

Alternative Ways to Provide Fuel Within the Department of Defense

July 2023

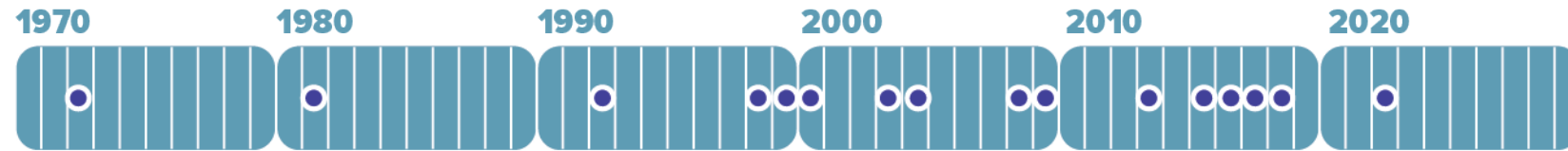
How Fuel Is Currently Funded and Provided

The Defense Logistics Agency (DLA), within the Department of Defense (DoD), purchases fuel and charges the military services for it through the Energy Management Activity Group of the Defense Working Capital Fund (or Energy Working Capital Fund). The prices (or rates) the services pay are developed about 18 months before the October start of a fiscal year and are often changed during the fiscal year to respond to changes in the market prices that DLA faces to acquire fuel.

For example, in May 2022, DLA increased the composite rate for different types of fuel by 57 percent over the rate set in October 2021 because of increases in the prices of oil and fuel.

Changes in the cost of fuel (particularly increases) during the fiscal year can thus create budgetary challenges for the services because their budgets are based on out-of-date rates that may change midyear.

History of DLA's Fuel Management



1972:

DLA is designated as fuel material manager (instead of the services).

1981:

DLA manages fuel storage terminals.

1992:

DLA (instead of the services) purchases and distributes aviation fuel. A DoD-wide revolving fund is established, and the services begin paying DLA for aviation fuel.

1998:

DLA manages the procurement of electricity for bases and privatization of electricity services.

1999:

DoD's gas stations are privatized.

2000:

DLA (instead of the services) purchases and distributes marine fuel and fuel for ground equipment.

2003:

Contractors operate some fuel storage facilities and terminals.

2004:

DLA starts to separately report the oil component of the standard price.

2008:

Fuel price volatility leads DLA to change rates twice in the fiscal year.

2009:

Volatility leads DLA to make four midyear price changes.

2013:

DLA stops including past profits and losses in its rate calculation.

2015:

Fuel price decreases lead to profits, and \$1 billion is transferred from DLA's Energy Working Capital Fund.

2016:

Price decreases lead to profits and a \$3 billion transfer out of the working capital fund.

2017:

DLA stops reporting the oil component of the standard price.

2018:

Fuel price increases lead to losses and a \$1 billion transfer into the working capital fund.

2022:

Fuel price increases lead to losses and a \$2 billion transfer into the working capital fund.

DLA took over management of aviation fuel from the services in 1992 and of marine and ground vehicle fuel in 2000.

Charging the services for fuel can lead to profits or losses for DLA if the prices do not reflect current costs. Large profits or losses can lead the comptroller of the Office of the Secretary of Defense to transfer funds from one budget account to another with the approval of the Office of Management and Budget (OMB) and the Congress.

Alternative Approaches

The Congress could change the way DoD finances and provides fuel for the military services.

In this document, prepared at the request of the Ranking Member of the Defense Subcommittee of the House Appropriations Committee, the Congressional Budget Office examines approaches that would reduce the effects that changes in oil and fuel prices have on DoD's budgets.

In future work, CBO will examine approaches that would link the rates charged by DLA more closely to current fuel prices to encourage more efficient use of resources, as well as approaches that would use direct appropriations instead of the Energy Working Capital Fund to finance DLA's purchases of fuel or that would return fuel management to the military services.

Budget instability could be reduced or cost awareness could be improved by changing DoD's policies or the Congress's approach to providing relevant funding. Such changes would have costs and benefits relative to those of the current system.



How Fuel Is Financed and Provided to the Military Services

How Standard Rates Are Determined

DLA's rates are developed by DoD about 18 months before the fiscal year begins as part of the department's process of developing its budget submission for the fiscal year.

OMB projects fuel costs using predicted oil prices for the upcoming fiscal year from futures markets for oil (oil prices and fuel prices are highly correlated). DLA uses that guidance and the projected costs of storage and operations to develop the rates it will charge the services.

