STATEMENT OF ALICE M. RIVLIN
DIRECTOR
CONGRESSIONAL BUDGET OFFICE

Before the
Subcommittee on Taxation and Debt Management Generally
Committee on Finance
United States Senate

November 11, 1980

Mr. Chairman, I am pleased to appear before this Subcommittee to discuss alternative policies that could be adopted to minimize the negative economic consequences of an oil import curtailment. In my remarks today, I will address the following topics:

- o The economic effects of various types of oil supply interruptions;
- o The goals to pursue in developing a policy to mitigate the negative impacts of such an interruption; and
- o Alternative policy responses and their relative advantages and disadvantages.

The Economic Effects

Oil import reductions would have several impacts that might require a federal government response. An oil shortage would increase the international price of the remaining petroleum traded on the world market. If the price of domestic oil had been completely decontrolled--as is scheduled to happen at the expiration of the Energy Policy and Conservation Act (EPCA) on September 30, 1981--then domestic oil prices would also rise to the higher international level. These price increases would cause a shift in real income from domestic consumers of petroleum products to producers, both foreign and domestic. This shift in real income would in turn decrease overall aggregate demand and therefore real output. In addition to the loss

resulting from the price increases, there would be a short-run reduction in output because petroleum products would not be available in certain regions or to certain industries. The losses in output and real income, due to both the physical shortage of oil products and their increased prices, would create unemployment and accelerate inflation.

The policy response to such events should depend on several key characteristics:

- The size and duration of the curtailment;
- The behavior of prices during and after the curtailment; and
- The response of other consumer nations, particularly those belonging to the International Energy Agreement (IEA).

The size of the disruption could be of various dimensions. Closing the Strait of Hormuz, for example, would reduce world oil supplies by between 13 and 18 million barrels per day, depending on the eventual level of Iranian and Iraqi exports. That could reduce U.S. imports by as much as 5 million barrels per day and, if continued for a year, could reduce real GNP by as much as 10 percent. A total disruption of Saudi Arabian production could eliminate 9.5 million barrels per day from world supplies. The U.S. share of this shortfall would be 3 million barrels per day, which could reduce real GNP by up to 5.5 percent after one year. The destruction of Iranian and Iraqi capabilities would reduce world supply by about 5 million barrels per day and, if shared by the Western world, would reduce the U.S. supply by

about 1.75 million barrels per day, causing a real GNP loss of 3 percent. Part of the disruption could be offset by drawing upon inventories and by the excess capacity of the remaining producing countries. In this decade, however, only a few major producers will have significant excess capacity--notably, Saudi Arabia, Kuwait, and the United Arab Emirates. Drawing upon private inventories would be difficult to carry out smoothly because of uncertainty about how long the oil curtailment would last.

Another concern is whether the disruption would be temporary or permanent. This might determine whether prices would continue at the new higher level indefinitely or return to some lower level close to their pre-shortfall level after the disruption ended. The policy response to a permanent disruption--caused, for example, by the destruction of producing facilities or changes in political regimes--might be limited to minimizing short-run panic buying and attempting to accommodate higher long-term prices, presumably through macroeconomic policies and transfer payments. During a temporary disruption, however, the value of price signals would be decreased. While prices would allocate oil among consumers, they would also produce changes in profits by industry that might be inequitable and at the same time not provide for the most efficient long-run allocation of resources. Consequently, tax or rationing options may have more appeal during a temporary curtailment, particularly if oil prices decrease substantially after the shortfall.

Policy choices would also depend on the response adopted by the Western signatories of the International Energy Agreement. The importance of multilateral cooperation is best brought out by the responses of the major consuming nations during the shortfall associated with the 1979 Iranian Revolution. Fearing exclusion from uncertain future supplies, many OECD governments directed their national oil firms into the spot market, where they competed against each other and drove spot prices upward. The spot price then became an indicator for higher contract prices for all consumers. To prevent this happening in a new emergency, restraints would have to be universally accepted by major consuming nations. The IEA countries could also agree to share the existing oil supply via quotas, or to impose an oil import fee multilaterally. Both policies might be appropriate for certain levels of shortfalls, but only if imposed multilaterally.

