedicated taxes or user fees to fund SPR oil purchases, the budget deficit would be reduced provided there is no offsetting increase in government expenditures.

Other Concerns

These proposals increase the cost of oil and petroleum products to consumers and businesses. Furthermore, different segments of the economy and population would bear different shares of these costs, depending on how the tax or user fee was established. For example, a gasoline tax would heavily affect consumers, while a user fee on imports would affect consumers, industry, and—to the extent that it reduced world oil prices—foreign producers. Higher domestic oil prices can also be expected from an import tax because domestic oil producers will probably increase their prices commensurate with the higher prices of oil

[7]If the government's budget is balanced (or is in surplus) during the period when taxes or fees are imposed, the additional taxes or fees would allow the government to retire debt, which would similarly reduce its financing cost.

imports. Consequently, the import tax would benefit these producers since they are not subject to the tax and can retain the additional revenue.

These proposals would not change the structure of the SPR because the government would continue to own and control the oil and its drawdown. However, structuring user fees for government facilities in harbors and waterways in such a way that they fall on the petroleum industry alone and are used for the SPR might raise equity issues about the appropriate source and use of funds.

All of these proposals envision dedicating the new revenues to filling the SPR.

Asset Sales and Receipts

Various proposals have been made that involve the sale of government assets, the use of receipts from revenue producing government assets, or the sale of an ownership interest in a government asset as ways of raising and dedicating money to fund the SPR. Assets owned by the government include items of economic value, both those that are physical in nature and rights to ownership, such as stock in a corporation.

Asset sale proposals include

- sale of Naval Petroleum Reserves (NPR),
- sale of non-revenue-producing government assets,
- crediting receipts from federal oil and gas leases to a revolving fund for use in purchasing SPR oil,
- utilizing NPR revenues directly for SPR oil purchases,
- auctioning some SPR oil to pay for more oil while requiring that the auctioned oil remain in the SPR for 5 years, and
- selling equity certificates (ownership interest) in SPR oil.

The Proposals

Sell the Naval Petroleum Reserves. The NPR is a group of oil fields owned by and operated under the control of the government. The oil produced is currently sold on the commercial market. The Department of Defense is entitled to NPR production for defense purposes and has used NPR oil in the past.

In December 1987, the Secretary of Energy submitted to the Congress a legislative proposal to authorize the sale of the NPR.[8] The President's January 1989 budget submission for fiscal year 1990 includes a proposal to sell two of the three NPRs. This option would help fill the SPR while meeting budget targets through non-tax revenue. Filling the SPR also would upgrade and improve civilian and defense energy emergency preparedness.

Among other things, the proposal in the January 1989 fiscal year 1990 budget submission provides that the buyer of the NPR deliver oil for the SPR at an average rate of 50,000 barrels per day for 6 years and make a bonus bid of at least $1 billion; i.e., the government would receive both oil and money.

Sell Non-revenue-producing Government Assets. This proposal is to sell non-revenue-generating assets, such as buildings or land, and use the proceeds to fill the SPR.

Use Receipts From Federal Oil and Gas Leases. Under the proposal, receipts from the sale of federal royalty oil, bonuses, and rents received from the holders of federal oil and gas leases would be placed in a revolving fund that would be available for the purchase of oil for the SPR. The gross receipts from these sources total billions of dollars. The government also receives some of the royalty oil. This oil could be dedicated to the SPR. Some of the funds from federal royalties are currently committed to fund other federal programs or are used to make required payments to states in which the oil is produced. The remaining available funds offset budget outlays.

Dedication of NPR Receipts to the SPR. The revenues from the sale of NPR oil could be dedicated to purchase SPR oil. NPR revenues were used to finance SPR oil in 1977. However, these revenues, like federal royalty oil revenues, are already counted as Treasury receipts and are used to offset budget outlays.