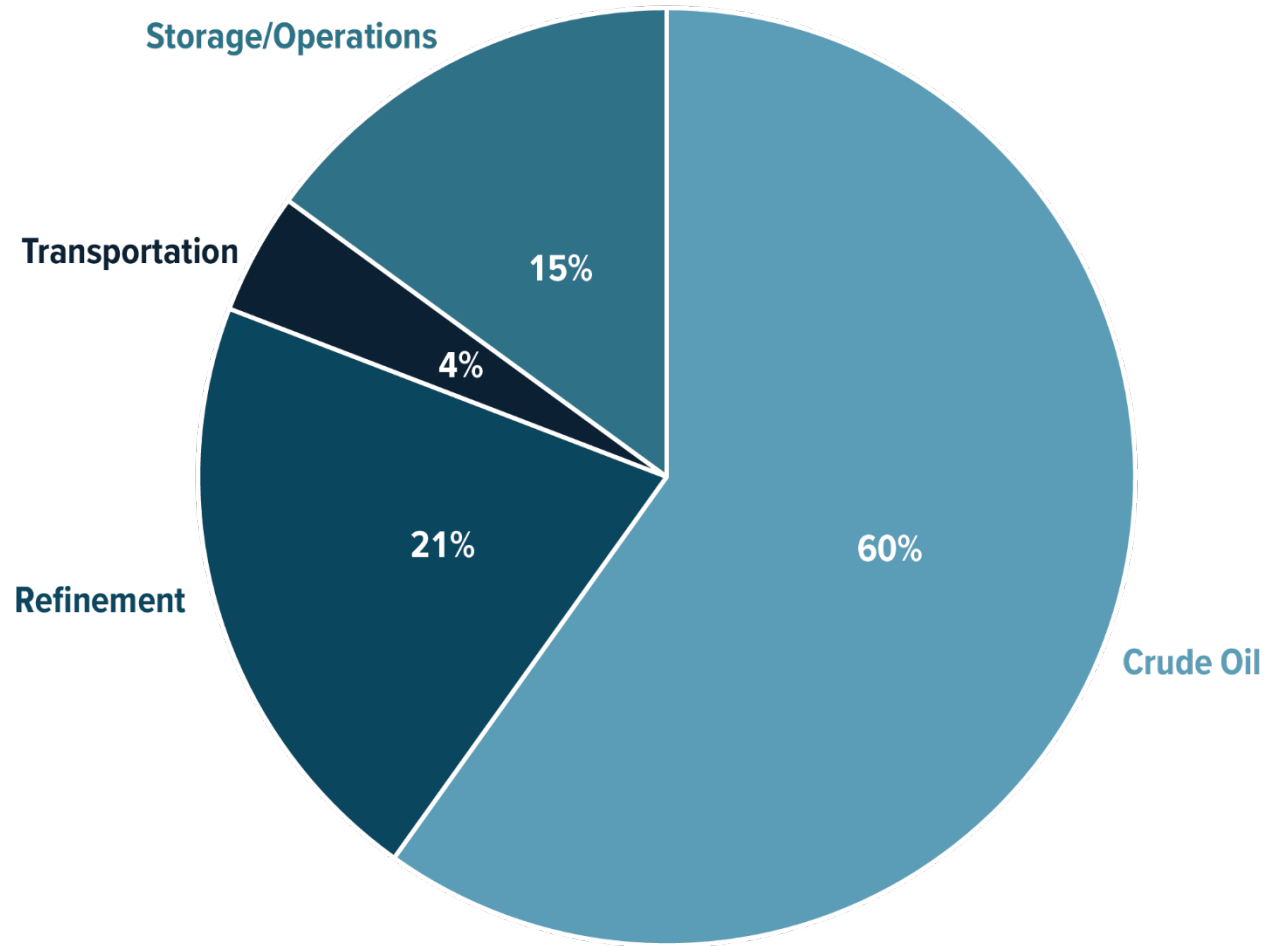
If actual fuel prices diverge from the prices that were projected for the fiscal year, DoD and DLA often adjust the standard rates after the budget has been submitted to the Congress or even after the fiscal year has begun.

In general, DoD's regulations state that working capital funds are supposed to set rates so that they do not run surpluses or losses. If a fund runs a loss one year, it is supposed to impose a surcharge in the standard price for the next year to offset that loss. If it runs a surplus, it is supposed to provide a discount to the standard rate.

For fuel, however, DLA may choose to run a profit or loss as long as the Energy Working Capital Fund's cash balance remains within certain thresholds (usually between \$1 billion and \$2 billion).



