ECONOMIC AND BUDGETARY CONSEQUENCES OF AN OIL PRICE DECLINE—A PRELIMINARY ANALYSIS

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The Congress of the United States
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SUMMARY

Petroleum prices have declined during the last several weeks because of a sharp run-off of inventories. The inventory decline, which is expected to last only a few months, reflects an adjustment of stocks to weak demands arising from the worldwide recession and from warm weather. Whether the price of oil will remain lower or move back up depends in the short run on the ability of the OPEC nations to match the decline in demand with cuts in production, and over the next year or so on the strength of the recovery in oil demand.

In CBO's view, a sizable and permanent decline in oil prices would have a very favorable effect on inflation and on economic growth in the United States, and would significantly reduce the projected baseline budget deficit by 1988. The macroeconomic effects of oil price declines on oil consumers resemble those of tax cuts. But while they allow oil consumers to spend more money on other things, they reduce the purchasing power of oil producers. Since part of the loss in producers' revenue is borne by foreign oil producers, the net direct effect on disposable income in the U.S. economy of a $6 per barrel decline in crude oil prices would be like that of a cut in taxes worth about $10 billion at an annual rate (this is the reduction in the revenue of foreign oil producers from exports of oil to the United States).

There is great uncertainty about both the magnitude and the duration of the decline in oil prices, and therefore about the economic effects. Four factors contribute to the uncertainty:

- **OPEC policies.** It is uncertain whether OPEC producers will be able to allocate production during the period of weak demand and to restore prices thereafter.

- **The strength of the economic recovery.** If the global recovery now under way is strong, rising demands for energy may result in a reversal of the present decline in energy prices.

- **Refiners' margins.** Petroleum product prices have already declined more sharply than the world price of oil, severely eroding refiners' margins. Thus changes in OPEC prices are not likely to be fully reflected in further product price changes.

- **Monetary policy.** If money growth is unaffected by the decline in energy prices, the real money stock will increase, thereby providing a boost to economic growth. But if monetary authorities use the decline in prices as an opportunity to reduce money growth, the gains in real economic growth may be somewhat smaller.

Because of these uncertainties, a permanent decline in oil prices or a very temporary decline—which would have small economic effect—are both plausible at this time. Accordingly, CBO has estimated the economic and budgetary consequences of alternative oil price scenarios (see Table 1). These estimates show that if product prices were to decline permanently from last summer's levels by, say, $6 per barrel (half of which has already occurred) and if imported crude prices were to be adjusted by the full $6, then consumer price levels might be nearly 1½ percent lower in 1984 and real GNP might be about 1 percent higher than CBO's baseline projection. But in the short run, the deficit would change only a little. A $6 oil price decline is estimated to reduce the unified budget deficit by only about $6 billion in fiscal year 1984.

CBO believes that a permanent decline in oil prices would have a favorable long-run effect on the U.S. economy. CBO's estimates indicate that by 1988 real GNP would be 1.4 percent higher and the price level 1.9 percent lower as a result of a permanent $6 per barrel reduction in oil prices. Higher growth and lower unemployment would significantly reduce the unified budget deficit, even though windfall profit tax revenues would be slightly lower. The unified budget deficit under baseline assumptions would be reduced by about $30 billion in 1988.

But a permanent reduction in oil prices may not be the most likely outcome. In fact, many analysts expect that the price will begin rising later this year and return to the $32 to $34 per barrel range for marker crude 1/ some time in 1984. If this should occur, then the economic and budgetary effects of the oil price decline will be temporary.

1/ The marker crude price, for a specified Saudi Arabian crude oil, is used as a reference for OPEC oil prices.

