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Royal Caribbean Cruise Lines spends a lot of money at the fuel dock. But even though petroleum prices have soared to their highest levels in five years, all is calm at the company's Miami headquarters.

That's because of a risk-management tool called a commodity swap. Months before Iraq overran Kuwait, Royal Caribbean used the tool to hedge against price increases for much of its fuel needs this year and beyond. This year, the swap entitles the company to pay \$18.41 a barrel for oil. That will save Royal Caribbean about \$10 a barrel over the current price every time it fills one of its 750,000-gallon shipboard fuel tanks.

Despite the obvious benefits of hedging in times like these, companies that hedge their oil needs are a minority. Scores of corporations and other big fuel users have had to admit they were caught off guard by the oil run-up. Now they are paying fuel bills that are as much as 35% higher than a month ago.

AMR Corp.'s American Airlines, for instance, estimates its fuel bill this year will be more than \$300 million higher than last year. The Postal Service expects an extra \$45 million in costs through the end of this year. The Los Angeles mass transit system fears it hasn't allocated enough money to fuel its buses. Meanwhile, truckers and railroads are imposing fuel surcharges, and utilities are seeking rate increases.

Much of this turmoil could have been avoided. Corporations dependent on a commodity such as oil can lock in prices and protect themselves from price swings. The strategies range from using futures and options contracts traded at major exchanges to forward contracts and so-called swap transactions. All of these hedging strategies amount to pretty much the same thing -- hog and soybean farmers have done it for years.

The purpose of hedging isn't to minimize cost but to minimize risk. Hedgers often end up paying more for a commodity when prices are low, but they are not as badly stung when prices jump. Hedging allows them to predict and manage their future costs better. This makes business planning more reliable, which is especially important for companies that carry a lot of debt because it helps ensure that they will be able to meet interest obligations.

A buyer of crude oil who wants to guard against rising prices, for instance, would buy futures at current prices if he thought them satisfactory. The futures contracts represent an obligation to buy a specified quantity of a commodity such as crude oil or heating oil, at an agreed-upon price by a certain date. If prices later rise, the added oil expense will be offset by a profit in the futures market. If prices fall, the loss incurred on the futures will be offset by the benefit of lower oil prices.

Hedging is also done in what is called the swaps market. In a swap agreement, an oil user or producer agrees to lock in the price it will pay or receive at a predictable level. This is typically done through a bank or a hedging manager.

By using commodity swaps, Royal Caribbean estimates it will save \$2 million on fuel costs for the rest of 1990. The cruise line, which first began trying to manage its oil costs last year, says it now has swap hedges in place to lock 40% of its fuel costs through 1991. It will pay \$18.41 a barrel for fuel through 1990 and \$19.65 a barrel in 1991. The 1991 hedge, which covers the equivalent of about 500,000 barrels of crude oil, would save the company an estimated \$4.1 million at today's fuel prices.

CSX Corp., a national freight company, also hedges routinely to protect the 850 million gallons of fuel it needs annually to run its trains and barges. The company has been hedging for three years, using everything from swap arrangements to options and futures contract trades, says a company spokesman. When Iraq attacked Kuwait, some of the fuel CSX will need through 1990 was hedged with a strategy known as options participation, using call options on crude oil contracts that entitle the holder to buy the oil for a specified price over a specified period.

CSX bought its contracts when the price of fuel was relatively low. Now, because of the oil-price run-up, they're worth much more than CSX paid for them. For example, a call contract that gives its owner the right to buy crude at \$20 a barrel and sold for about a \$1 a barrel two months ago would be worth over \$9 a barrel.

Since the invasion, CSX has been selling off some of its call contracts for a profit, which it then uses to reduce the pain of paying more for fuel. It still holds some options and futures contracts, though it won't specify what kind or how many.

The costs of hedging vary widely depending upon the technique. Commodity swaps, often arranged by banks, don't require the payment of any premium at all; the bank typically pairs a fuel producer and a fuel user who both want to swap, and collects a differential between what the producer receives and the user pays for oil.

