Synaptic Decisions

A Closer Look at Fuel Surcharges in Transportation

By Robert Endres and Jarvis Cheung

Introduction

There are several key contract terms to be considered when negotiating deals with transportation carriers. Rate escalation, contract term and term options, shipment commitments and commitment options, service levels, carrier sub-contracting rights, fuel surcharge, performance incentives and payment terms are examples. In the case of fuel surcharges, many shippers grudgingly accept carriers' imposed fuel surcharge schedules. A carrier's recovery of actual added fuel costs makes sense since the risk of rising fuel prices is completely out of their control. But does your carrier's fuel surcharge schedule reflect a fair cost recovery mechanism or does it serve to make them added profit? This article will describe some things shippers should consider when negotiating fuel surcharge schedules with their carriers to help ensure a fairer fuel cost recovery mechanism and so doing- reduce 'all in' transportation costs.

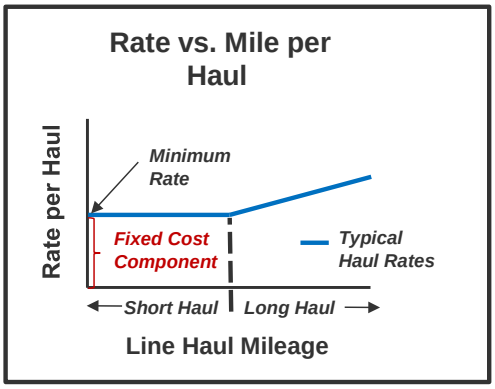
Components of a Fuel Surcharge Schedule

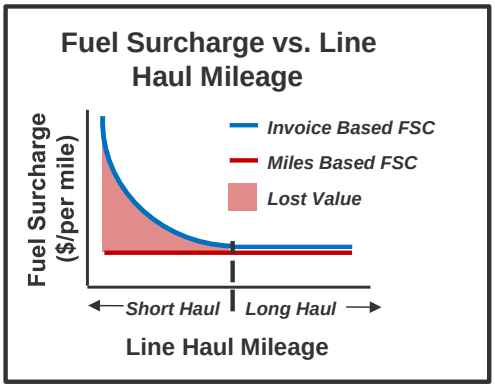
There are four key components to a fuel surcharge schedule:

1. Rate Basis– invoice based or mileage based schedule?
2. Price Index – the published fuel price index
3. Price Peg – the minimum index when a fuel surcharge is applied
4. Slope – the incremental change in the surcharge with an incremental change in the index

1. Rate Basis

Fuel surcharge schedules are either invoice based or mileage based. In an invoice based schedule, the surcharge is a percentage of the line haul price and the percentage increases with increasing fuel price. This can result in over charges for shippers in two ways. First, if the percentage is applied to the total invoice amount, it may be applied to accessorial charges (which are not related to fuel). Secondly and more significant- is the excess fuel charges shippers pay on short hauls. Here's the reason. Most carriers set a minimum line haul rate that's applicable regardless of shipment mileage (see illustration to right). This is logical since carriers incur an actual loading cost at the origination (O) and actual unloading cost at the destination (D) (whether it's a 5 mile trip or a 1,500 mile trip).



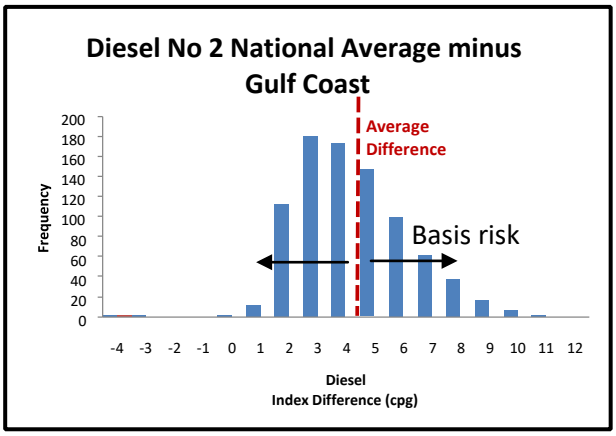


Here's the point. In an invoice based schedule, if you plot your carrier's fuel surcharges for O-D pairs against the mileage for those OD pairs, it will look something like the blue curve on the illustration shown on the lower right. Even after taking into account fuel consumed in idling, fuel costs are over recovered on short hauls. That's lost value for the shipper. Despite what carriers might say about the ease of administering invoice based schedules or that they under collect on longer mileage hauls and "it evens out for shippers", invoice based schedules should be avoided.

2. Price Index

Most carriers use the National On-Highway Diesel Index published by the Department of Energy. The DOE surveys 900 stations across the US and publishes the index weekly. The DOE also publishes indices for 5 regions (called PADDs): I. East Coast, II. Midwest, III. Gulf Coast, IV. Rocky Mountain and V. West Coast. The index in each region has a high correlation to other regional indices as well as the national average index, but it's not perfect. This risk is commonly referred to as basis risk.

For example, since 1994 the average difference (basis) between the National Average and the Gulf Coast (PADD III) has been about 5 cents per gallon. As shown in the chart to the right, the basis can deviate from the average. In other words, the Carrier's actual fuel cost per gallon in a region may be quite different than the national average index.

