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Inflammatory Fuel

Disciplined measures to conserve fuel are mandatory in an era where sharply escalating prices continue to spiral upward.

■ By Steve Hendrickson and Peter Berdy | *Ascend* Contributors



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Crude oil prices have increased 300 percent during the last four years, leading to the belief in the airline industry that perhaps the worst has passed. However, hurricanes Katrina and Rita had a substantial impact on the oil refining industry that may keep crude oil prices, thereby jet fuel prices, on the rise. As of early October, 11 refineries accounting for 18 percent of the United States' total refinery capacity remained closed because of the damage suffered during the hurricanes.

The abrupt rise in fuel prices during the past four years has wreaked havoc on the airline industry's bottom line. The general trend toward higher prices has come with such volatility that projecting costs for future planning activities can prove quite challenging.

Crude oil prices have reached new highs, trading above US\$70 per barrel recently. This stands in stark contrast to the lows around US\$16 per barrel in late 2001. Yet, even though this represents a 300 percent increase in just four years, perhaps tempting those with optimistic tendencies to think the worst has likely passed, there still remains much anxiety about how future trends may unfold.

The International Air Transport Association has stated that the industry suffers US\$1 billion of additional fuel costs for each US\$1 increase in the price of crude oil. To make matters worse,

jet fuel prices have been rising faster than crude oil, a reflection of the fact that refinery capacity is stretched very thin and competing distillate products sourced from the same middle barrel section are flourishing in a robust economy despite retail price spikes. The numbers are startling; the spread between crude oil and jet fuel has risen from US\$2.59 per barrel in 2002 to US\$11 per barrel in the first half of this year. About one-fifth of the increase in jet fuel price comes from this widening spread and about four-fifths is in higher crude prices.

Given that many airlines' profit margins tend to be razor thin even in the best of years, success in the face of uncertain fuel costs requires an even greater emphasis on the tight control of expenses. While many non-fuel expense items have received much cost-cutting attention lately, with labor costs being a

particularly popular target, it remains incumbent upon airlines to diligently address those aspects of fuel expense upon which they can exert some control.

The stakes are undeniable: according to IATA, the airline industry will pay more than US\$83 billion for fuel this year. That represents an increase of US\$39 billion over 2004 levels and is equal to the gross domestic product of New Zealand. Yet, astoundingly, this increase is somewhat muted by the industry's move toward more fuel-efficient aircraft. The Association of European Airlines, or AEA, notes that today's aircraft are more than 70 percent more fuel efficient than jets of the 1960s. Had it not been for efforts to modernize fleets during the past decade, the crisis could be much worse. The fact is, the price of jet fuel has risen so rapidly in the short timeframe



HIGHlight

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since late 2001 that airlines now face price levels unimaginable only a few years ago.

Where will fuel costs go from here? Opinions diverge dramatically. For example, an economist with Morgan Stanley recently indicated his belief that the oil market could move rapidly toward a severe crash as the world economy slows, alternative energy sources gain popularity and oil speculators grow nervous about a price peak. On the other side of the issue, a Goldman Sachs report issued in March theorized that petroleum markets were just beginning to reflect an emerging "super-spike" phase that might produce a 1970s kind of price movement, perhaps going as high as US\$105 per barrel. That scenario assumes that refinery capacity will be unable to keep pace with oil demand from strong economies in China and the United States, both of which have seemed undeterred by higher prices.

Whatever theory one subscribes to, it remains a nearly indisputable fact that airlines have virtually no control over the spot price they will be asked to pay for fuel. Consequently, managing fuel expenditures through the use of carefully controlled consumption and purchasing practices, as well as using fuel-efficient aircraft, are their most effective shields.

Taking Action

Airlines have taken a variety of steps to become more fuel efficient, mitigating the impact of fuel costs on their financial performance. These steps have ranged from a combination of changing operating procedures and using more efficient, new airplanes to making modifications, such as with blended winglets, to improve their performance. In fact, next-generation aircraft programs such as Boeing's 787, Airbus' A350 and Bombardier's C-Series, are aimed squarely at producing additional efficiencies in fuel consumption.

