

GAO

May 1986

BUDGETING ISSUES

Budgeting for Inflation in DOD Purchases of Petroleum Products



129937

035495

7



United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-222917

May 1, 1986

The Honorable David Pryor
The Honorable Thomas F. Eagleton
The Honorable William Proxmire
The Honorable Patrick J. Leahy
United States Senate

On November 8, 1985, you requested that we examine the process by which the Department of Defense (DOD) estimates funding for inflation in its fuel purchases and that we update our estimates of the inflation dividend realized by DOD in budgeting for its fuel purchases. The inflation dividend is defined as the amount of excess funds accruing to the DOD due to the overestimation of future inflation in developing defense budget requests. We first analyzed funding for inflation in fuel purchases as part of a general analysis of inflation in the defense budget contained in our September 1985 report entitled Potential for Excess Funds in DOD (GAO/NSIAD-85-145). In that report, we did not consider fuel purchases separately but included them in the analysis of the two appropriation titles: Operation and Maintenance (O&M) and Research, Development, Test and Evaluation (RDT&E). We estimated that the inflation dividend, resulting from overprojections of the price of fuel, totaled \$4.8 billion for fiscal years 1982 through 1985.

Our updated estimate shows that the inflation dividend in fuel purchases will total \$5.03 billion between fiscal years 1982 and 1986. This estimate does not take into account the most recent dramatic decreases in fuel prices.

Between 1982 and 1985 the Congress reduced the DOD budget by \$3.09 billion to offset the fuel inflation dividend. Implementation of the Balanced Budget and Emergency Deficit Control Act of 1985 has reduced this dividend by an additional \$15 million.

In analyzing the process used by DOD to forecast its fuel prices, we found that it uses forecasts of crude oil prices provided by the Office of Management and Budget (OMB) to predict prices DOD will pay for refined petroleum products. Because crude and refined prices showed similar trends between 1982 and 1986, DOD's forecasting approach did not lead to any substantial errors in its price forecasts.

Forecasting Fuel Inflation

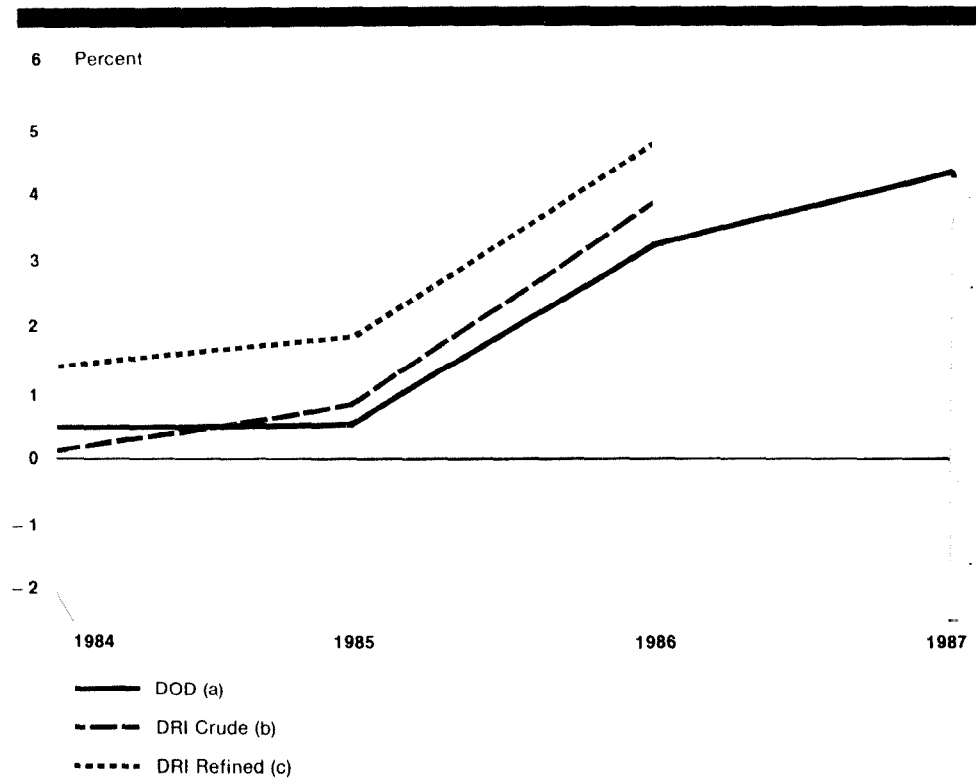
In fiscal year 1985 petroleum products constituted 2 percent of all defense expenditures. Fuel prices are forecasted separately in the budget for several reasons. First, fuel is a major commodity rather than a finished product, and therefore its cost structure and the factors that influence changes in its prices are different. Second and more importantly, fuel prices have been quite volatile since the mid-1970's. Prices paid by DOD for fuel increased by about 270 percent between 1974 and 1981 and have been steadily falling since then.