The Components of DLA's Standard Price Charged for Fuel

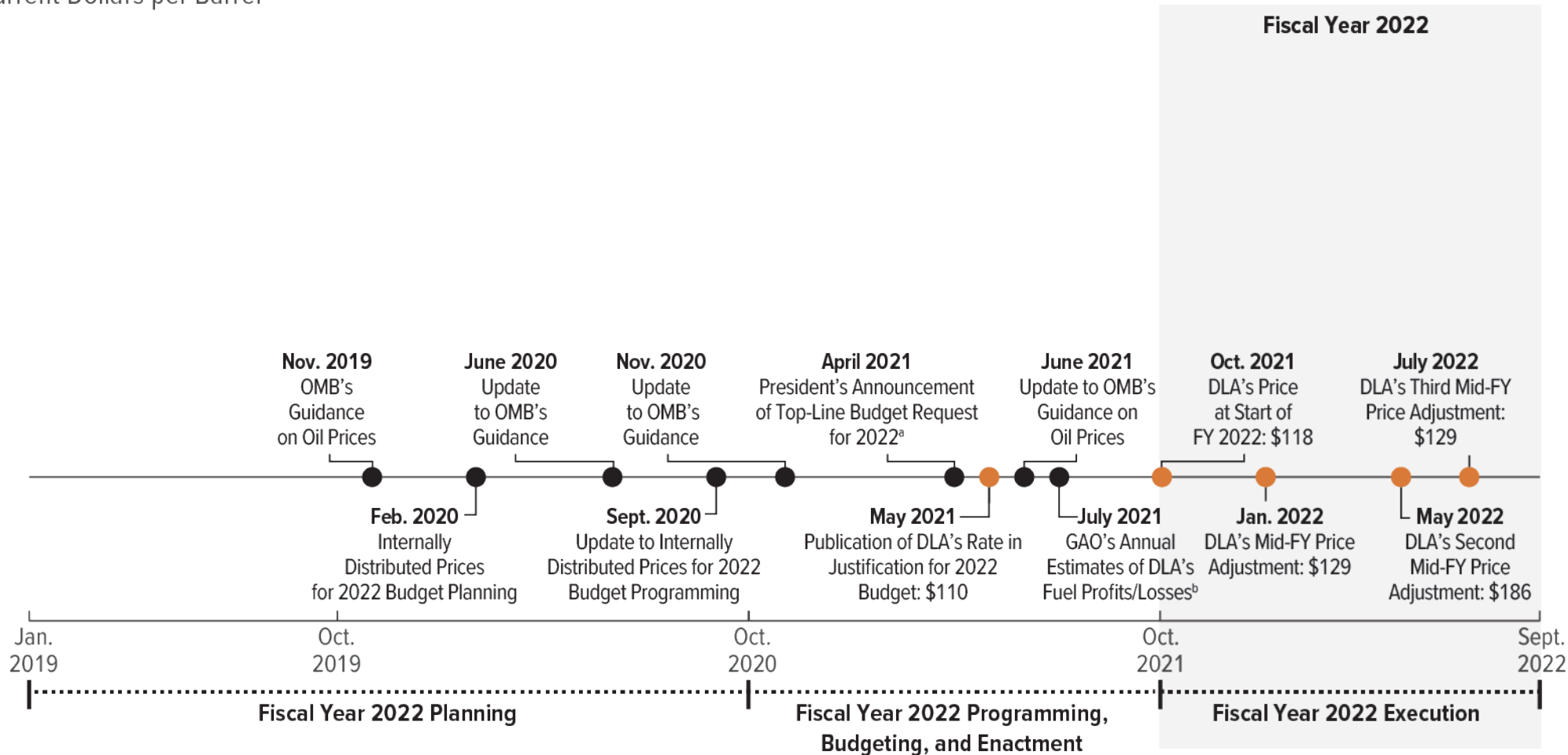


Over the past seven years (the period for which DLA provided data), the largest component of DLA's standard price has been crude oil prices. Costs for refining the crude oil and transportation costs depend indirectly on oil and fuel costs.



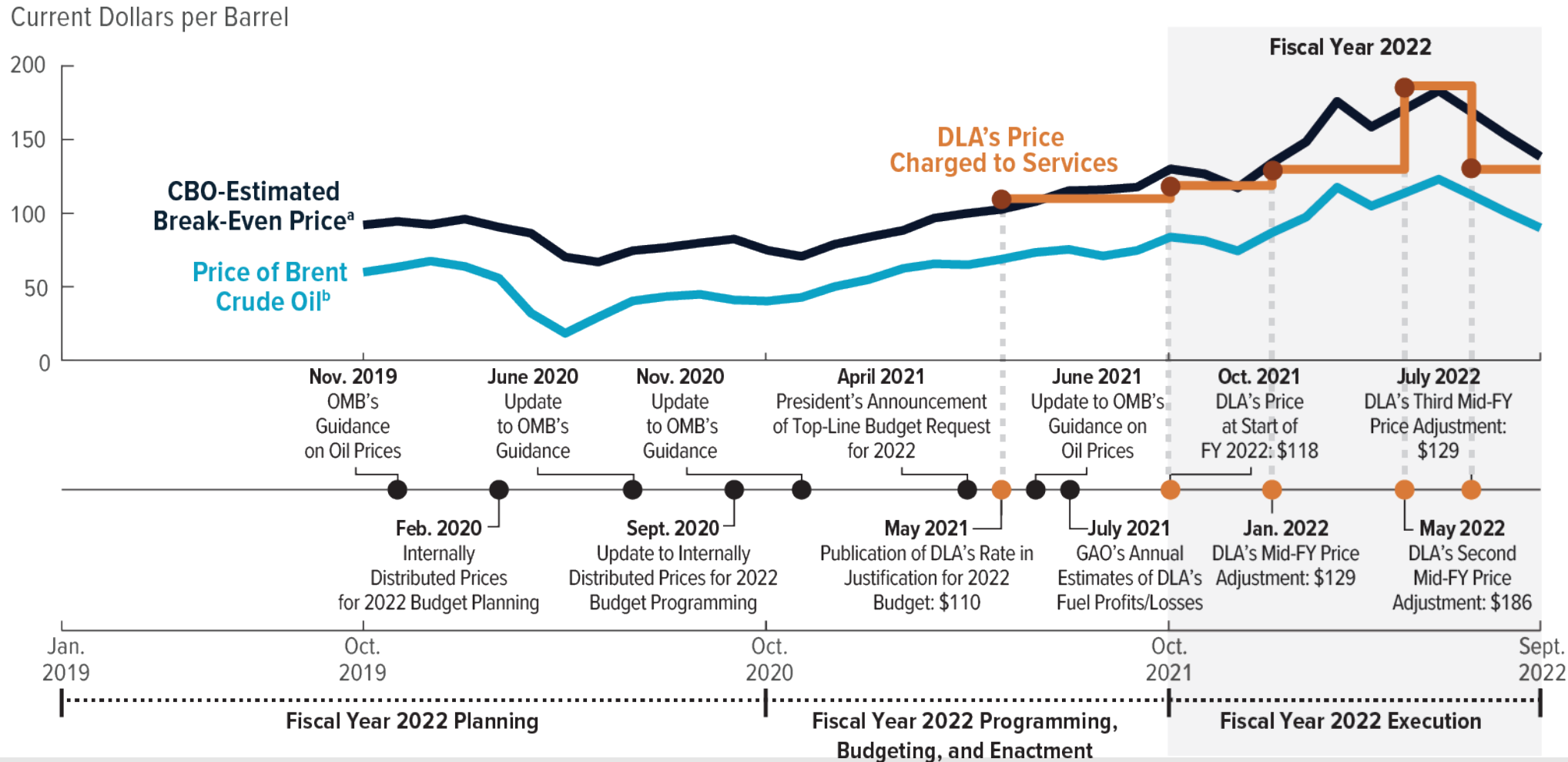
The Process for Developing DLA's Fiscal Year 2022 Fuel Price

Current Dollars per Barrel



The fiscal year 2022 standard fuel price was developed from 2019 to 2021. It was adjusted three times after the start of fiscal year 2022 to respond to market volatility.