TABLE 1. HOW OIL PRICE CHANGES WOULD AFFECT THE ECONOMY AND THE BUDGET a/

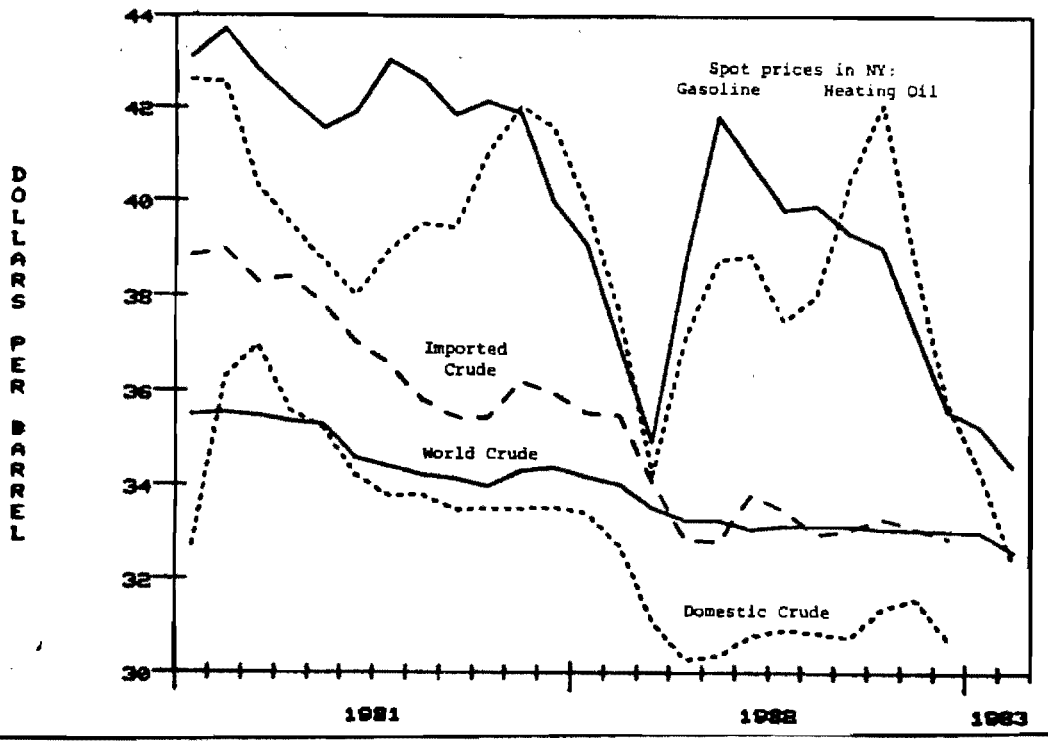
	1983	1984	1985	1986	1987	1988
	Calendar Years					
Real GNP (Percent change)						
CBO Baseline	2.1	4.7	4.1	3.7	3.5	3.5
Oil price cuts:						
$4	2.4	5.0	4.3	3.8	3.5	3.5
$6	2.5	5.2	4.4	3.8	3.6	3.5
$8	2.7	5.4	4.5	3.9	3.6	3.5
CPI-U (Percent change)						
CBO Baseline	4.5	5.0	4.7	4.1	3.9	3.7
Oil price cuts:						
$4	4.2	4.9	4.6	4.1	3.9	3.7
$6	3.6	4.5	4.3	4.0	3.9	3.7
$8	3.2	4.2	4.0	3.9	3.8	3.8
Unemployment Rate (Percent)						
CBO Baseline	10.6	9.8	9.0	8.4	8.0	7.5
Oil price cuts:						
$4	10.6	9.6	8.8	8.1	7.7	7.2
$6	10.5	9.5	8.6	8.0	7.5	7.0
$8	10.5	9.4	8.4	7.8	7.3	6.8
	Fiscal Years (billions of dollars)					
Revenues						
CBO Baseline	606	654	718	773	827	882
Oil Price cuts:						
$4	606	657	723	780	838	896
$6	605	654	719	775	834	893
$8	605	652	717	774	835	896
Outlays						
CBO Baseline	801	855	928	1000	1074	1150
Oil Price cuts:						
$4	800	852	924	995	1067	1141
$6	800	848	916	985	1056	1129
$8	799	846	911	977	1046	1118
Unified Deficit						
CBO Baseline	195	201	211	227	247	268
Oil Price cuts:						
$4	194	195	201	215	229	246
$6	195	194	197	209	222	236
$8	194	194	194	203	211	222

a/ Oil price changes are given in terms of reductions from the world crude oil prices implicit in the CBO baseline economic projections. Reductions in oil product prices would be generally smaller. Economic and budgetary effects are compared with CBO's baseline economic and budget projections.

Recent Price Developments

Posted world oil prices declined by about $3 per barrel from February 1981 to February 1983. Over the same period, the average refiners' acquisition cost of imported crude fell from about $39 per barrel to about $33 per barrel. The difference between this $6 decline and the $3 decline in official prices is accounted for by spot market transactions, purchases from non-OPEC producers, quality changes, and discounts from official prices. The decline in the refiners' acquisition cost was particularly sharp in early 1982, when spot product market prices dipped by about $8 per barrel in a few months due to inventory adjustment. Product prices then rose again but crude prices stayed down. Product prices once again began to fall sharply in the second half of 1982, and by February 1983 had fallen by about $8 per barrel from levels prevailing at mid-1982.