Policy Goals

Policies to manage the effects of an oil interruption must be evaluated in relation to the goals to be achieved. The aim would be:

- To minimize real output and income losses;
- To mitigate the negative effects on income distribution;
- To reduce panic and public perceptions of inequity; and
- To select policies that can be efficiently administered.

The most important goal would be to protect domestic output and real income, and thus minimize the resulting unemployment. Of secondary importance, but partly linked to the protection of output, is that consumers should not suffer undue losses in income or purchasing power. Yet, there may be a limit to which a policy of redistributing income can be pursued without unduly hampering the efficient allocation of petroleum products within the economy. Avoiding panic is also an important goal, but most policies that are designed to minimize real output losses and to mitigate the effects on income redistribution would serve to allay panic.

The issue of whether or not a policy concerned with oil disruptions would be within the administrative competence of the government is most often raised in conjunction with gasoline rationing. Yet, it is relevant to other proposed policies as well. All policies depend on information and allocation procedures to be effective. Policies that tax petroleum products and rebate revenues require that the government be able to estimate correctly the extent of upward price pressure, as well as to rebate the tax revenues to the proper recipients rapidly enough to maintain real income levels and equitably enough to allay panic.

Alternative Policies

A number of policy responses to an oil disruption are possible; the appropriate response might well depend on the nature of the disruption. Some of the advantages and disadvantages of various tax and non-tax policy responses follow.

Continuation of Present Policies. One option would be for the federal government not to initiate any new policy, but to rely totally on the free market to allocate all crude oil and petroleum products during the shortfall. The windfall profits tax would be applied to increases in domestic crude oil revenues. Increased government expenditures on existing transfer programs, such as unemployment insurance and food stamps, would help to stabilize the economy. Tax receipts other than the windfall profits tax might decrease.

There are major advantages in using current policies to address oil shortfalls. Not only are they simple and familiar but, more importantly, they would enable an efficient allocation of petroleum products. Existing transfer programs go into effect automatically without the delay and administrative effort needed to implement a new rebating program. On the other hand, if a disruption in the oil supply grew to significant size, the effect on income distribution might be so large that existing transfer

programs would be insufficient to counteract the resulting shift in real income from consumers to producers. If the shortfall is small and permanent, continuing current policies might be appropriate. If the disruption is temporary, and if world oil price levels decrease after the curtailment, then such a policy might not provide the best long-run price signals to the economy even though the immediate short-run price signals are correct.

Crude Oil Refining Fee. Under this option, a crude oil refining fee would be collected from refiners for each barrel of oil they process. Such a fee would apply to both foreign and domestic oil. Ideally, it would raise the consumer price of oil to the world price, while keeping the producer price close to that which existed before the disruption. If the fee were set too low, and price controls were not in place, there would be windfall profits to domestic and foreign producers; if it were set too high, it would likely decrease the profit margins of refiners and oil producers.

In order to decrease the loss of consumer real income, all the revenues from the fee would be rebated to consumers through an immediate reduction in federal income tax withholding and via other transfer payments. An equivalent tax on imports of foreign refined products would be necessary to avoid a sizable shift from domestic to foreign refineries.

A crude oil refining fee would have the advantages of being simple to administer and of capturing some portion of the windfall profits created by the disruption and rebating them to consumers. A fee on refiners would also reduce the need for refinery mix controls, since no special incentives or disincentives to change the mix would be created. It might, however, still require some allocations to be made among refiners, if small and independent refineries were to maintain their access to crude oil.

The administrative simplicity of a crude oil refining fee suggests that it could be best applied to a small disruption. For a larger shortfall, the rebating of tax revenues could create significant administrative problems. Moreover, as the revenues to be rebated increased. agreement on who should receive the rebates might become more difficult.

Import Tariff. An import tariff would be most effective if imposed multilaterally by the major consuming nations, but might also be effective if imposed by only one major importer, like the United States. The tariff could be paid by all importers of oil or oil products. A tariff set at the "correct" level would restore producer prices to their pre-disruption level, and the premium created by the disruption would not accrue to foreign oil producers but would remain with the consuming nations. If controls were not also imposed on domestic oil, however, its price would rise to the international price of oil, including the tax.