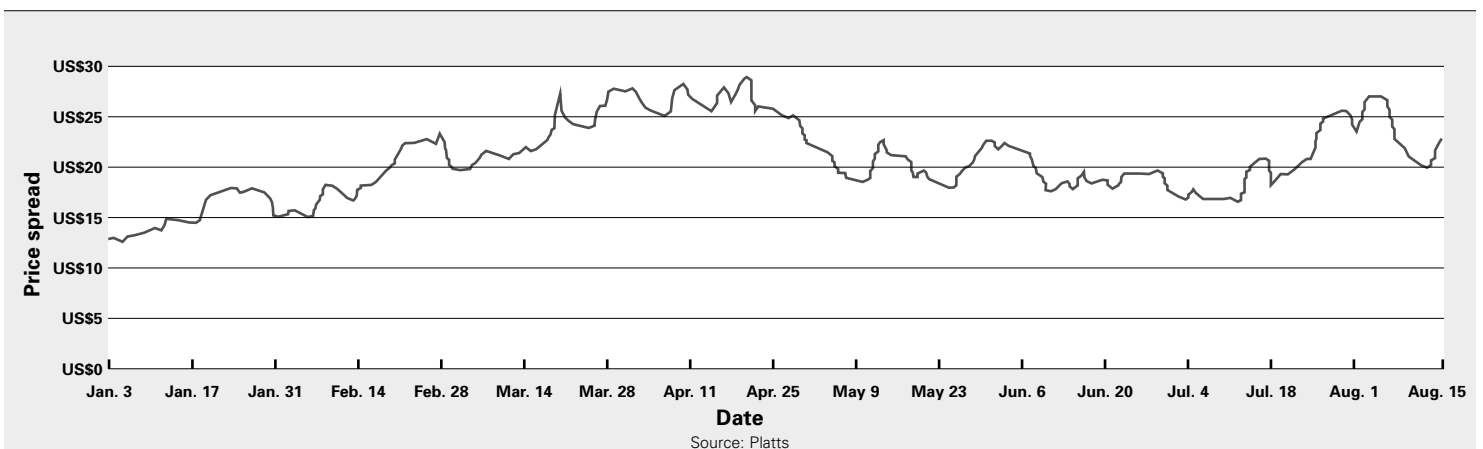
Increasing fuel efficiencies has enormous potential. The industry would save an estimated US\$3.6 billion a year by reducing each flight time by just one minute. The latest AEA report indicates that such savings are indeed achievable. It points out that US\$1 billion could be saved through a combination of improved ground, arrival and departure traffic flows; route optimization by using direct flight routings; and efficiencies in operating procedures in coordination with air traffic control. In addition, the European Organization for the Safety of Air Navigation, or EUROCONTROL, estimates that minimizing inefficiencies in air traffic management systems could further reduce fuel burn in Europe by up to 12 percent.

While most airlines have fuel management

procedures, there are additional, powerful steps they can take toward a proven, more comprehensive fuel conservation program with the potential to lower their total fuel bill by millions of dollars. A few of these steps include:

- Fuel purchasing programs,
- Tankering strategies,
- Monitoring of over fueling,
- Auditing and examining fuel consumption and usage patterns,
- Aircraft taxiing procedures,
- Monitoring ground power unit and auxiliary power unit usage,
- Active in-flight monitoring of engine performance,
- Requesting direct routings from air traffic control,
- Lowering cruise speed,
- Deploying landing gear later,
- Reducing or eliminating use of reverse thrust after touchdown,
- Reducing aircraft weight, including the amount of free passenger baggage weight,
- Adding winglets,
- Trimming and true-up,
- Controlling other factors that drive fuel usage, such as:
 - Flight scheduling,
 - Gate assignment and management,
 - Flight planning.

Crude Oil Versus Jet Fuel



The spread between Los Angeles, California, spot jet fuel and Alaska north crude as measured in U.S. dollars per barrel shows the price of jet fuel has been increasing more rapidly than the cost of crude oil.

Each of these items may seem like common sense approaches that any airline has fully considered. Yet, fuel consumption audits and related analysis performed by Sabre Airline Solutions Consulting during the past two years has revealed many cases of costly lapses within fuel management programs of airlines that otherwise believed they were tightly controlling such factors.