Auction SPR Oil and Use Proceeds to Purchase Additional SPR Oil. It has been proposed that the government auction 250 million barrels of existing SPR oil over a 5-year period. The proceeds from the auction would be used to purchase more oil for the SPR. The auctioned oil would

[8]GAO has issued two reports that address this sale proposal: Naval Petroleum Reserve No.1:Efforts to Sell the Reserve (GAO/RCED-88-198,July 28, 1988) and Naval Petroleum Reserve No.1:Examination of DOE's Report on Divestiture (GAO/RCED-88-151, Aug. 25, 1988).

remain in the SPR for 5 years. At the end of 5 years, the owners could withdraw the oil or sell it back to the government.

However, under the proposal, if during the 5-year period oil prices rose by 25 percent or more during a 6-month period, the owner could take possession of the oil. If oil prices rose by more than 100 percent over a 6-month period, the oil would have to be drawn down and sold, with the government receiving the difference between the 100 percent increase and the market price of the oil at the time of purchase. As long as the auctioned oil remained in the SPR, the government would pay a rental fee to the owners and bear all storage costs.

Sell Equity Certificates (Ownership Interest) in SPR Oil. Three proposals would create SPR certificates with fixed maturity dates. These certificates give buyers beneficial ownership of SPR oil and provide a supplementary means of financing the acquisition of additional SPR oil.[9] Under the proposals, the certificates would be denominated in barrels of crude oil. The proceeds from certificate sales would be used to acquire crude oil for the SPR.

Under the first proposal, the issue price of the certificates would be no less than the average weighted price of crude oil imported into the United States for the quarter preceding the date of issue. The proceeds from the certificates would be used to acquire oil for the SPR. Any excess proceeds would be deposited in the general fund of the Treasury as miscellaneous receipts. Further, the certificates would mature in 10 years, at which time they could be redeemed for cash (not oil) or rolled over (new certificates issued). The certificate's cash redemption value would fluctuate with the market price of imported crude oil, reduced by the amount of certain storage and handling costs.

Prior to maturity, holders of certificates could transfer them, presumably through sale on a secondary market. Also, the Secretary of Energy could call in the certificates (buy them back) in the event of an SPR drawdown. The proposal is not clear, however, about whether the government must buy back the certificates at drawdown.

The second proposal is similar in that the certificates would have a fixed maturity, although for a shorter period—not more than 7 years—and a similar redemption price.

[9]Each certificate entitles the buyer to the value of one barrel of SPR oil—i.e., beneficial ownership.

A third proposal would allow the sale of fixed-price 7-year certificates at the current cost of SPR oil. Minimum and maximum limits would be set on the redemption price.

The minimum return would be set by a bidding process when the certificate is issued and therefore would be subject to government approval prior to issuance. The minimum return an investor would require would presumably reflect at least the rate of return on Treasury notes of comparable maturity.

The maximum return would be indexed to the price of oil within limits determined by the government. For example, the maximum could be a 15-percent increase over the market price of oil for the month preceding disruption. At maturity, the government would buy back the certificates at the then-prevailing price of oil subject to previously specified limits. At that time, the government would either receive the benefit of any excess profit or bear the burden of any loss on the transaction.

Government's Oil Acquisition and Financing Costs

There is no effect on oil acquisition cost because the oil is purchased on the market as it is now.

Because SPR oil purchases are paid for from the new asset sale revenues, the government would be able to reduce its borrowing unless it increased other expenditures. As a result, the government would incur in the future smaller financing costs, even though the reduction in government borrowing is unlikely to be large enough to affect the interest rate the government pays.

However, for equity certificates, the financing costs (reflected in the price at which the government repurchases certificates at drawdown) could be higher or lower than conventional financing depending on how rapidly oil prices rise.

Effects on the Budget Deficit and the National Debt

Use of non-revenue-generating assets and equity certificates could reduce the deficit. They would provide an alternate revenue source by replacing some Treasury debt if there is no increase in other government expenditures. However, these sales represent reductions in capital assets owned by the government.