The refiners' acquisition cost for domestically produced crude has remained well below the cost of imported crude. The average cost of domestic and imported crude is reportedly now close to $30 per barrel, implying substantial falls in both domestic and imported crude prices since the last official data available for November 1982.



THE CURRENT OIL MARKET

The official OPEC price for marker crude has been $34 per barrel since mid-1980. But defending this price has been very difficult for the cartel, especially since its share of world oil production has declined precipitously since 1979. Progressive discounting of crude oil prices by OPEC members outside the Gulf, and price cuts by non-OPEC producers, were reflected in the $6 per barrel decline in U.S. refiners' acquisition cost for imported crude from 1980 to November 1982 (the latest data available). Prices of petroleum products have declined even more sharply: the average U.S. price of regular leaded gasoline, for example, has dropped from $1.35 per gallon in March 1981 to about $1.09 per gallon in recent weeks. This reduction of product prices has greatly reduced profits from refining.

There are five main reasons for the current weakness in dollar prices of oil:

- Extremely high oil prices have induced conservation. Between 1978 and 1980, the OPEC marker price rose from $12.70 to $34 per barrel. For many countries the price of oil has continued to increase since then, because OPEC oil prices are denominated in dollars and the value of the dollar has risen in terms of foreign currencies. Thus crude oil prices in many importing countries have more than tripled in local currency terms since 1978, while in dollar terms they have more than doubled. This price increase has induced substantial conservation.

- Most countries have experienced one or (in the case of the United States) two recessions since 1979. Reductions in oil demand exceeded reductions in economic activity, since the hardest-hit sectors of the economy were the goods-producing sectors, which are also the most energy-intensive.

- High interest rates have made it much more costly to hold inventories of oil products. Refiners in the United States are now reportedly following a policy of holding low inventories, and relying on production adjustments to cover unexpected and seasonal variations in product demand. In addition, there has probably been a substantial inventory reduction among oil users, in anticipation of continued disagreement in OPEC and large price reductions.

- The weather this winter has been unusually warm in most of the northern hemisphere, reducing demand for heating oil.

- The reduction in oil demand, due to conservation, recession, warm weather, and inventory adjustment, has left the demand for OPEC oil well below production capacity. It has proved difficult for OPEC to allocate lower production quotas to support the dollar price of oil. There has also been disagreement over the appropriate differentials among the prices of crude oils of different qualities in different locations.

Of these factors, the most important contribution to declining oil prices in recent weeks has been the significant inventory drawdown. Oil market analysts place this drawdown at as much as 6 to 8 million barrels per day worldwide, about 4 to 6 million barrels per day above the normal drawdown at this time of year. In response to reduced orders, OPEC output has dropped below 15 million barrels per day, less than half of their production level of several years ago. The inventory adjustment is expected to end in the second quarter. Indeed, most forecasts predict that average OPEC production will reach about 18 million barrels per day this year.

Product and spot crude oil prices dropped sharply early in 1982, in an episode similar to the current one. At that time, the inventory adjustment was due to very high interest rates, coupled with the realization that the world economy was not recovering from recession as expected. OPEC managed at that time to maintain the official price, though the cost of U.S. oil imports did drop significantly.

It has become clear that the $34 per barrel marker price is not tenable at this time, but there has been no OPEC agreement on new prices or production. (A series of meetings is in progress.) In the past, official OPEC price moves have generally followed the spot market, which is currently signalling a price in the range of $27-$29 per barrel for marker crude. This is broadly consistent with the price cuts that have been separately announced by Nigeria and Britain. But these price cuts may reflect short-term destocking and are based on a small volume of oil. Although it is thus very difficult to predict the change in OPEC prices over the next few months, many analysts believe the cut in OPEC prices is likely to be less than $6, and may be reversed in the next year or so.

It is not clear whether a small reduction in crude oil prices will lead to significant further reductions in product prices. As noted above, prices of refined products have already declined substantially, cutting deeply into refiners' margins. Much of the projected decline in crude oil prices reflects a delayed adjustment to lower product market prices and will therefore lead to increased refiners' margins rather than to even lower product prices. While it is impossible to be precise, it seems likely that a decline of

about $3 per barrel in official OPEC prices would reflect both current lower product market prices, and the discounting that occurred at the old OPEC prices. Anything more than a $3 per barrel decline in official prices would therefore mean even lower prices of petroleum products.

