Delta MEC Touch & Gos
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Airline Financials – An Overview of Fuel Hedging

This edition of *Touch & Gos* is the final in a series written to help you understand some of the financial aspects of our industry and our company as your union continues to prepare for contract negotiations. In the next series, we will focus on the mechanics of how Section 6 negotiations are conducted.

In previous editions of *Touch & Gos*, we looked at the *Profit & Loss Statement* and the *Statement of Cash Flows*. In this edition, we will take a look at the whys, hows and whats of fuel hedging.

Why Hedge?
Fuel prices are highly volatile. In just the past three years, the price of a barrel of crude oil has gone from $145 down to $35 and back up to $110 This is driven not only by changes in the global economy, but also by geopolitical events and speculation. (**Late breaking news:** As this edition of *Touch & Gos* goes to print, NYMEX Crude has dropped over $13.00 in just the last 24 hours.)

On top of that, fuel has become the single largest expense item for airlines. In 2010, Delta purchased over 3.8 billion gallons of jet fuel – the equivalent of using almost 250,000 barrels of oil a day. To put that into perspective, if Delta were a country, Delta would rank 49th in the world in terms of oil consumption. Fuel hedges provide an insurance policy against price swings in what has become a very volatile market

How to Hedge?
Airlines use a variety of tools when hedging fuel. The main tools are:

-Swaps
Swaps are the simplest form of hedging. Essentially, a swap is an obligation to buy a commodity in the future for a fixed price. Swaps offer protection against rising prices, but do not provide protection from falling oil prices.

For example, Delta agrees today to pay $100 for a barrel of crude oil in September. When September arrives, Delta pays $100 and receives a barrel of oil. If oil is trading for $110 at that time, Delta benefits; if oil is trading at $90, Delta loses.

-Call Options
Call options are usually the most expensive form of hedging. As the name implies, call options offer an *option* to buy fuel at a fixed future price. Call options provide protection against rising prices while still allowing for full downside participation (less the cost of the option).

For example, Delta buys an option today for $10 for the opportunity to buy a barrel of crude oil in September for an agreed price of $100. When September rolls around, if the market price of crude oil is $120, Delta exercises its option and buys the oil for $100. Net effect: Delta paid $110 (option plus agreed price) for oil worth $120. If crude oil is trading at $80, Delta declines to exercise its option and buys the oil on the open market for $80. Net effect: Delta paid $90 (option plus market price) for oil worth $80.

With call options currently costing in the neighborhood of $8-10 per barrel, you can see that this is a relatively expensive form of protection.

-Collars
Collars are used to mitigate the high cost of call options. The aim of collars is to provide a zero cost protection that leaves the airline exposed to market prices within a defined range, while offering protection against big spikes in fuel prices. Collars don't, however, allow the

carrier to benefit from the full scale of decreases in fuel prices.

For example, Delta buys the same *call option* as outlined above ($10 premium today for option of buying oil for $100 in September). At the same time, Delta sells a *put option* for $10 which obligates Delta to buy fuel at $70 should the buyer of the put option exercise his right. At this point, Delta is at break-even – the airline spent $10 and received $10. When September rolls around, if oil is trading between $70 and $100, Delta will buy the oil on the open market. If oil is trading at $110 (or above), Delta will exercise its call option and buy the oil for $100. If oil is trading at $60 (or below), the buyer of Delta's put option will exercise his right and Delta will be obligated to buy the oil for $70.

In this example, Delta has essentially locked in a portion of its fuel expenses in the $70-100 range. Delta is protected against any spikes in oil price above $100, but cannot take advantage of drops in oil prices below $70.

What to Hedge?

Airlines ultimately use jet kerosene. Unfortunately, there is not a highly liquid market in jet fuel hedging and the hedges that can be used are only available for around six months into the future. Therefore, most of the hedging is done in other commodities.

The price of jet fuel can be broken out into two components – the cost of crude oil and the cost of converting crude oil into jet fuel (known as the crack spread). The largest of these components is the cost of the crude oil. Therefore, the majority of hedging by airlines is done in the crude oil market. This market is highly liquid and offers the longest time horizon.

But, hedging in crude oil does not take into account the changes in the crack spread. Over the past three years, the crack spread has fluctuated from $30 per barrel down to $3 and back up to $30. Since there isn't a good market for hedging jet fuel, airlines will also hedge in the heating oil market. Heating oil is a relatively close proxy to jet fuel, and its crack spread will typically track jet fuel's crack spread. The heating oil market is more liquid than the jet fuel market, but that liquidity rapidly decreases beyond a twelve-month horizon.

So, airlines will typically hedge in crude oil initially and then start hedging in heating oil around 12 months out before switching into jet fuel.

Strategy of Hedging

The strategy of hedging boils down into either

a. trying to time the market or
b. using a systematic approach

Since airlines find it difficult to reliably predict oil prices and they are using hedging to reduce volatility (and not as a means of generating profits), most take a systematic approach to hedging.

Airlines will have a fuel hedging framework that prescribes what fuel hedge levels to target for the future. Each month, the airline will buy some amount of hedging for the coming 12 to 24 months. This way, the airline builds a gradual hedge book without having to make a definitive judgment call on the future of the market.

Summary

With the significant volatility in the oil market, fuel hedging can and has become an important tool in moderating the impact of price swings. The purpose of hedging is to provide a more predictable cost environment. While fuel hedging does not enable airlines to completely escape fuel volatility, it does allow them to delay the impact of rising fuel prices. This delay buys the airlines time to adjust fares to compensate for a higher fuel prices.