In the short run, the deficit is reduced from selling revenue generating assets. However, in the long run, the impact on the national debt

depends on whether the sales price is higher, the same as, or lower than the net present value of the income generated by the asset. (The definition of net present value is provided as a footnote in the letter.) It should be noted that the proceeds of asset sales are excluded in calculating the deficit for purposes of the Gramm-Rudman-Hollings procedure. This is consistent with our view that actions should not be taken that reduce the deficit in the short term but increase it over the long term.

Presuming no additional outlays, the short-term deficit would be reduced when equity certificates are sold because selling this asset is an alternate revenue source that would replace some Treasury debt. However, the government forgoes profits that it may otherwise receive from oil price appreciation by selling ownership interest in SPR oil, thus potentially increasing the long-term deficit.

Other Concerns

Asset sale proposals would not change the structure of the SPR, except when an ownership interest in SPR oil is given in exchange for revenues as in the sale of the proposed equity certificates. If drawdown occurs before the specified redemption date, the government could pay the market (disruption) price for the oil in order to retain control over its distribution. If drawdown does not occur (depending upon how the proposal is set up) at the end of the specified period, the government could repurchase the oil at prevailing market prices.

A concern over asset sales is that the income stream from asset sales—for example, royalty oil revenues—might not be sufficient to keep the SPR oil fill rate constant or at the required level.

Futures and Options

Proposals have been made to sell (1) futures contracts in SPR oil or (2) options contracts on SPR oil. Futures and options contracts are primarily ways to organize drawdown of the SPR, but they have financing implications also.

Futures contracts are standardized agreements to purchase or sell a commodity for delivery in the future at a specific time and price determined at the initiation of the agreement. A futures contract obligates each party to the contract to either fulfill the contract's terms or offset the contract by entering into an opposite transaction (an opposite kind of futures contract). For example, the holder of a futures contract to buy a commodity could offset it by obtaining an equivalent contract to

sell the commodity. Futures contract prices generally represent the market's expectations of what spot market prices will be when the contract expires.

Selling futures contracts on SPR oil makes the government liable to deliver on expiring contracts. If the government wanted to structure agreements such that contract buyers would want to take delivery of oil only in the event of a disruption, the futures contract price would have to be set at an expected disruption price. For example, the expected futures price for oil to be delivered might be $15 per barrel; however, in the event of a disruption, the price might be expected to rise to $30 per barrel. Buyers are unlikely to be interested in entering into contracts obligating them to pay $30 per barrel to receive oil in 6 months when futures contracts are available on the open market to buy privately owned oil at $15 per barrel. Thus, futures contracts on the SPR are unlikely to work unless the government is prepared to treat the SPR as part of the commercially available stock of oil and potentially make delivery of the oil to futures contract buyers for prices at or near normal market prices.

An option is a contract that gives the buyer the "right," but not the obligation, to buy or sell a security or commodity contract at a specific price on or before a specified expiration date. For example, the government could sell options to buy SPR oil in June 1989 at $30 per barrel. There may be some buyers willing to pay a few cents per barrel for the right to buy oil in 6 months at $30 per barrel because, if there is an oil market disruption in that period, the market price for oil may rise even higher. Some revenue could be raised from the sale of these options.

Government's Oil Acquisition and Financing Costs

There is no impact on acquisition costs because these proposals do not affect how the government acquires oil.

The government's financing costs are reduced to the extent that the sale of options produces new revenues and therefore reduces total government borrowings.

Effects on the Budget Deficit and the National Debt

As long as the market price of oil remains below the exercise price, this proposal will reduce the budget deficit by the amount of option revenues generated. However, in a disruption, the government forgoes revenue to the extent that firms exercise options contracts with prices under the disruption price. For example, if firms exercise $30 options and the

market price of oil rises to $35, the government forgoes $5 per barrel that it would have received had options not been sold.

Other Concerns

Options would not raise enough money to be an adequate revenue source for filling the SPR. Furthermore, options would have an impact on ownership, control, and drawdown. However, some authorities think that options constitute good energy policy because they would make a drawdown more automatic and perhaps quicker in the event of a disruption. But before selling options, the government would need to specify the number of options to be sold and their exercise price.