The outlook beyond the next few months becomes even more speculative. If OPEC production settles down to levels that would support a price in the range of $27-$29 per barrel, increases in demand might cause dollar prices to begin to rise again by next year:

- The current inventory adjustment will end, and restocking may occur;
- The forecast recovery of the world economy will add to world oil demand;
- Many forecasters expect the dollar to drop around 10 percent in the next year. This would be equivalent to a further 10 percent price cut for the 70 percent of oil consumed outside the United States.

Although oil price increases are a possible outcome when demand begins to increase again, it is also possible that OPEC will prefer to increase output rather than prices. In the past ten years OPEC has usually accommodated demand variations with changes in output rather than price changes, and the two major exceptions—in 1973 and 1979-80—both occurred when OPEC output was at historically high levels.

Another possibility is that internal dissension in OPEC will continue, leading to competition for market share that will push the price of oil well below the $27-$29 per barrel range. If oil production returned to 1978 levels, the price might fall to the $15-$20 per barrel range, which cleared the market in 1978. However, most analysts find it unlikely that OPEC will be pushed so far.

Given this uncertainty about the future path of oil prices, it is impossible to support any proposed forecast of prices with a detailed and convincing analysis. Table 2 therefore presents three alternative paths for imported oil prices, together with the assumption used in the baseline CBO economic forecast. The three alternative paths reflect world price declines from levels prevailing in the second half of 1982. From 1985 onward, world crude oil prices are assumed to increase parallel to the CBO baseline projection.

TABLE 2. ALTERNATIVE WORLD CRUDE OIL PRICE PATHS, 1983-88

	1982:4	Mid-1983	1984	1985	1986	1987	1988
CBO Baseline Assumption	33.0	33.0	33.0	33.3	34.2	35.6	37.0
$4 cut	33.0	29.0	29.0	29.3	30.2	31.6	33.0
$6 cut	33.0	27.0	27.0	27.3	28.2	29.6	31.0
$8 cut	33.0	25.0	25.0	25.3	26.2	27.6	29.0

IMMEDIATE EFFECTS OF LOWER OIL PRICES ON THE ECONOMY

Impacts on Inflation

Lower oil product prices could have a substantial impact on inflation. A reduction of $6 per barrel in petroleum product prices would, if fully passed through to consumers, cut consumer prices on average by about 1½ percent. 2/ In addition, lower oil prices mean lower prices for competing fuels. And lower energy prices in general would lead to smaller cost-of-living payments in wage contracts, and might promote smaller settlements in wage negotiations. Taking these factors into account, a $6 per barrel reduction in petroleum product prices might eventually reduce consumer prices by between 2½ and 3 percent below what they would otherwise have been. This is an adjustment in the price level, rather than a permanent reduction in the inflation rate. Permanent reduction in inflation is also possible, depending on whether monetary policy becomes more or less restrictive. 3/

These calculations are unlikely to be applicable directly to the current situation. As noted above, a $6 drop in official OPEC prices would reflect a decline in product prices that, to a large extent, has already occurred. Roughly speaking, a $6 decline in official OPEC prices appears to be consistent with about a $3 per barrel decline in product prices since CBO's baseline forecast was estimated.

Table 3 presents the direct impact on consumer prices and the GNP deflator, based on the oil price paths in Table 2. Note that the GNP deflator reflects the increased margins of U.S. oil refiners, as well as lower consumer prices for oil, and therefore falls by less than the Consumer Price Index.

2/ This estimate is for the change in the personal consumption deflator. The impact on consumer prices measured by the CPI would be somewhat larger, since the weight of oil consumption in the CPI reflects consumption patterns in 1972 when the price was about one-tenth of the current price.

3/ In the past, movements in the underlying or permanent rate of inflation, measured by normalized unit labor costs or by price measures which exclude the direct impacts of oil prices, have been much smaller than movements in the CPI.

TABLE 3. DIRECT PRICE IMPACTS OF OIL PRICE PATHS (Price reductions from CBO baseline economic projections)

Imported Crude Oil ($/barrel)	Refined Products ($/barrel) a/	CPI (percent) b/	GNP Deflator (percent) b/
4	1	0.3	0
6	3	0.8	0.2
8	5	1.4	0.4

a/ Assumes that the reduction in prices of refined products between the summer of 1982 and the CBO baseline forecast was about $3 per barrel.

b/ These are changes in price levels. If they occur within one year, the inflation rate will fall by the indicated amount for that year.