The Development of DLA's Fiscal Year 2022 Fuel Price Compared With the Price of Oil



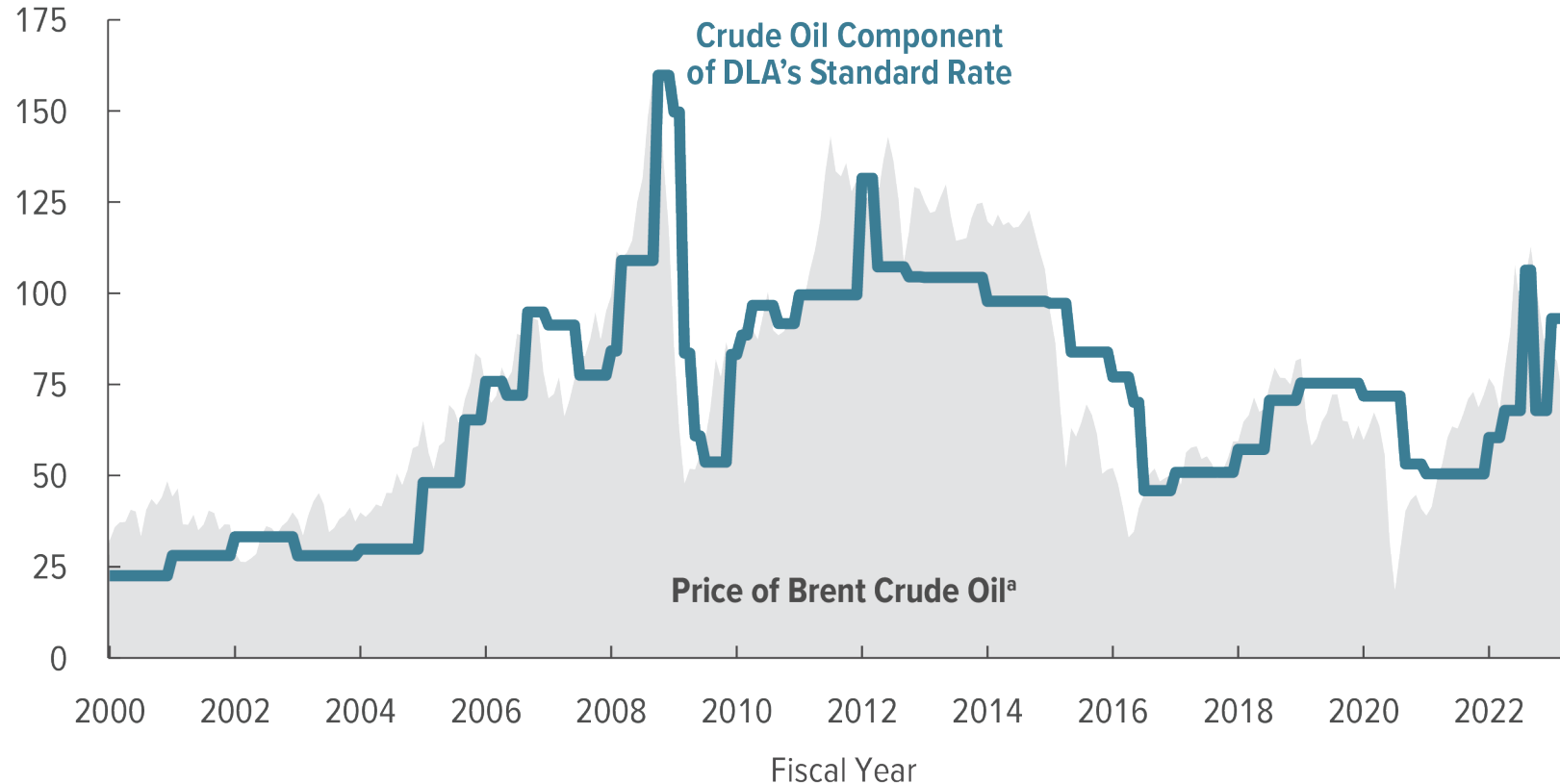
As DLA was developing its fiscal year 2022 fuel price, the price of oil was changing, which led to revisions during the process. CBO estimated a break-even price (at which revenues equal the current cost) for DLA that reflects the oil price expected for fiscal year 2022 at each point in time.

FY = fiscal year.

- OMB's guidance to DoD on oil prices is not available to CBO. However, CBO used two methods to estimate a break-even price. For prices before October 2021, CBO used the futures price for oil delivered in October 2021 and DLA's estimated cost structure. For prices after that date, CBO used the price of crude oil in the spot market and DLA's estimated cost structure.
- Monthly average price of crude oil in the Brent spot market, in 2020 dollars, as reported by the Energy Information Administration. The price in the Brent spot market is for a onetime open-market transaction for immediate delivery of a blended crude stream produced in the North Sea region. DLA indicated that Brent spot prices are the best indicator of projected costs.

Crude Oil Component of DLA's Standard Rate Compared With the Price of Crude Oil in the Spot Market

2020 Dollars per Barrel



From 2006 to 2010, the oil component of DLA's standard rate was often close to the price in the spot market, and midyear adjustments usually made it closer.

From 2011 to 2014, the oil component was often below the spot price.