OMB focuses on crude oil prices, specifically refiner's acquisition costs, and constructs a weighted average (1/3 import and 2/3 domestic) price. Using generally available information on the oil markets, OMB then develops forecasts of this price for the period of the budget (usually 5 years). These projected fuel prices are given to DOD as part of OMB's guidance for economic assumptions in preparing the President's budget.

However, DOD's purchases primarily refined products, such as regular gasoline, diesel fuel, kerosene and naphtha base jet fuels. Thus, in using OMB's price projections in preparing its budget, DOD is implicitly applying forecasts of crude oil prices to predict the prices of refined products.

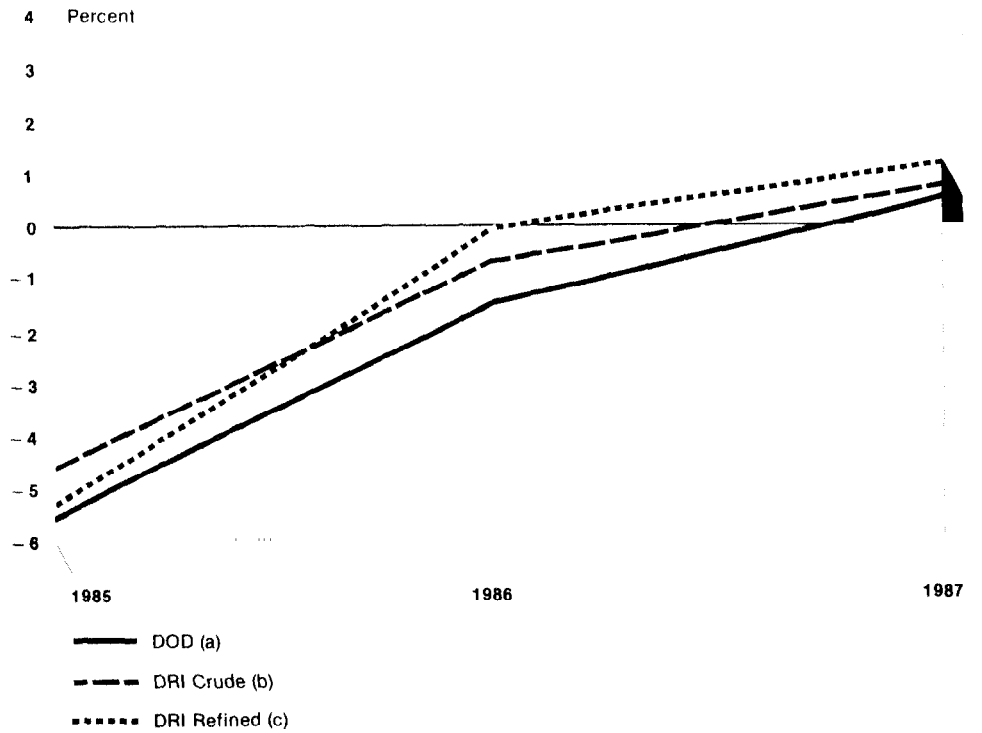
In figures 1 through 3, we display the price forecasts developed by OMB and used by DOD for the previous three budgets. We also present forecasts made by a major private forecasting firm, Data Resources Incorporated (DRI). DRI issues a comparable and readily available index of the percentage change in crude and refined oil product prices. Because DOD applies a crude oil price forecast to predict refined product prices, we examine DRI's forecasts of both crude oil and refined product prices.