Impacts on Disposable Incomes

A reduction in oil prices generates changes in disposable incomes in a manner analogous to reductions in personal or excise taxes. A $6 per barrel reduction in imported oil prices would affect disposable incomes and wealth mainly through the following channels:

- Lower oil prices leave the consumer with more money to buy other things. If oil product prices drop $6 per barrel, then approximately $32 billion that would otherwise be spent on oil is available to spend on something else. 4/ Product prices have already fallen by the equivalent of several dollars per barrel since last summer, so consumers have already benefited.

- Lower prices of imported oil reduce the outflow of dollars to foreign oil producers, and improve the U.S. terms of trade. This is a net gain to the United States, worth about $10 billion.

- Domestic oil producers account for about 10 million barrels per day, so a $6 reduction for domestic crude would cut their revenues by about $22 billion per year. But domestic crude prices have for some time been below foreign prices for equivalent crudes, and thus have not got so far out of line with product prices. The remaining adjustment in domestic crude prices, if foreign crude falls by $6 per barrel, would likely be only about $3 per barrel.

- Refiners' margins would fall by the amount of the decline in product prices, less the amounts accounted for by lower revenues to foreign and domestic producers.

These changes in income flows then lead to changes in tax receipts. A reduction in the price of domestic crude oil will reduce federal taxes through the windfall profits tax and corporate tax, and will also reduce state corporate taxes. These taxes together account for about 85 percent of domestic oil producer revenues at the margin. Refiners in the United States are subject to corporate tax. Profits of U.S. oil companies derived from foreign production and refining activities are also in principle taxable in the

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4/ Roughly half this reduction in oil spending accrues directly to consumers; the other half reflects lower costs of oil used to produce other goods and services (including services of government).

United States. The likely direct and indirect effects of oil price changes on the federal deficit are further discussed below.

Impacts on Interest Rates

Lower oil prices may also stimulate the economy by reducing nominal, and perhaps real, interest rates.

- If lower oil prices curb inflation permanently, then the inflation premium in interest rates should decline. But as noted above, the long-run decline in inflation is likely to be relatively small, and depends on what happens to monetary policy.

- Lower inflation would slow nominal GNP growth, and if the money supply was not also slowed would permit real interest rates to fall.

- If current interest rates contain an uncertainty premium because of the exposure of some banks to debt problems in developing countries, lower oil prices might reduce this premium. All developing countries would benefit from higher economic activity in developed countries, and perhaps from lower interest rates too. For most, lower oil prices would directly improve the balance of payments, thus diminishing their debt problems. The few developing countries that are oil producers--notably Mexico, Venezuela, Nigeria, and Indonesia—would be in a worse situation.

Impacts on International Trade

Declines in oil prices would benefit all the oil-importing industrial economies. Both economic activity and output would be likely to increase abroad, while inflation rates would dampen. The relative magnitudes of these improvements would, however, vary from country to country depending on the sensitivity of each economy to reductions in energy costs.

A decline in OPEC oil prices would improve the trade balances of the United States and of other oil-importing countries. The United States imports less oil than other major industrial nations, so that the oil import

bill would decline somewhat less than in other countries, relative to GNP. But the U.S. depends more on oil (that is, domestic plus imported oil) for production than other countries. Overall, it seems likely that a $6 per barrel drop in prices of imported crude would increase U.S. net exports by about $11 billion per year in current dollar terms, almost all of which is attributable to the direct impact of lower oil import costs. Since other countries would be similarly affected, the net impact on the exchange rate is extremely difficult to determine.

ULTIMATE EFFECTS OF LOWER OIL PRICES

Effects on the U.S. Economy

Preliminary estimates of the impact of three alternative oil price paths on major economic indicators are presented in Table 4. These estimates reflect both the direct impacts of the oil price reductions on prices, disposable incomes, interest rates, and net exports outlined in previous sections and the responses of other sectors of the economy to these developments.

Real GNP growth rises above the CBO baseline path in the early years for three reasons:

- The decline in world prices for crude oil results in a transfer of purchasing power from foreign oil producers to domestic sectors of the economy. The rise in disposable incomes results in more consumption and investment over the near term;
- Other oil-importing countries also experience improved purchasing power. This results in an increase in the demand for U.S. exports;
- The decline in windfall profit tax liabilities offsets some of the adverse impact of lower oil prices on domestic oil producers.