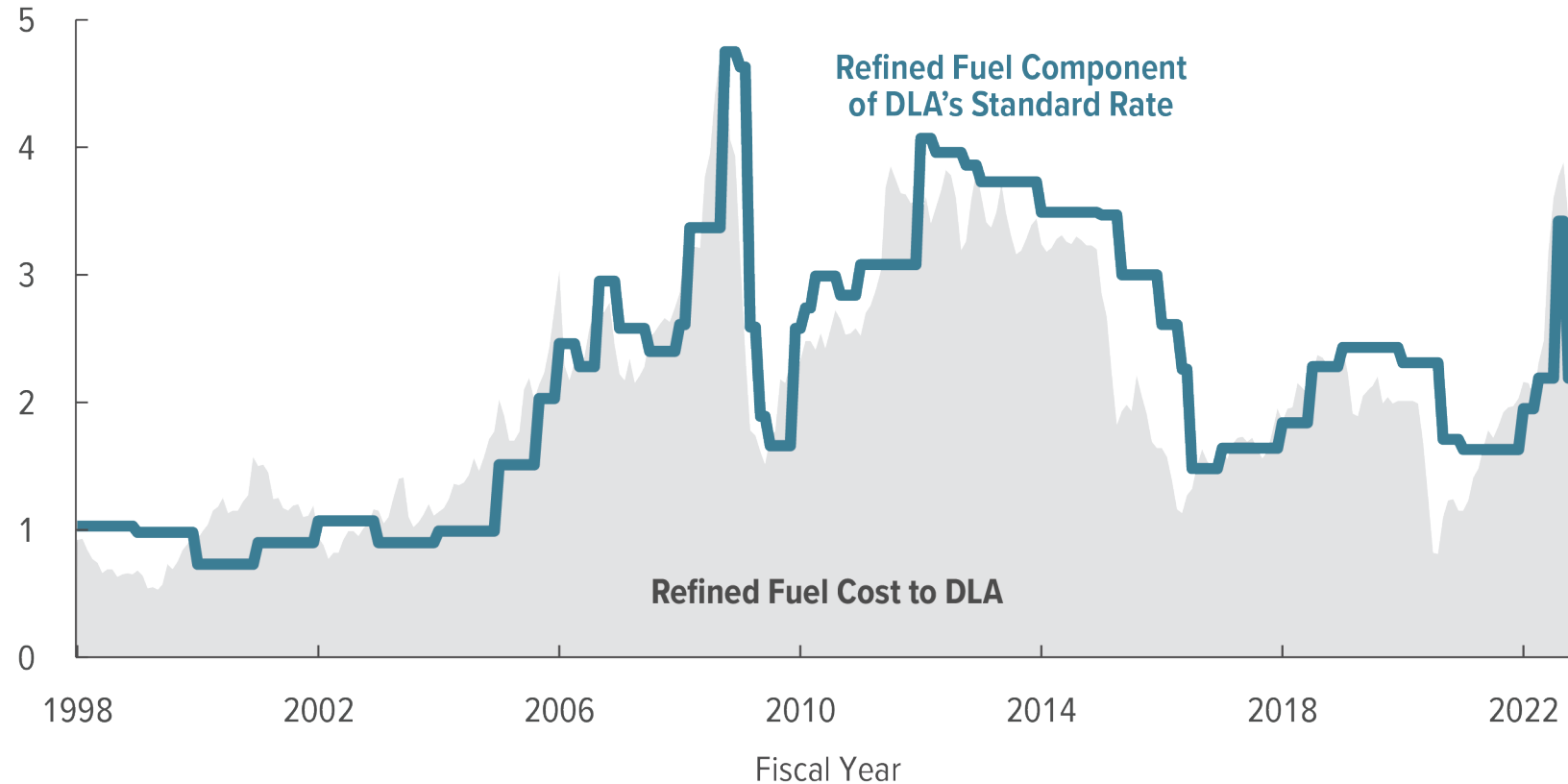
From 2015 to 2016 and from 2019 to 2020, the oil component of the standard rate was above the spot price—even after midyear adjustments.

To remove the effects of inflation, CBO adjusted costs using the gross domestic product price index from the Bureau of Economic Analysis.

a. Monthly average price of crude oil in the Brent spot market, in 2020 dollars, as reported by the Energy Information Administration. DLA reported the crude oil component of the standard rate from 2004 to 2016; for other periods, CBO estimated the value.

Refined Fuel Component of DLA's Standard Rate Compared With the Cost to DLA

2020 Dollars per Gallon



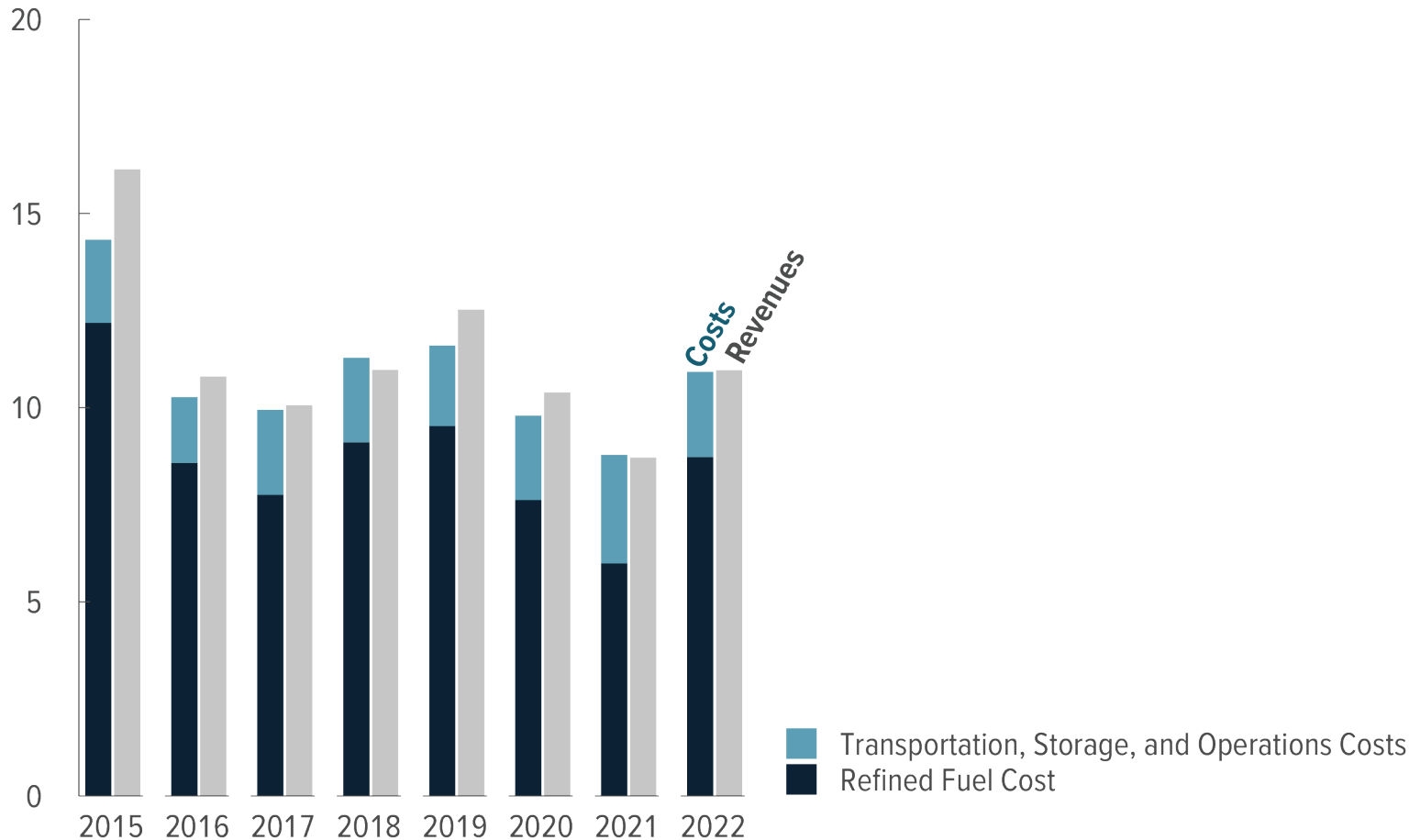
The difference between the refined fuel component (that is, crude oil and refinement costs) of the standard rate and the cost to DLA followed roughly the same pattern as the difference between the crude oil component and the price in the spot market (shown in the previous slide).