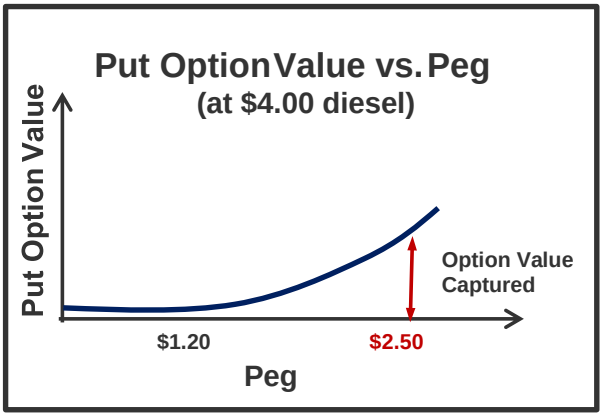


To protect themselves from basis risk, carriers dial price contingencies into their base line haul rates. And on average and over time, they collect these contingencies. To avoid this, tie fuel surcharge schedules to appropriate regional price indices.

3. Price Peg

The price "peg" is the minimum fuel index price for the application of the fuel surcharge schedule. When a carrier prices a base line haul rate, they "bake in" a fuel cost at the price peg. A fuel surcharge applies above the peg. Below the peg, the fuel surcharge is zero and the carrier keeps all of the fuel savings. The peg is important and attempts by carriers to raise the peg should be scrutinized. When diesel prices surged to over $4 a gallon in the summer of 2008, many carriers approached shippers with new schedules having a higher peg, offering to keep the total line haul price the same (or adjusting it slightly lower). For example, if a carrier raised the peg from $1.20 to $2.50 they would raise the line haul rate to account for baking in an extra $1.30 per gallon of fuel costs. The new fuel surcharge would be lower by that amount as well. The total rate (base rate plus fuel surcharge) would remain the same. With the total rate unchanged, should a shipper be indifferent? No. Carriers are subtly capturing additional value.

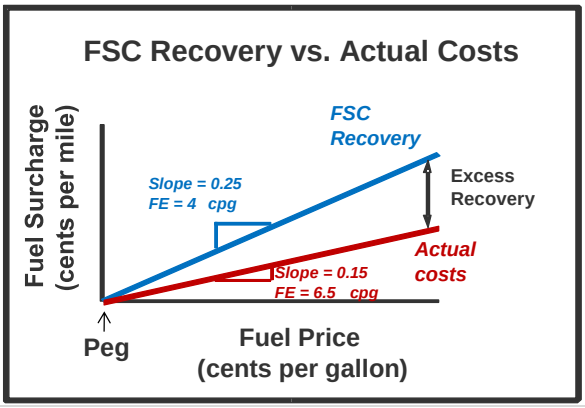
Here's the reason. Again, below the peg, there's no surcharge, and the carrier captures added profit through fuel cost savings. This financial exposure is identical to a put option on diesel price with a strike price equal to the peg. The 'time value' of the carrier's put option increases when the peg (strike price) is closer to the prevailing index price. The reason is that there is a higher probability that the index will fall below the peg (strike price) and the carrier will capture fuel cost savings. When diesel prices are $4.00, a put option with a strike price of $1.20 has little to no time value, but a put option with a strike price set at $2.50 has a lot more time value.



4. Slope

The fuel surcharge slope is the incremental change in the surcharge with an incremental change in the index. The fuel efficiency offered to the shipper by the carrier can be derived using the slope of the schedule and other data. Ignoring for a moment the carrier's empty miles on backhauls, in a mileage based fuel surcharge schedule, the implied fuel efficiency is 1 divided by the slope. For example, if the surcharge changes by one cent per mile for every 4 cents per gallon change in the index, the slope is 0.25 – and the implied fuel efficiency offered by the carrier is 4 miles per gallon. If the empty mile % is 15%, the adjusted implied fuel efficiency is 4.7 mpg. The math is slightly more complex (but easily done in Excel) with an invoice based fuel surcharge schedule.

So if a van carrier with an actual fuel efficiency of 6.5 mpg offers the shipper a fuel surcharge schedule with an implied fuel efficiency of 4 mpg, they can capture 37% added value. I f the shipper moves 10 million miles per year and fuel is $3.00 per gallon, the carrier can capture an additional value of $2.8 million per year. The value increases with increasing revenue-miles and higher fuel pricing. After adjusting for empty miles (most van trucking carriers have no more than 15% empty



miles), the added value captured by the carrier is still at least $1.75 million per year.

Average fuel efficiency for a carrier's entire traffic portfolio is driven by the following:

- Mix of trip miles (short hauls are less fuel efficient)
- Empty mile % (non-revenue miles driven between a load drop off and the next load pick up)
- Traffic (metropolitan area routes are less fuel efficient)
- Driving practices (e.g., speed control, idle management, tire pressure maintenance, etc.)
- Other (truck class, load weight, equipment aerodynamics and technology, etc.)

There are benchmarks. For example, Class 8 Trucks operated under good driving practices in non-metropolitan areas can achieve fuel efficiencies exceeding 7.0 miles per gallon. So shippers should pay attention to the slopes of their carriers' schedules. It says something about the fuel efficiencies being offered by carriers. The best carriers are continuously striving to raise their fuel efficiencies. (Note: There are ways to discover a carrier's true fuel efficiency, but that's beyond the scope of this article.)

Recap

The fuel surcharge schedule is a key tradable in transportation contracts. It can and should be negotiated along with other key tradables of the deal. Consider the following before agreeing to your carriers' fuel surcharge schedules:

- **Move to a mileage based schedule**, especially if you have material short haul business.
- **Match fuel indices to your shipment regions.** Consider appropriate regional PADD indices.
- **Remember that the peg price is an option strike price.** All other things being equal, a higher peg means a higher value for the carrier (you can eliminate this by getting a rebate when the index falls below the peg).
- **Set a slope that reflects a higher fuel efficiency target.** Consider benchmarks and understand contractual methods to incentivize your carriers to achieve higher fuel efficiencies.

About Synaptic Decisions

Synaptic Decisions is a specialty consultancy focused on helping clients achieve step change improvements in business results through integration of strategy, risk management, negotiations, and contracting.

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