Fuel Hedging

Some companies, such as FedEx, can readily pass on rising fuel prices to customers. They post fuel surcharges on their Web sites to alert consumers of the effect of fuel cost changes. Airlines in some regions have been successful in tacking on fare increases or fuel surcharges to ticket prices. However, in many situations, airlines cannot pass along all the costs associated with rising fuel prices due to fierce competition and/or weak demand. In the United States, consumers cannot easily identify the fuel surcharges in the ticket price. The U.S. Department of Transportation's advertising guidelines direct airlines to include fuel surcharges in the base price rather than show them as a separate charge. In other countries, such as the United Kingdom, fuel surcharges can be viewed as a separate cost of the ticket price. AEA estimated that fuel surcharges covered only half of the actual fuel price increases in Europe during the past year.

One way of countering the impact of rising fuel prices is to profit from a bet on continued price movements in that direction. This is typically done through the purchase of forward or futures contracts for related commodities and is commonly referred to as fuel price hedging.

By using fuel hedging, an airline is better able to predict future expenses and earnings. It may also help increase the confidence of financial markets, which may in turn increase access to capital for such airlines. Yet, airlines that wish to invest in a successful hedging strategy face high-priced futures contracts, which are almost inevitable in commodity markets experiencing rapid and prolonged price increases such as those found in petroleum.

Several low-cost carriers, such as easyJet, Southwest and jetBlue, have achieved significant portions of their continued profitability due to aggressive fuel hedging. Of course, if fuel prices were to reverse course and plummet, such carriers would likely under-perform relative to unhedged carriers, but that is the price for controlling a carrier's exposure to upside pricing risks.

Jet fuel price hedge strategies can range from very simple to quite complex, and airlines employ a wide variety of approaches to achieve their price risk management objectives. These may involve not hedging at all or fully hedging using a combination of commodity instruments. Surprisingly, jet fuel derivatives are not the primary way that airlines hedge. In fact, they are not even available in

the U.S. market. Instead, airlines use futures contracts on commodities that are correlated with jet fuel, such as crude or heating oil.

These instruments may include options, collars, straddles and swaps. Typically, an airline will also trade these instruments using several banks to diversify risk and get the best price possible.

Oil prices often move in cycles, so many hedging strategies are designed to lock in prices at various points of the assumed cycle. Airlines can use a variety of prices and contract durations, resulting in a need for sophisticated fuel hedge trading models to be successful.

When oil is at the low end of the cycle, an airline can use a "receive-fixed swap," which enables it to lock in a low price and also

Southwest Airlines has used heating and crude futures contracts and over-the-counter derivatives to hedge fuel. Financial analysts have noted that the carrier's long-standing string of profitability might have been snapped in recent quarters if it had not been for its fortuitous fuel hedge positions. The airline has used a dynamic mix of call options, collar structures and fixed-price swap agreements. JetBlue outsources its fuel management services to a third-party vendor and hedges by using crude oil option contracts and swap agreements.

On the other hand, most U.S. majors hedge only a small portion of their fuel consumption. These airlines have engaged in limited fuel hedging lately, which is likely because

HIGHlight

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assumes there is a low likelihood of a price drop. In the mid-range of the fuel cycle, collars are used to lock in a specified range of prices. The airline forfeits any potential savings from price declines while hedging against further increases. When oil is at the top of a cycle, "caps" are used to prevent losses from further appreciation, while giving an airline the opportunity to take advantage of price decreases.

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Refinery outages from hurricanes and tightened supply are increasing prices for jet fuel. The price of oil, plus the price paid for refining, pushed the cost of a barrel of jet fuel on the U.S. Gulf Coast to US\$124.99, or US\$2.98 a gallon, on Sept. 28, according to American Airlines.

their current cash flows are too tight to finance futures margin deposits or options premiums. For example, Delta Air Lines began 2004 with fuel hedges in place, but it had to close its positions to generate cash for operations. Similarly, United Airlines had its fuel options cancelled by its counterpart due to its bankruptcy filing.

It remains to be seen whether fuel prices will normalize at current levels, rise even higher or retreat to lower rates seen in past years. But for now, the impact continues to devastate airline balance sheets across the industry. Given that spot prices for fuel are largely beyond an airline's control, there are precious few ways to buffer the financial damage of expensive fuel.

Methods within the control of airline management teams consist of disciplined practices for fuel procurement, loading, consumption and price risk management. Carriers that take serious measures to be best of breed in these practices will be rewarded accordingly. There are many airlines continuing to prosper despite the higher energy prices because of their devotion to these issues. But those that do not sharpen their focus on such approaches and implement them diligently will bear the full brunt of any future fuel price spikes that may still be in store for the industry. ■

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