From 2006 to 2011 and from 2016 to 2019, the fuel component of the standard rate was close to DLA's fuel cost.

In other periods, from 2015 to 2017 and from 2019 to 2021, the fuel component of the standard rate was often above DLA's fuel cost.

DLA's Revenues and Costs for Fuel

Billions of 2020 Dollars

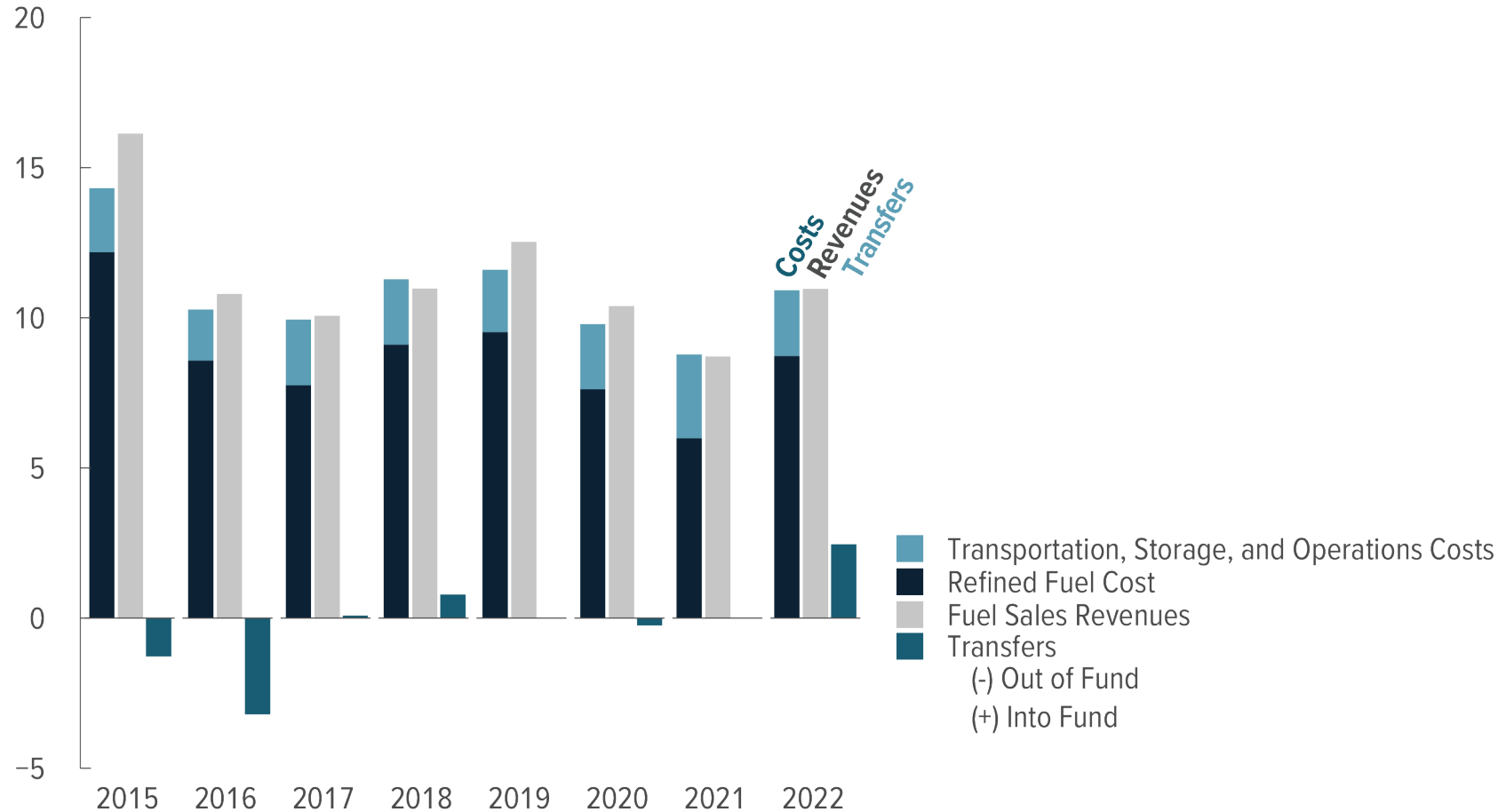


Between 2015 and 2022, DLA's costs for fuel and revenues from fuel sales resulted in a surplus in most but not all years. The largest surplus was \$1.8 billion, in 2015. Costs and revenues were closest in 2021 and 2022.

Fuel costs are less predictable than transportation, storage, and operations costs. Revenues depend on prices charged to the services and whether they are changed during a fiscal year.