Alternative Ways of Acquiring Oil

These proposals address means of obtaining oil for the SPR rather than raising revenue. We have identified two major categories of ways to acquire oil other than through outright purchases. The proposals include renting or leasing oil (usually from the private sector) and obtaining it through compulsory or induced private contributions.

Renting or Leasing

Several proposals would allow the government to obtain oil reserves through lease arrangements with private firms or a state government.

A lease is a contractual agreement that grants the use of property, such as land, equipment, or facilities, for a specified period of time in exchange for a specified monetary payment. Although the proposals evaluated are all specifically lease proposals, rental agreements would operate in a similar manner.

Under the proposals, the government would lease oil, or lease oil and storage facilities. Each proposal would require the government to pay an annual rent or lease fee in an amount that would be much smaller than the cost of purchasing the same amount of oil outright. The proposals differ in terms of whether the oil would be stored on-site at the SPR or off-site at private facilities, and the party from whom the government would lease the oil.

If the government is the lessor, it would control the oil during the lease period. However, the government would not own the oil unless the oil was purchased either at the end of the lease agreement period or at drawdown.

The specific proposals are to lease

- oil from private firms,
- oil and storage facilities,
- regional storage reserves, and/or
- Alaskan state royalty oil.

The Proposals

Oil from private firms. Under this proposal firms would lease oil to the government for storage at the SPR. During a drawdown of the SPR, title to the oil may be transferred to the government because it would have an option to purchase the oil. Then the oil would be distributed as specified in the SPR drawdown plan. The government would compensate the firms for the oil at the prevailing market price for any oil so distributed.

Oil and Storage Facilities. A proposal has been made to allow the government to lease oil and storage space from the private sector. Under this proposal, the government would request bids to lease oil and storage space for a specific period of time. The government would have the option to purchase some or all of the oil in subsequent years. This option could be exercised either during an oil disruption or when the lease was about to expire.

Regional Storage Reserves. This proposal would establish regional storage reserves for the SPR by leasing stored crude oil and possibly other petroleum products. The reserves would be geographically dispersed in patterns similar to the demand for oil. This approach might better utilize existing storage capability, encourage development of new oil storage capacity, and facilitate distribution at the user level.

Alaskan State Royalty Oil. Under this proposal the state of Alaska would provide oil to the SPR under a lease arrangement. The oil would come from a portion of the royalty oil the state receives from North Slope production. The lease agreement would allow the state to claim the world market price for the oil from the federal government at some specified future date or at SPR drawdown, whichever occurs first.

Government's Oil Acquisition and Financing Costs

The government's oil acquisition costs would be lower in the short term and higher in the long term using lease arrangements. Firms will charge the government rent or lease rates that cover their costs and provide them with an acceptable rate of return. Their costs include their cost of capital, which is typically higher than that of the government. These proposals would lead to the government paying disruption prices for the oil if the government wishes to be the distributor of oil during a disruption. However, government purchase would not necessarily be needed since the oil could simply be returned to the owners, which could have the same effect of getting the oil back on the market.

Costs of above-ground storage are usually higher than those of storage in caverns, such as those used by the SPR. Estimates on the costs of the regional storage proposal were not provided.

Government financing costs are reduced to the extent that expenditures for SPR oil are avoided or postponed.

Effects on the Budget Deficit and the National Debt

Leasing and rental arrangements would reduce the deficit initially because rental costs are less than the purchase price of oil. In the long term, however, the national debt would probably get larger than under the current funding process because private firms will probably incorporate their profit margin into the lease rates. Over time this would cause the government to pay out more money than if the oil were purchased outright. If the government purchases the oil during a disruption, this could increase the budget deficit. However, government purchase of the oil is not necessary for its distribution because the oil's owners could simply reclaim full control and make distribution themselves. Therefore, there need not be a large increase in the budget deficit for the year in which a disruption occurs.

