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RON SCHELLING

Ron Schelling discusses how important it is for airlines to hedge jet fuel costs. As the price of crude oil has risen, fuel costs have increased to over 25% of airline operating expenses. It is important for an airline's fuel costs to be hedged for it to be profitable

Jet Fuel

– To Hedge or Not to Hedge?

With January 2008 oil prices hovering around \$100 a barrel, the question that arises for many airlines is whether to offset fuel costs with even more financial hedges.

Is it a good strategy to lock in future purchases at such high, possibly peak, prices?

In 2005, U.S. airlines fuel cost overtook labor cost as their number one expense. The cost of jet fuel accounted for more than a quarter of airline operating expense and is expected to rise to over 28 percent of global expense in 2008.

Every additional cent on fuel price adds another \$190 to \$200 million to the jet fuel bill of U.S. carriers alone.

Historically, fuel expenses have ranged between 10 and 15 percent of U.S. passenger airline operating costs and currently run somewhere between 25 percent and 40 percent.

With a consumption rate of over 20 billion gallons per year, every penny paid for a gallon of jet fuel costs the U.S. passenger and cargo airline industry nearly \$200 million annually.

The following chart shows the average world jet fuel price from 2004 to 2008 in cents per gallon.



Chart World Average Jet Fuel price

Hedging is a function of fear in the marketplace. In a period of great volatility, you will see people hedging their risk and when the market stabilizes, less hedging activity is evident.

Hedging applies to a range of strategies, usually involving financial instruments that companies use to protect themselves against swings in costs like fuel, currencies or interest rates.

A simple hedge for an oil consumer is to enter into a futures contract to buy oil in the future, say in 3 to 6 months at a specific price, thereby locking in future costs.

In contrast, a producer of oil will sell futures contracts to protect against a price decline.

Jet fuel is mainly hedged with Heating Oil futures as its price moves almost the same as Crude Oil.

Some years ago, a jet fuel index was tried in London and last year one was discussed in the Middle East. So far, only Japan has a real Kerosene Futures contract available. It is denominated in Japanese yen per kiloliter.

Money can also be lost, as both Continental Airlines and United Airlines found in late 2006, when the carriers' contracts

locked in fuel needs at prices above where the commodity traded. And the higher prices climb, the more expensive hedging will become.

Consider how fuel prices affect a flight from the East coast to the West coast of the United States on an average two-engine airliner.

The average cost for fuel alone for this flight is around USD 12,000, which means that the same trip today costs USD 5,000 more than it did in 2004!

Fuel prices are influenced by global and local factors, but are heavily correlated with crude oil prices. Crude oil prices are driven principally by geopolitical insecurity, supply and demand factors and weather like hurricanes and winter conditions.

Technically, it is more complex to make jet fuel.

Roughly 75 percent of jet fuel price is determined by the price of crude oil, while the remaining 25 percent is dictated by heating oil and jet fuel crack spreads.

The crack spread is how much a refiner is making when refining crude oil into various products with each product having its own crack spread.

The crack spread is the difference between the product (jet fuel) and crude oil. Like in winter, the crack spread goes up because of increasing demand for heating oil while the crack spread on gasoline goes up during the summer driving season. The average crack spread on jet fuel moved from around USD 7 in 2000 to USD 18 in 2007 but with peaks at uncertain periods of over USD 40!

Airlines change their operations to improve fuel efficiency and use all kinds of cost cutting measures next to hedging their fuel bill.

Fuel efficiency improves by 1.7% per year.

This saves USD 2 billion annually on the fuel bill.

Fuel costs rose USD 61 billion in 2004, USD 90 billion in 2005, USD 111 billion in 2006 and around USD 132 billion in 2007, accounting for 28 percent of operating cost.

Examples of different types of hedging activity

Hedging involves the offsetting of price risk by taking a position in another related market.

There are three main hedging strategies.

Self-hedging

Self-hedging is the most simple type of hedge.

Large companies make sure their purchases match with sales and provided the sales and purchases levels do not move wildly out of synch, they believe they are hedged. As well as being the simplest to implement, such a hedge does not take into account lag time between product purchase and delivery, or the respective volatilities in the respective markets.

Hedging fixed-price risk

Hedging fixed price risk is simple.