Transfers Into and Out of DLA's Energy Working Capital Fund

Billions of 2020 Dollars



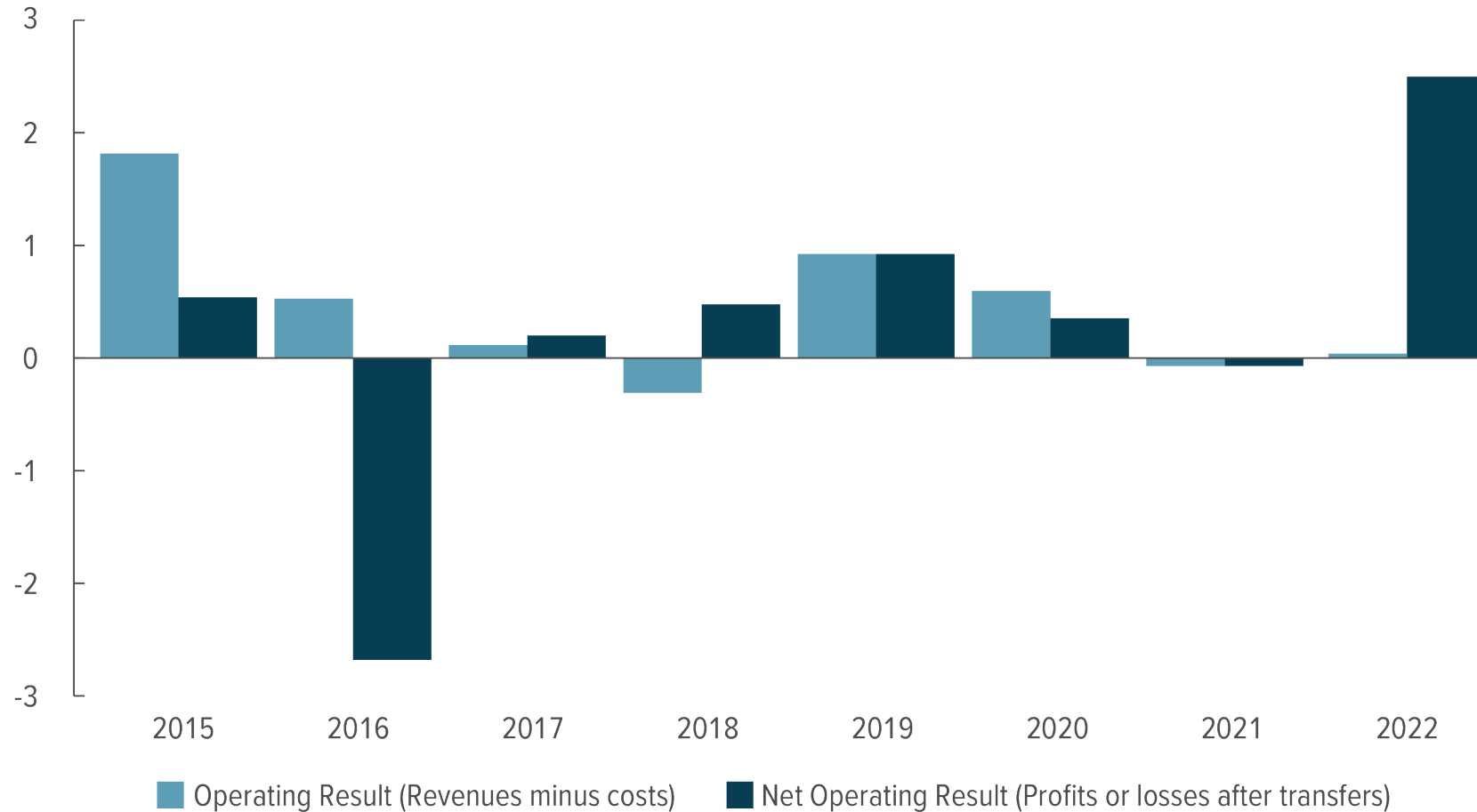
The comptroller of the Office of the Secretary of Defense can transfer funds from one budget account to another with the approval of OMB and the Congress.

Transfers into and out of DLA's Energy Working Capital Fund partly or fully offset the gains and losses.

In total, from 2015 to 2022, \$4.7 billion was transferred out of the fund and \$3.3 billion was transferred into the fund.

DLA's Operating Result and Net Operating Result After Transfers

Billions of 2020 Dollars



Between 2015 and 2022, DLA's operating result and net operating result after transfers into and out of its Energy Working Capital Fund sometimes differed by hundreds of millions of dollars or more.

From 2015 to 2022, the total operating result was \$3.7 billion, and the total net operating result was \$2.3 billion.

Implications for DLA's Budget When Its Standard Rate Does Not Reflect Its Costs

In some years, the crude oil component and the refined fuel component of the standard price were *below* the actual oil and fuel costs that DLA faced in the year of execution. In 2018 and 2022, that situation led to losses and transfers into DLA's Energy Working Capital Fund.

In other years, the crude oil component and the fuel component of the standard price were *above* the actual oil and fuel costs that DLA faced in the year of execution. In 2015, 2016, and 2020, that situation led to profits and transfers out of the working capital fund.

Midyear adjustments were often not large enough to close those disparities, or they came slowly.

Under the current process, the use of those surplus funds (transfers out) may not always be transparent, particularly if they are moved to other working capital funds to cover losses there.

Implications for the Military Services When Oil Prices Change During the Year

If prices rise...

- DLA runs a shortfall or increases its standard rate midyear.
- Higher rates reduce the amount of fuel that the services can purchase unless they reprogram or transfer funding from elsewhere in their budgets or receive a supplemental appropriation.

If prices fall...

- DLA runs a surplus or lowers its standard rate midyear.
- Lower rates generate a surplus in the services' budgets.

DLA or the services can use **surpluses** to pay for other activities; appropriators may choose to leave surpluses in place or rescind or reprogram funds.

DLA can run a **shortfall** if it has enough in its cash balances to cover the losses; otherwise, it will need a transfer into DLA's Energy Working Capital Fund.