Similarly, the rate of inflation, as measured by the Consumer Price Index, falls well below the CBO baseline path. These estimates reflect the direct impact on prices presented in Table 3 above, and the indirect effects on other sectors of the economy:

- Lower oil prices place downward pressure on prices of alternative sources of energy, resulting in lower production costs for domestic goods;
- Other prices respond to the lower energy prices and production costs;

- Lower prices mean lower wage claims through lower cost-of-living adjustments and reduced needs for "catch-up" for losses in income due to past inflation.

The pick-up in aggregate demand does result in some upward pressure on prices, but these effects are quite modest. However, none of the assumed declines in oil prices result in a permanent lowering of either real growth or inflation. While the level of real output is higher and the level of prices is lower, they are both expanding at rates not significantly different from the CBO baseline as the economy moves into the second half of the decade. The rate of unemployment, on the other hand, remains lower through 1988.

The response of the Federal Reserve to the change in oil prices is extremely important to the macroeconomic outcome. The monetary authorities are assumed to adhere to the same growth path for a monetary aggregate in the face of lower oil prices, so the real money stock increases. This is evidenced by the somewhat lower interest rates in Table 4. In essence, the Federal Reserve uses this opportunity to provide more stimulus to the economy while inflation is low. But it is also possible that the monetary authorities might reduce money growth. In general, a tighter monetary policy response would mean smaller increases in real GNP and larger reductions in inflation than the estimates presented in Table 4.

Oil price declines are not necessarily permanent. Earlier discussion in this paper pointed to the possibility that oil prices might revert in 1984 to something close to the CBO January forecast path, as a result of the end of destocking and of stronger world economic growth. The probability of a temporary decline is seen as about equal to that of a permanent decline below the CBO baseline. Such a temporary decline in oil prices would have only a temporary impact on real GNP and prices, which would be largely reversed as prices rose again.

TABLE 4. ECONOMIC EFFECTS OF ALTERNATIVE OIL PRICE PATHS, BY CALENDAR YEARS
(Percent change from CBO baseline economic projections, except where noted)

	1983	1984	1985	1986	1987	1988
Oil Prices $4 Lower:						
Real GNP	0.3	0.6	0.8	0.9	0.9	0.9
Real GNP growth (percentage points)	0.3	0.3	0.2	0.1	0.0	0.0
GNP	0.3	0.6	0.8	0.9	0.9	0.9
GNP growth (percentage points)	0.3	0.3	0.2	0.1	0.0	0.0
Unemployment rate (percentage points)	-0.0	-0.2	-0.2	-0.3	-0.3	-0.3
GNP deflator	0.0	0.0	-0.1	-0.1	-0.1	-0.1
Consumer Price Index	-0.3	-0.4	-0.5	-0.5	-0.5	-0.5
3-month Treasury Bill rate (percentage points)	-0.2	-0.1	0.0	0.0	0.0	0.0
AAA corporate bond rate (percentage points)	-0.1	-0.1	0.0	0.0	0.0	0.0
Oil Prices $6 Lower:						
Real GNP	0.4	0.9	1.2	1.3	1.4	1.4
Real GNP growth (percentage points)	0.4	0.5	0.3	0.1	0.1	0.0
GNP	0.1	0.3	0.3	0.4	0.5	0.5
GNP growth (percentage points)	0.1	0.2	0.0	0.1	0.1	0.0
Unemployment rate (percentage points)	-0.1	-0.3	-0.4	-0.4	-0.5	-0.5
GNP deflator	-0.3	-0.6	-0.9	-1.0	-1.0	-1.0
Consumer Price Index	-0.9	-1.4	-1.8	-1.9	-1.9	-1.9
3-month Treasury Bill rate (percentage points)	-0.6	-0.5	-0.4	-0.3	-0.2	-0.1
AAA corporate bond rate (percentage points)	-0.3	-0.3	-0.2	-0.1	-0.1	-0.1
Oil Prices $8 Lower:						
Real GNP	0.6	1.3	1.7	1.9	2.0	2.0
Real GNP growth (percentage points)	0.6	0.7	0.4	0.2	0.1	0.0
GNP	0.2	0.4	0.2	0.3	0.4	0.4
GNP growth (percentage points)	0.2	0.2	-0.2	0.1	0.1	0.0
Unemployment rate (percentage points)	-0.1	-0.4	-0.6	-0.6	-0.7	-0.8
GNP deflator	-0.4	-0.9	-1.4	-1.6	-1.6	-1.6
Consumer Price Index	-1.3	-2.1	-2.8	-3.0	-3.1	-3.0
3-month Treasury Bill rate (percentage points)	-0.9	-0.7	-0.6	-0.5	-0.4	-0.2
AAA corporate bond rate (percentage points)	-0.4	-0.3	-0.3	-0.2	-0.1	-0.1