Figure 1: Comparison of Fuel Price Forecasts as of the First Quarter of 1984



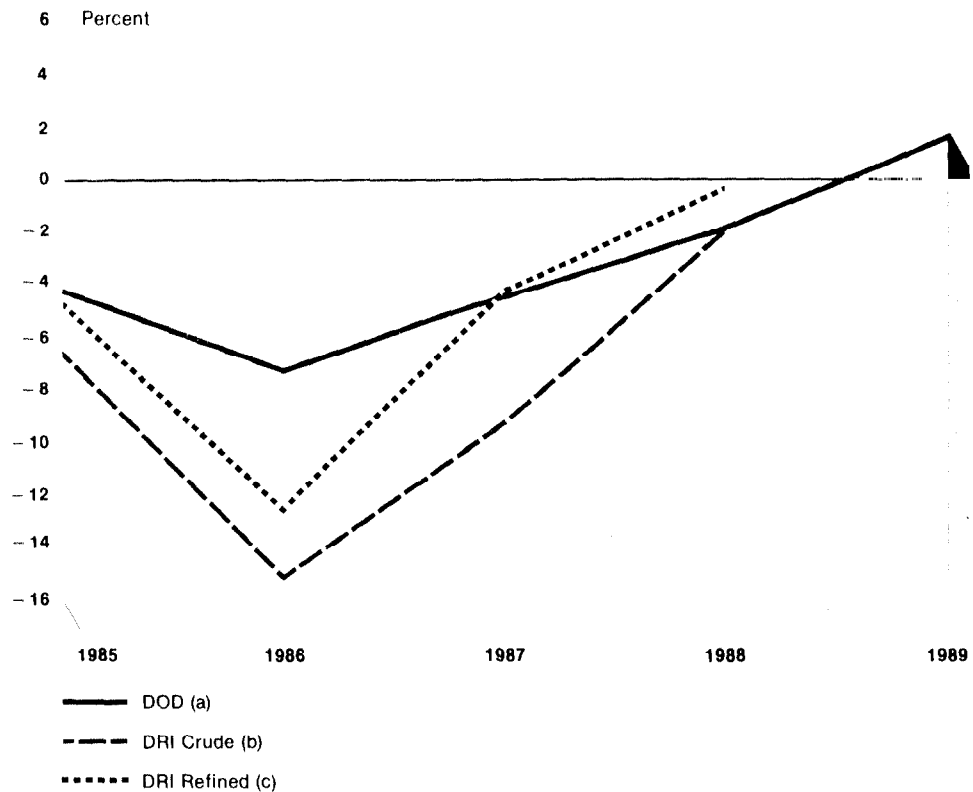
- a: OMB Forecast of Crude Oil Prices (Used by DOD to Forecast Its Purchase Prices for Refined Products) by Fiscal Year.
- b: Composite (Foreign and Domestic) U.S. Refiner's Acquisition Costs by Calendar Year.
- c: Wholesale Refined Petroleum Product Price by Calendar Year.

Figure 2: Comparison of Fuel Price Forecasts as of the First Quarter of 1985



- a: OMB Forecast of Crude Oil Prices (Used by DOD to Forecast Its Purchase Prices for Refined Products) by Fiscal Year.
- b: Composite (Foreign and Domestic) U.S. Refiner's Acquisition Costs by Calendar Year.
- c: Wholesale Refined Petroleum Product Price by Calendar Year.

Figure 3: Comparison of Fuel Price Forecasts as of the First Quarter of 1986



a: OMB Forecast of Crude Oil Prices (Used by DOD to Forecast Its Purchase Prices for Refined Products) by Fiscal Year.

b: Composite (Foreign and Domestic) U.S. Refiner's Acquisition Costs by Calendar Year.

c: Wholesale Refined Petroleum Product Price by Calendar Year.