Three Alternative Ways to Provide Fuel

Three Approaches That Could Reduce the Effects of Fuel Price Changes on DoD's Budget

CBO examined three broad approaches that would emphasize budget stability for the services, though they would not lower costs or improve efficiency:

- Approach 1: Use Futures Contracts to Guard Against Budget Instability
- Approach 2: Use Options Contracts to Guard Against Shortfalls Caused by Higher Prices
- Approach 3: Use an Indefinite Appropriation for DLA to Purchase Fuel When Market Prices Exceed the Budgeted Price

Each approach would reduce the effects of price changes on DoD's budget during the fiscal year in different ways.

Each approach could raise potential cost and appropriation issues that would depend on how the legislation was written.

Approach 1: Use Futures Contracts to Guard Against Budget Instability

DLA would lock in fuel prices when developing its budget by purchasing oil futures contracts for delivery throughout the upcoming fiscal year.

If prices rose, DLA would sell the oil contracts during the fiscal year for a profit and use the proceeds to cover the higher costs of fuel, so rates charged to the services would remain at the budgeted level.

If prices fell, DLA would sell the oil contracts at a loss but have lower costs for purchasing fuel, so rates charged to the services would remain at the budgeted level, which would be higher than market prices.

Purchasing futures contracts would add about 1 percent to fuel costs, CBO estimates. (Some costs would be shifted forward in time.)

Because the futures contracts would be purchased before the fiscal year started, the Congress might have to increase budget authority for a year or two during the transition from the old system to the new one.

Some price risk would remain depending on the difference in prices between crude oil and refined fuel and how the strategy was implemented.

Approach 2: Use Options Contracts to Guard Against Shortfalls Caused by Higher Prices

DLA would purchase options to buy oil at a fixed price for delivery throughout the upcoming fiscal year.

If prices rose, DLA would sell the option contracts for a profit that would cover the higher cost of fuel and thus allow rates to remain at the budgeted level.

If prices fell, the option contracts would be worthless, but costs would be lower than the budgeted amount; DLA would generate a surplus, which could be automatically canceled (or passed through to the services through lower rates).

Purchasing options contracts would add about 5 percent to 11 percent to fuel costs, CBO estimates, but DLA would not pay more than the market rate for oil.

Because the options would be purchased before the fiscal year started, the Congress might have to increase budget authority for a year or two during the transition from the old system to the new one.

Some price risk would remain depending on the difference in prices between crude oil and refined fuel and how the strategy was implemented.

Approach 3: Use an Indefinite Appropriation for DLA to Purchase Fuel When Market Prices Exceed the Budgeted Price

The services would use their regular fuel appropriation to pay DLA the budgeted rate for fuel during the fiscal year regardless of the market price of oil (quantities would be based on history or specific justification).

The budgeted rate would be set so that DLA would break even if the price predicted by futures markets (the future price) was accurate; DLA would purchase fuel at the market price (the spot price).

If market prices exceeded the budgeted price by a certain threshold, DLA would use the new indefinite appropriation authority to cover the extra costs (although purchases would be limited to the total number of barrels that the Congress authorized for that fiscal year).

If market prices were below the budgeted rate, DLA would collect surplus payments from the services; the Congress could add statutory language to automatically cancel any budget authority that exceeded the actual costs at the end of the fiscal year.

This approach would stabilize the services' budgets by providing DLA additional budget authority above amounts specified in appropriation acts. However, this approach could provide an incentive to underestimate fuel costs and add complexity and uncertainty to the budgeting and estimating processes. In assessing budgetary effects, CBO would attribute additional budget authority to legislation providing such indefinite authority.

A provision similar to this approach appears in 10 USC sec. 2208(t), but it has never been funded or used.

Comparing Policy Approaches

	Increase in DLA's Costs	Shortfalls for DLA?	Surpluses for DLA?	Shortfalls or Surpluses for the Services?	Rates Charged to Services Reflect Current Oil Prices?	Cost Estimating Issues
Current Rules	None	Yes	Yes	Yes, when rates are adjusted	Yes, when rates are adjusted	Costs to DLA and the services differ from budget
Approach 1: Futures Contracts	About 1% ^a	No	No	No	No	Might require an increase in budget authority for a year or two during transition
Approach 2: Options Contracts	About 5% to 11% ^a	No	Yes	No	Yes, when prices fall and rates are adjusted	Might require an increase in budget authority for a year or two during transition
Approach 3: Indefinite Appropriation	b	No	No	No	No	Would increase budget authority by an indefinite amount when certain conditions were met

Additional budget stability might have both direct and indirect costs and benefits, and specific proposals might have additional costs and benefits that are not considered here.

In assessing potential increases in standard rates, CBO estimated how accounting for administrative costs would have increased those prices in 2019, before the coronavirus pandemic.

a. Some costs and obligations would be moved forward in time so that DLA could purchase options before a fiscal year started, which would lead to an increase in budget authority for a year or two as the policy was being implemented.

b. This approach would not affect the price that DLA pays for fuel, but it would affect how DLA funds its fuel purchases. An indefinite appropriation would provide DLA additional budget authority beyond the amounts specified in annual appropriation acts. Such effects are generally attributed to the enacting legislation. The budgetary effects would depend on the specifics of that legislation.

Limitations of CBO's Analysis

Costs of the two futures market approaches could be different if oil prices were more or less volatile than those over the past 10 years.

The importance of the approaches for the services could be different if demand for fuel differed appreciably from that in 2019—from, say, transitioning toward more fuel-efficient vehicles or away from nuclear power for ships.

CBO could not analyze in detail the cost or appropriation issues that might arise with the three approaches. Doing so would require reviewing the applicable legislative language.

Approaches used by industry to hedge fuel price changes are more complex than those considered here, so applying those approaches could make the costs and benefits different than those presented here.

CBO used summary annual data that are not as detailed as those available to DLA, which could lead to different results.