Other Concerns

Drawdown might be complicated by the question of whose oil—the government's or the lessor's—comes out first, unless this is decided at the time of the lease or the government purchases the oil at drawdown.

In addition, frequent withdrawal of oil from SPR facilities, as suggested under one proposal, was not contemplated when the SPR facilities were designed. The SPR salt caverns (the present storage facilities) can handle only a limited number of large withdrawals of oil without damaging the caverns. Such damage could result in the contamination or loss of oil.

Another concern is the ready availability for sale and distribution of oil stored off-site from the SPR. The government would have to assure itself that private firms storing oil away from SPR sites did not regard the leased oil as part of their normal operating stock. If this oil were, in effect, part of normal operating stocks, total United States emergency reserves would not be increased.

Compulsory or Induced Private Contributions

Various proposals have been made to either require or induce private companies (usually oil companies) to contribute oil to the SPR. These proposals fall into two groups: mandatory contributions and induced contributions.

The Proposals

Mandatory Contributions. Mandatory proposals are those that require oil companies to store oil either in the SPR or in company facilities where the government would control the oil. Three mandatory proposals have been made, including one in the original SPR enabling legislation. Some

argue that mandated contributions could be required by the Congress as a condition of doing business for oil companies, refineries, and importers.

The first proposal would require private oil importers that import more than 75,000 barrels of crude oil per day during a calendar year to contribute oil to the SPR. The specific contribution would be equal to about 5 days of the company's imports, to be computed by averaging its imports for the calendar year. Importers of petroleum products are not included. Under this proposal, the government would pay importers for 11 years an annual fee—equal to 10 percent of the oil's purchase price. The purchase price cannot exceed the average world price at the time of purchase. If a drawdown occurs, the government would sell the oil and use the proceeds to pay each importer the then-current average world market price of oil minus whatever payments the importer has already received. But the total government payments could not exceed the average world market price for the 3 months immediately preceding the date of distribution.

A second proposal is to use the authority under the Energy Policy and Conservation Act of 1975 (section 156 (b)), to create an Industrial Petroleum Reserve (IPR).[1] The Secretary of Energy has authority to require petroleum refiners and importers to store up to 3 percent of the volume of oil they import or refine each year. The IPR is, in effect, an emergency private sector reserve—in excess of their normal operating requirements—that presumably would be segregated from normal operating stocks to facilitate monitoring. All firms would be required to provide evidence of sufficient storage to meet the requirements. The President would have the power to order that the IPR be drawn down, but title to the oil would be retained by the oil companies. Companies would bear the costs of this proposal and would presumably pass them on to consumers.

A third proposal is to require oil importers to provide petroleum products, or the equivalent of petroleum products converted to crude, for storage in the SPR at a rate determined by the Secretary of Energy. The volume required would fill the SPR at an average rate of at least 100,000 barrels per day during each fiscal year until the SPR has at least 750 million barrels. Title to the oil is retained by the importer and, if drawdown occurs, the government is to pay each importer the amount received from the sale of the oil in the order that the oil is sold. The

[1] 42 USC 6236 (b).

government would assess and collect storage charges from each importer that stores oil in the SPR.

Induced Contributions. Our definition of an induced contribution is one in which an incentive is given that will make either an oil company or another investor want to store oil for/or in the SPR. We have limited this category to noncash incentives. Inducements that involve cash payments, such as rent or lease proposals, are discussed above.

The first proposal is to trade existing government SPR oil and the right to receive the government's future sales price for that oil in exchange for private investors filling the SPR. Under this proposal, individuals or companies willing to store a barrel of oil in the SPR would receive vouchers (or some kind of negotiable instrument) for government-owned oil. For example, the investors could receive two barrels of existing SPR oil—after a specific period or earlier in the event of drawdown—in return for every barrel they stored there. The number of barrels to which the voucher holder would be entitled could be determined at auction. The government would control the oil for a specified period, such as 25 years, or until drawdown. However, private parties would own the voucher oil and any oil that they stored to obtain it.