Effects on the Federal Deficit

Permanently lower oil prices would have significant effects for projected federal budget deficits over the next five years. While the net reduction from the CBO baseline deficit projections would be quite small in 1984, it would increase to as much as $31 billion by 1988 under the $6 per barrel lower price scenario.

The net effect of lower oil prices for federal revenues would be relatively small throughout the five-year projection period (1984-1988). Gross windfall profit tax collections would be lower as shown in Table 5. Substantial reductions in domestic crude oil prices would mean that some domestically produced oil would no longer give rise to any windfall profit tax liability. Lower inflation would also reduce federal revenues, but this would be more than offset by revenue gains derived from greater real growth in the economy. As a result, the net effect of the economic changes portrayed in Table 4 on federal revenues would be modest. Relative to CBO's baseline projections, federal revenues would be $10 to $13 billion higher in 1988 under the lower oil price scenarios.

The net effect of lower oil prices for federal outlays would be greater than for revenues because all of the economic changes would work in the same direction. Projected cost-of-living adjustments for Social Security and other indexed benefits would be smaller as a result of lower inflation. Lower interest rates would reduce net interest costs. Lower inflation and unemployment would also reduce projections for other benefit programs such as food stamps, assistance payments, Medicare, and Medicaid. In addition, projections for federal employee pay raises and for nondefense discretionary spending would be somewhat lower. Finally, lower oil prices would reduce the cost of oil purchases by the Defense Department and for the Strategic Petroleum Reserve (an off-budget spending program). As shown in Table 5, the net outlay reductions of a $6 per barrel lower oil price would grow from $6 billion in 1984 to $21 billion in 1988.

It should be emphasized that the favorable effects of the petroleum price reduction on the federal deficit result from the assumed stimulation of real economic growth. If real growth does not accelerate in response to the oil price decline (for example, if it is neutralized by changes in monetary policy), then the budget effects would be much less favorable.

TABLE 5. BUDGET DEFICIT EFFECTS OF ALTERNATIVE LOWER OIL PRICE PATHS (Changes from baseline projections, by fiscal year, in billions of dollars)

	1984	1985	1986	1987	1988	Cumulative Five-Year Total
Oil Prices $4 Lower:						
Windfall profit tax (gross)	1	1	1	1	1	5
Other revenues	-4	-6	-7	-11	-14	-44
Indexed benefits and unemployment insurance	*	-2	-2	-3	-3	-10
Interest costs	-1	-2	-2	-3	-5	-13
Other outlays	-1	-1	-1	-1	-1	-5
Total Deficit Effects	-6	-10	-12	-17	-22	-66
Oil Prices $6 Lower:						
Windfall profit tax (gross)	3	3	3	3	3	15
Other revenues	-3	-5	-5	-10	-13	-36
Indexed benefits and unemployment insurance	-2	-4	-5	-6	-7	-25
Interest costs	-4	-5	-7	-7	-9	-32
Other outlays	-1	-3	-4	-4	-5	-17
Total Deficit Effects	-6	-14	-17	-25	-31	-94
Oil Prices $8 Lower:						
Windfall profit tax (gross)	6	5	5	4	4	24
Other revenues	-4	-5	-6	-12	-17	-44
Indexed benefits and unemployment insurance	-2	-6	-8	-10	-10	-38
Interest costs	-5	-7	-9	-11	-13	-45
Other outlays	-2	-4	-6	-7	-8	-27
Total Deficit Effects	-7	-17	-24	-36	-45	-130
CBO Baseline Deficit	201	211	227	247	268	1,152
Oil Prices $4 Lower	195	201	215	229	246	1,086
Oil Prices $6 Lower	194	197	209	222	236	1,059
Oil Prices $8 Lower	194	194	203	211	222	1,023

* Less than $500 million.