A major advantage of an import tariff, if imposed multilaterally, would be to decrease the transfer of income from domestic consumers to foreign oil producers. On the other hand, sizable tax revenues resulting from a large shortfall might be difficult to rebate equitably. Another disadvantage of a multilateral tariff is the difficulty that would probably be experienced in setting and amending the fee. The requirement of international consensus on the fee would reduce its flexibility significantly. This disadvantage might be moderated by the use of other policy options in conjunction with the fee. Thus, if oil prices continued to rise after the tariff was put into effect, other options might be employed to achieve marginal reductions in demand. A possible third disadvantage is that domestic oil producers would gain by the amount of the tariff under such a program, but part of this gain would be recaptured by the windfall profits tax and corporate profits tax. The re-imposition of crude oil price controls could prevent this rise in profits.

An additional potential disadvantage of an import tariff might lie in the response of the producer nations. Many of the price "hawks" within OPEC might view an organized response from the consumer nations as a direct attack on OPEC's control over the oil market. If this view prevailed, OPEC might retaliate with production cutbacks. Thus, the response of the OPEC nations to a multilateral import fee, and to any other policy option, must be weighed in assessing costs and benefits.

Gasoline Tax. The burden of a disruption in oil supplies could be directed to consumers of gasoline through a higher federal gasoline tax. Most gasoline is purchased by individual consumers; only a small percentage is purchased by businesses. Concentrating the effects of a disruption on gasoline consumers might thus partially insulate the economy from an across-the-board inflationary surge, since higher gasoline prices would not affect the input costs of business as strongly as higher oil prices in general would. If it is assumed that higher business costs are translated into long-run higher prices, this could be an important consideration.

A higher gasoline tax would require some federal authority to regulate the refinery mix in order to ensure adequate supplies of gasoline. Otherwise, the tax might reduce refiners' incentives to produce gasoline. It is assumed that receipts would be rebated to consumers through a "prebate" plan based on motor vehicle registrations. Since gasoline demand has historically been less responsive to taxes than the average of demand for all petroleum products, the size of the tax required might be larger than under the other options mentioned above. The gasoline tax might therefore produce a larger volume of funds to be rebated through the federal withholding system than would the other alternatives, with corresponding administrative and equity problems.

This option might be limited to a relatively small disruption. Gasoline constitutes only about two-fifths of total oil consumption. A 2-million-barrel-per-day disruption would reduce gasoline consumption by approximately 30 percent, although it would reduce total oil use by hardly more than 10 percent. Therefore, the ability of a gasoline tax to absorb the effects of an oil shortfall is perhaps limited even at this level. The relative advantages and disadvantages of the gasoline tax also suggest that it might best be applied in a temporary disruption. Under such circumstances of a relatively small, temporary shortfall, a gasoline tax might serve to insulate the economy from temporary price increases.

Coupon Rationing. The government could restrict purchases of gasoline to those holding coupons issued by federal authorities. (It is assumed that coupon-holders would be allowed to sell surplus coupons in a "white" market.) Again, the burden of the disruption would be placed entirely on gasoline purchasers, raising the necessity of imposing controls on refinery mix and oil product prices. Refinery mix controls might be more important under rationing, since gasoline in excess of rationing coupons would be legally unmarketable. This would greatly reduce incentives to make gasoline. The coupon rationing system could also be extended to other petroleum products, including home heating fuel and residual oil.

Rationing would have several advantages. First, it might minimize the consequences of a very large shortfall on real GNP. Also, the existence of a white market for coupons would allow the transfer of income between consumers, thereby helping to maintain real incomes. Moreover, rationing is a strong deterrent to hoarding, and might promote public perception that the burden of reduced supplies was being fairly shared.

Rationing also has a number of major disadvantages. For a small disruption, the allocations and price controls necessitated by rationing would create an inefficient allocation of petroleum products and thus might exacerbate the reductions in real GNP through inefficiency. Rationing also requires a bureaucracy to prepare the program and carry it out. Moreover, a rationing program might be easily undermined by mistakes: public faith in rationing might erode quickly if motorists with coupons approached gasoline stations only to find no gasoline available. Moreover, while rationing has real advantages over other options in reducing inflationary pressure on prices, it substitutes for higher prices time spent in lines and a reduced availability of supplies.

In conclusion, Mr. Chairman, it appears that some of the tax options might be appropriate for a small interruption in oil supplies, particularly one that promises to be temporary. Additional analysis and study will, however, be required to determine how effective any specific option would be, and under what circumstances it would be most appropriate.