To trade options or futures contracts, companies must set aside capital and pay commissions. But these instruments allow the buyer to leverage its control of a commodity. For instance, for an up-front margin investment of about \$6,000, a company on July 20 could have bought three September heating-oil futures contracts (42,000 gallons each) on the New York Mercantile Exchange, then valued at \$71,631. On Aug. 20, the buyer could have sold those contracts at a profit of \$32,899.

Most companies manage their hedging with tiny staffs. At Cenex Inc., an oil refining division of Land O' Lakes Inc., David Zanussi runs a two-man department that manages all of the company's hedging positions in options and futures, as well as commodity swaps and forward contracts, an agreement to purchase or sell fuel at a given price over a period of time.

The uncertainty since the Mideast crisis began Aug. 2 has raised the costs of some hedging techniques. On Aug. 1, an option on an October crude-oil contract with an exercise price near what was then the price of oil (\$22) cost 92 cents a barrel. By Aug. 10, an option on the October crude contract near its then current price (\$26) cost \$1.83 -- nearly double the pre-invasion level. Margin requirements on oil futures contracts have also risen sharply since the invasion.

Even when the costs of hedging were lower, many companies were reluctant to even try it. Despite their huge dependence on jet fuel, for instance, few U.S. airlines have made serious efforts to hedge. (Many of their European rivals use hedging techniques routinely.) US Air Group Inc. and NWA Inc.'s Northwest Airlines both say they have experimented with hedging; other carriers, such as American Air, say they don't hedge at all.

U.S. airlines have been reluctant to hedge partly because they still view commodities markets as something just short of gambling houses. "I don't want to tell my board we have a big payout to make {on hedging positions} because I guessed wrong on the direction of oil prices," says the comptroller of one U.S. airline.

Airlines also apparently feel there is safety in numbers: If no carrier hedges, the whole industry is affected in the same way, whether oil prices decline or fall. That way, the industry is also more likely to move in lock-step in attempting to pass cost increases on to consumers in the form of higher fares.

But carriers with large debt loads are under increased pressure to manage their finances with

as much predictability as possible. Last year, Northwest Airlines saved more than \$7 million in fuel costs because it hedged 4.2 million gallons of its fuel purchases for each month. Because Northwest buys more than five million gallons a day, that was a drop in the bucket. But the airline still found the experiment encouraging.

The Persian Gulf crisis has sparked a lot of interest in hedging, most immediately among oil producers. Volume on the New York Merc, where a number of petroleum-related contracts are traded, has jumped in the past three weeks. Average daily volume for petroleum futures at the New York Merc rose to 203,336 contracts during the week ended Aug. 10, up 42% from the average level from January through July. Trading in options contracts has also surged.

"A lot of companies have to get burned badly at least once to understand why they need to hedge," says Chris Swanson, a trader for Phibro Energy Inc., a division of Salomon Inc. that devises hedging programs for industrial oil buyers and sellers.

One new convert is Burlington Motor Carriers Inc., which considered hedging its fuel purchases a few months ago but didn't take action. When Saddam Hussein's troops stormed Kuwait, Richard M. Rogan, Burlington's president, called Ralph Arnold, a senior vice president, and said, "Ralph, I really wish we'd put on that hedge." The two agreed that they had no choice but to ask customers to pay a fuel surcharge --and they vowed to get more serious about hedging.

Many companies that sell petroleum also are now rushing into the market. "A lot of producers are eager to lock in the higher prices," says David Hammer, vice president of Phibro. "It's mostly been independent oil companies that produce anywhere from 1,000 barrels a day to 100,000 barrels a day," he says. One Texas oil and gas producer with annual sales of more than \$1 billion hedged 20% of its oil production until the end of 1990 within two hours after the market opened on the morning after the invasion. Said a spokeswoman: "We saw the oil market in a panic and we thought it an overreaction."

Some companies that hedge say that, as fuel buyers, the wake of the price run-up may not be the best time to lock in prices. But others say that if prices seem to be at a plateau, they would consider hedging against further rises.

Executives at MGM Grand Air, a luxury airline service, were kicking themselves because they only recently decided not to hedge fuel purchases. "If we had done it a month ago, we'd be in great shape now," says Charles Demoney, chief executive.