Another proposal is to give oil companies, or other entities, tax incentives in return for contributions of oil to the SPR. Tax incentives include changes allowed in an oil company's accounting system that will reduce the taxable profits of the company, such as the method used to determine the value of a company's inventory. Tax incentives also can be structured so that reductions could be made directly to a company's taxable income in return for oil stored in the SPR. Unless structured otherwise, the company storing oil in the SPR would retain ownership, and the government would control the oil through drawdown.

Government's Oil Acquisition and Financing Costs

Under the first mandatory proposal, the government's oil acquisition costs are likely to be less, if drawdown does not occur, because the value of the 11 annual payments discounted at the government's borrowing cost is less than the market price for oil. Eleven annual payments of 10 percent amortize the oil purchased at an interest rate of about 1.6 percent, while the government's borrowing rate is about 9 percent. If a drawdown occurs, the government may have to pay a higher price, if world market prices during the period preceding the drawdown are higher than those prevailing at the time the oil was acquired.

For the second and third mandatory proposals, the government's oil acquisition costs are zero because industry contributes oil directly to the SPR. There may be tax revenue losses if companies are able to deduct costs associated with their contributions.

Under the first induced proposal (the voucher proposal), the government has no direct oil acquisition costs. However, it pays for oil by giving up its future revenues on oil already in the SPR.

Under the tax incentive proposal, the government will receive less tax revenue from companies that contribute oil to the SPR. However, there could be an even greater reduction in expenditures since the government would not be purchasing the oil.

For all of these proposals, the government's financing costs are reduced to the extent that government expenditures for the acquisition of SPR oil are avoided or postponed.

Effects on the Budget and the National Debt

For the first mandatory proposal, the deficit is reduced in the short term because the annual payment to the importers is less than the cost of direct payment for the oil in one year. Over the longer run, as pointed out above, the impact depends upon the occurrence of a drawdown and the price of oil at that time.

The deficit also is reduced for the second and third mandatory proposals. This is because the firms—not the government—would bear the costs of providing additional oil reserves. This could have an impact on future deficits if these firms reduce their taxable income by the value of oil they hold in the reserve. However, government revenues would not be reduced by as much as the government would have spent in buying the same quantity of oil.

For the voucher proposal, the deficit is reduced by the amount the government would otherwise have had to spend to acquire the oil deposited in the reserve. However, potential revenues from the sale of the government's oil that could be used to reduce future budget deficits are forgone by the government. This would be a "loss" to the government in the sense that, if the government owned the oil it would get the high price at disruption.

For the tax incentive proposal, the deficit would be reduced to the extent the tax incentives reduce the need for government oil purchases,

but increased by the amount of the tax revenue forgone in encouraging private firms to hold strategic stocks. The net effect is likely to be a reduction in the deficit since the reduction against taxable income would probably not be equal to costs avoided by the government's not purchasing the oil.

Other Concerns

Depending upon terms of the various agreements, there may be questions about whose oil comes out first when the oil in the reserve is not wholly owned by the government. Agreement with the other parties involved could be reached at the outset to avoid questions.

Mandatory proposals raise a legal issue about whether the Congress can require oil contributions. One view is that mandatory contributions could be instituted under the Congress' powers over interstate commerce as set forth in article I, section 8, of the Constitution, and would require no compensation. Another view regards mandatory contributions as a "taking," which would require government payment for the oil.

The private sector would retain title to any oil that they place in the SPR. This creates a concern that private owners would realize large profits. Such profits could be expected to result from the expected increase in oil prices in the event of a disruption.

Establishment of a Separate SPR Entity

Proposals have been made to establish the SPR as a separate entity. Separate entities are sometimes created when the government undertakes business-like activities that generate revenues by selling products or services and help finance their expenditures primarily by such receipts. Some such entities, the Tennessee Valley Authority, for example, are on budget; some, such as the Federal National Mortgage Association, are off budget. Whether or not an entity is on or off budget is established by law. Generally those entities not included in the federal budget (off budget) are government-sponsored, but privately owned and financed. An SPR entity could be either on budget or off budget.