DRI's forecasts of crude and refined prices were quite similar and the forecasts used by DOD generally reflect a price change movement like DRI's. In February 1986, both DRI and DOD forecasted significantly lower prices for fiscal year 1987 than they had in January 1984 and 1985. However, in the latest forecast, DRI projects oil prices falling much further in 1986 than does DOD.

DRI's forecasts show that crude and wholesale refined prices moved rather closely over the three forecast periods. Therefore, DOD's fuel budgeting process, which applies a composite of crude oil price forecasts to predict refined product prices, does not appear to have introduced a systematic price distortion into DOD's forecasts. Consequently, we do not

believe that DOD's process led to any large increase in fuel budgets during this period.

No matter what forecasting procedures are used, fuel budgeting will always entail some inaccuracies. Forecasting any economic event is quite difficult, but forecasting the oil market has been notoriously difficult and oil price estimates have not been particularly accurate. The existence of the OPEC cartel and its recent failure to maintain prices has further complicated a market already affected by other shifts in demand and supply. Given the difficulty in developing extremely accurate forecasts, DOD is likely to be continually faced with either excess or inadequate funds for fuel in its budget. We continue to believe, as we recommended in our September 1985 report, that careful monitoring of changes in petroleum product prices and their effect on the budget are essential.

Estimating the Fuel Inflation Dividend

Table 1 compares the originally forecasted price changes used to develop fuel funding estimates in DOD budgets with the actual fuel price changes. Using fiscal year 1985 as an example, the defense fuel budget was developed assuming a slight increase in fuel prices of 0.5 percent. When fuel prices actually fell 4.3 percent, there was potentially 4.8 percent in excess fuel funds.

We estimated two fuel inflation dividends, as shown in table 2. The first dividend estimate is derived from comparing the original forecast of fuel prices made in each fiscal year's initial budget submission and the revised OMB fuel price forecasts published by the DOD in March 1985.¹ This estimated fuel dividend of \$4.8 billion was part of our estimate of the total inflation dividend included in our September 1985 report.

¹These forecasts, cited in table 5-1 of Office of the Assistant Secretary of Defense (Comptroller), National Defense Budget Estimates, FY 1986, are consistent with OMB's fuel price forecasts constructed in January 1985.

Table 1: Comparison of DOD Fuel Price Forecasts to Actual Fuel Price Changes: Fiscal Years 1983 Through 1986

	Fiscal year			
	1983	1984	1985	1986
January 1983 Forecast	+1.9%	+5.3%	+5.7%	+5.6%
January 1984 Forecast	•	+0.5	+0.5	+3.2
January 1985 Forecast	•	•	-5.5	-1.4
February 1986 Forecast	•	•	•	-7.3
Actual	-9.3	-10.2	-4.3	N/A

Source: Office of Assistant Secretary of Defense (Comptroller), National Defense Budget Estimates, Fiscal Year 1985, table 5-7 and Fiscal Year 1986, table 5-1 and unpublished data from Office of Assistant Secretary of Defense (Comptroller).

The second dividend estimate is based on the more recent February 1986 OMB fuel price forecasts. It shows an increase in the estimate to \$5.03 billion. The difference between the new estimate of \$5.03 billion and the previous estimate of \$4.80 billion results from changes in both the fiscal year 1985 and 1986 dividends. The increase in the total dividend due to the inclusion of fiscal year 1986—\$300 million—is partially offset by a decrease in the fiscal year 1985 dividend of \$70 million.

Our analysis does not reflect the effects of the recent dramatic decrease in crude oil prices. OMB's February 1986 forecast is the most recent official forecast. However, in the short time since that forecast was made, fuel prices have decreased substantially and this trend seems likely to continue. In constructing our estimates, we did not independently forecast future fuel prices or speculate on the impact that more recent price movements in fuel markets may have on fiscal year 1987 fuel funding.