If you buy a physical commodity at, say, USD 90 per barrel, you are exposed to any wild swings that may occur in the price.

You can make dollars or lose dollars with the exposure and this is where futures contracts come in. If you sell a fixed price future at USD 100 per barrel against your physical purchase, risk is offset. If oil prices drop, you lose money on your physical purchase, but the futures price would dive in line and money would be made on the futures position.

The opposite would be the case if prices moved higher: you would make money on the physical and lose money on the future.

Another way to hedge would be to buy a put option at the strike price that you wished to lock in. This would give you the right but not the obligation to sell at a certain level – at say USD 98 per barrel.

If the price dropped below USD 98, you would exercise the put at the strike price and have a futures position at that price level.

In essence, you would only use your insurance if the price moved enough.

Hedging floating price risk

Hedging floating price risk is less intuitive, but it is also fairly simple. If your price risk is floating price, you are exposed to market gyrations. If you sell the oil to another party at USD 90 barrel, for instance, it may easily happen that by the time the cargo is priced on quotations, the market may have moved up and a loss must be booked. The way to hedge a floating price purchase is to buy a fixed-price swap and the way to hedge a floating price sale is to sell a fixed-price swap. Here is how it works.

Purchase a fixed-price swap at USD 90 per barrel. If the market drops, your physical purchase will become cheaper. But you will book a loss on the swap, although you paid USD 90 per barrel for it, the swap will be priced out at market. The opposite happens if prices rise.

The discussion on hedging floating price risk can be summarized in the following grid:

	Buy fixed	Buy floating	Sell fixed	Sell floating
Buy fixed	Unhedged	Hedged	Hedged	Unhedged
Buy floating	Hedged	Unhedged	Unhedged	Hedged
Sell fixed	Hedged	Unhedged	Unhedged	Hedged
Sell floating	Unhedged	Hedged	Hedged	Unhedged

Is there a currency risk, too?

That is dependent on the home base of the airline and what is used as their base currency. Most airlines receive U.S. dollars and use them to pay their accounts payable with U.S. dollar bills, not only for fuel but also spare parts, airport costs, new planes etc. Another option is to fill their fuel tanks in cheaper countries but this is a limited option.

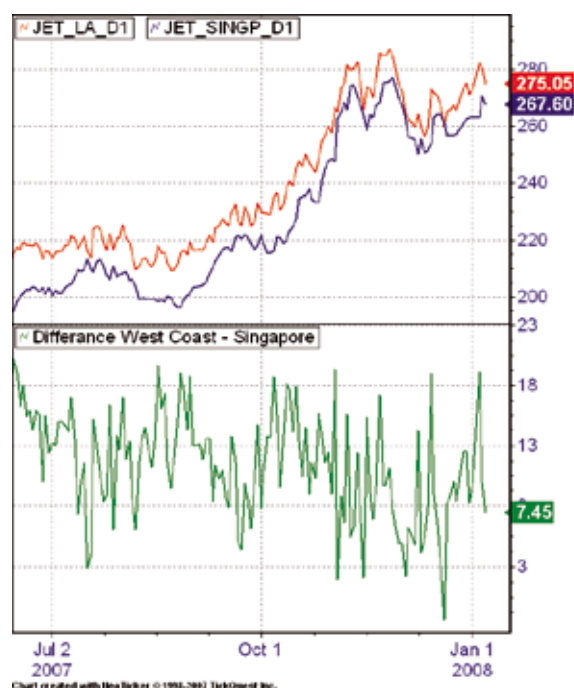
The following chart shows the differ-



ence in the gallon price of jet fuel in U.S. dollars and euros. The EUR/USD exchange rate is at the bottom of the chart.

Another consideration is the difference in price between more expensive and cheaper places in the world. This difference has to do with transportation costs, which includes insurance etc. Even within the United States, there can be a big difference in price from one region to another.

This chart shows the jet fuel price difference between the West coast of the United States and Singapore.



Conclusion

Airline people involved in trip planning, finance and operational departments are becoming almost big (oil) hedgers in order to save on the biggest part of the cost of flying. It is only then that an airline can be able to make a profit.

A clear jet fuel hedging strategy depends on many factors like, oil price risk, country risk, foreign currency risk, etc.

(Source: US Energy Information Administration)

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