The Proposals

For the SPR, two types of separate entities have been proposed, a government corporation and a trust.[1] For purposes of operating the SPR as a separate entity, the distinction between the two is slight. A government corporation could take over the operation and management of the SPR, as well as the financing of oil purchases. A trust would be primarily concerned with financing oil purchases by selling bonds or stock. Essentially, a separate SPR entity could pursue many of the alternatives discussed in appendixes II and III. Any alternative used by a separate, on-budget entity would affect the government in the same way as previously described.

An SPR entity could use a variety of ways to acquire additional SPR oil and facilities or to fund its operations. For example, if the entity owns the SPR facilities and the government retains title to the oil, the entity could charge the government an oil storage fee. Also, an entity could use additional Treasury debt if it borrowed through the FFB, as discussed in appendix II.

Revenue for the operations of an SPR entity could come from any of the alternatives discussed in appendix II. For example, a separate entity could sell bonds, which would resemble agency bonds. Like most agency bonds, they would probably carry a higher rate of interest than Treasury debt. Also, an entity could sell equity certificates, that is beneficial ownership of SPR oil. In this case, the SPR entity might be exchanging future profits, which might occur when oil prices rise, for current revenue to buy oil.

[1] A trust, as used here, means an entity with the power to undertake financial transactions on behalf of another person or institution, in this case, the SPR. The Treasury also maintains separate receipt, expenditure, and revolving fund accounts, usually called Trust Fund Accounts; these are not referred to here.

The separate entity proposals that we analyzed did not discuss how the entity would purchase oil. One natural method would be through purchases at market prices. Other methods, such as those discussed in appendix III, are possible. These include renting or leasing, or compulsory or induced private sector contributions.

Government's Oil Acquisition and Financing Costs

The Congress could create an off budget SPR entity to purchase oil and arrange financing.[2] In theory, the entity might be able to operate more efficiently than the government (that is, buy oil more cheaply). However, its financing costs, as mentioned above, would be higher than those of the government.

Effects on the Budget and the National Debt

If the expenditures of the SPR entity were off budget, this arrangement would reduce reported government expenditures and, therefore, the budget deficit. Even if the entity were off budget, the government could incur on-budget expenses. As discussed before, these expenses could include payments for storage services or additional interest as a result of Treasury borrowing. Such expenditures are likely to be less in the long term than those of outright purchases of SPR oil through appropriation. However, in the event of a disruption, the budget would not reflect revenues from the sale of SPR oil.

Diverting revenues to the SPR entity from other on-budget uses would increase the budget deficit unless those other uses were simultaneously eliminated. Further, there would be a capital loss from transferring the assets to the separate entity.

Bonds issued by an off-budget SPR entity would probably not count as part of the national debt. But with the possible exception of indexed bonds as described in appendix II, this debt would probably carry a higher rate of interest than conventional Treasury debt of comparable maturity. These bonds could be viewed as having less security than the full faith and credit of the U.S. government. Nevertheless, when such an SPR entity issued debt, the government would probably incur some sort of contingent liability, whether the debt technically counted as part of the national debt or not. As a result, the interest rate spread between these bonds and comparable Treasury bonds would likely be small.

[2]The Balanced Budget and Emergency Deficit Control Act of 1985 prohibits most government outlays from being off budget, i.e., excluded from the budget totals. The Congress could either amend the act or pass other legislation allowing an SPR entity to be off budget.

Other Concerns

The formation of an SPR entity could raise issues of control in an emergency if the entity is free to make decisions about the timing and quantity of oil distribution. These issues could, of course, be addressed at the time the entity is established. Also, if equity, either in the form of certificates of beneficial ownership in SPR oil or stock in the entity itself, were sold to the private sector, this action would transfer the financial benefits of oil price escalation from the government to members of the public.

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