Table 2: Estimates of the Fuel Inflation Dividend Fiscal Years 1982 Through 1985 and 1986

Estimate based on forecast as of:	Fiscal year					Total
	1982	1983	1984	1985	1986	
March 1985	\$1.07	\$1.27	\$1.64	\$0.82	\$N/A ^a	\$4.80
February 1986	1.07	1.27	1.64	0.75	0.30 ^b	5.03

^aIn our September 1985 report, we did not estimate a fuel inflation dividend for fiscal year 1986.

^bIncluding the cuts made by the application of the Balanced Budget and Emergency Deficit Control Act of 1985 would reduce the dividend by 4.9%, or \$14.7 million.

Recovering the Fuel Inflation Dividend

We were not able to determine how much of this fuel inflation dividend remains available to DOD for obligation. Virtually all of these dividends occurred in either the Stock Fund account or the Operations and Maintenance accounts.

To the extent the dividends for fiscal years 1982 through 1985 originally resided in the Operations and Maintenance accounts of the individual services, they should have either lapsed or been reprogrammed to other uses by now. Some reprogrammed dividends could still remain available if they were moved to accounts allowing obligation over multiple years, such as procurement. Of course, the dividend accruing in fiscal year 1986 remains available to DOD for use in purchasing additional amounts of fuel beyond that planned in the original budget.

Alternatively, it seems likely that most of these dividends would have accrued in the Stock Fund accounts. Because the Stock Fund is a revolving fund, the dividend funds would not lapse unless DOD or Congress took special action. In fact, between 1982 and 1986, DOD and Congress did become aware that excess balances in fuel funds were collecting in the Stock Fund and reduced DOD fuel budgets to compensate for these excess balances.

In table 3, we compare our estimated fuel inflation dividends to congressional cuts for fuel price overestimates. In fiscal years 1982 and 1983, these cuts were made on a prospective basis, that is, reductions were intended to offset changes in the projected level of fuel prices. As table 3 shows, these reductions substantially offset the dividend.

In fiscal years 1985 and 1986, these cuts were made on a retroactive basis, that is, they were intended to offset excess balances in the Stock Fund accounts which accrued because the prices actually paid for fuel were below the prices projected in the budget. The congressional reductions for fiscal years 1985 and 1986 offset most, but not all, of the dividends realized in fiscal years 1984 and 1985.

Table 3: Comparison of Estimated Fuel Inflation Dividend to Reductions Imposed by Congress

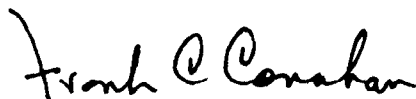
Dollars in billions

Fiscal Year	Dividend ^a	Reductions in fuel budgets imposed by Congress	Difference
1982	\$1.07	\$0.49	\$0.58
1983	1.27	0.85	0.42
1984	1.64	N/A	1.64
1985	.75	1.31	-.56
1986	.30	0.44	-.14
Total	\$5.03	\$3.09	\$1.94

^aEstimate based on February 1986 forecast cited in Table 2.

In accordance with your wishes, we did not request official agency comments on this report. Our work was performed in accordance with generally accepted government auditing standards.

As arranged with your offices, unless you publicly announce its contents earlier, we plan no further distribution of the report until 30 days from its issue date. At that time, we will send copies to the Chairmen, House Committee on Government Operations, Senate Committee on Governmental Affairs, House and Senate Committees on Appropriations, and House and Senate Committees on Armed Services; the Director, Office of Management and Budget; the Secretaries of Defense, Army, Navy, and Air Force; and other interested parties.



Frank C. Conahan
Director



Requests for copies of GAO reports should be sent to:

U.S. General Accounting Office
Post Office Box 6015
Gaithersburg, Maryland 20877

Telephone 202-275-6241

The first five copies of each report are free. Additional copies are \$2.00 each.

There is a 25% discount on orders for 100 or more copies mailed to a single address.

Orders must be prepaid by cash or by check or money order made out to the Superintendent of Documents.

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use \$300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100