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Jet Fuel Price Risk Management



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Topics

1. Highlights of Risk Limited capabilities & approach
2. Market and industry reference points
3. Risk management expertise needed for jet fuel hedge programs
4. Other potential issues to assess in program design and implementation
5. Risk management process



Hedging Aspects for Consideration

- Background to fuel hedging
- Core value proposition of hedging
- Strategies
- Pitfalls of hedging strategy error
- Primary considerations in derivatives
- Risk Register
- Risk Audits



Risk Limited Highlights



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Risk Limited Overview

- Leading consulting firm
 - Independent, unbiased advice
 - Specialized in energy
- Advisors with proven expertise
 - Long history of success
- Financial strength and infrastructure to assure client project results



Strengths

- Can provide a range of services
 - Those potentially needed in hedging programs
 - Risk assessment & strategy development
 - Implementation & transaction support
 - Risk control, systems selection, risk audits
- High quantitative resources
- Extensive experience in trading & systems



Advantages

- Independent advice
 - Unbiased assessments of the critical issues
 - No bias on:
 - Hedging or not hedging
 - Vendor selection
 - Transaction types
- We are not competing with product providers



Other Considerations

- Risk Limited contacts in the financial hedge transaction side
 - Familiar with the transaction suppliers and their capabilities
- Knowledge of the market makers, structures, pricing and industry practices in each sector
 - Futures, OTC, broker, hybrid



Project Approach

- Client team integration
 - Transfer of expertise
 - Sync with organization
- Project management
 - To best assure timeline, scope and deliverable
- Education
 - Programs for executives or staff
 - FAS 133, VaR, options, etc.



Other Capabilities

- Can provide an extension of your resources
 - During start-up of hedge program
 - For risk management, derivatives reporting
- From brief specialized project support to full outsourcing of company's price risk management program
- Plug & play
 - Not a lot of ramp-up required



Markets & Industry Reference Points



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To Hedge or Not to Hedge

- Does hedging create value?
 - Does it increase firm's value?
- Ability to pass on fuel cost increases to customers
 - Ineffective hedge mechanism during periods of weak demand and fierce competition. Fuel surcharges or ticket price increases don't stick.
- Do hedged airlines have a competitive edge over non-hedged airlines?



To Hedge or Not to Hedge

- Ultimate value is the generation of more consistent, stable cash flows, which is valued by investors
 - Cost of financial distress is high, as recently shown
- Hedged airlines are better positioned to take advantage of investment opportunity during periods of high fuel prices
- Academic studies have demonstrated that there is positive value to airline fuel hedging. It increased the value of the firm.



Recent Casualties of High Fuel Prices

- There is an unfortunately long list of airlines that have failed due to jet fuel price risks in combination with competitive pressures and increasingly difficult economic conditions
 - 4 major U.S. airlines failed within 3 weeks after oil prices exceeded \$100 per barrel (with fuel prices moving up in tandem)
- Lack of price risk management strategies for a cost component that represents 20-40% of costs and is known to be a highly volatile price



Recent Casualties of High Fuel Prices

- Recent U.S. casualties include:
 - Aloha Airlines, filed chapter 11 bankruptcy 3/20/08, halted passenger operations 3/31/08
 - ATA, filed chapter 11 bankruptcy 4/2/08, halted all services
 - Skybus, halted operations 4/5/08. Management statement, *“Skybus struggled to overcome the combination of rising jet fuel costs and a slowing economic environment. These two issues proved to be insurmountable for a new carrier.”*
 - Frontier Airlines, filed chapter 11 bankruptcy 4/11/08, continues operations, sells 4 planes to cope with fuel costs
 - Champion Air, will halt all flight operations 5/31/08. Management statement, *“Our business model is no longer viable in a world of \$110 oil, a struggling economy and rapidly changing demand for our services.”*



Research Findings

- Airlines should rely on robust hedging programs, however in the past that was not the industry consensus
- Investors value stable cash flow



Hedge Decision Factors

- Competitive situation
- Financial strength
 - Absolute / Relative
 - Cash and credit position
- Probability assessment
 - Price levels
 - Volatility
- Selection of instruments
 - Constraints
 - Cost
- Various other factors



Survey of Industry Practices

- Historically
- Majors
- International



Hedging Strategies / Options Available

- Dynamic hedging programs
 - Using a variety of derivative instruments
 - Timing & duration
- Strategies built around cyclical nature of the market
- Remaining unhedged



Industry Price Risk Management Strategies

- Dynamic hedging model
 - Consistent, but managed
- No hedge
- Limited hedging



Risk Guidelines

- Appetite for risks
 - Reflected in limits, policies
- Establishing risk management framework/protocol



Basis Risk

- Product
- Location
- Time



Basis Risk

- Crude to jet
- Jet to heating oil
- NY harbor, USGC, NWE, Singapore, etc.
versus in-wing
- Stack & roll
- Time spreads



Hedging Pitfalls

- Misunderstanding or misjudgment of volatility of basis
- Faulty strategies
 - Failure to stress test or scenario plan
- Risk management controls omissions
- Error in hedge accounting



Process & Guidelines

- Risk Register
 - Risk component identification
- Risk policies & procedures
- Quantitative modeling and analytics



Risk Register

- Enumerate the major risk factors for company
- With a ranking level indicated
- Describe at a level appropriate for Board presentation and corporate Register
 - Very specific, but not detailed in extreme
- Describe likely risk mitigation alternatives for identified risks
- Assign top level responsibility for monitoring and managing the risks



Risk Management Policies

- Written as a Board level document
- Yet with adequate detail that conveys board intent as to exposure and risk levels the Board approves company to sustain
- A formal, written statement that expresses the corporate propensity for risk
- For all major categories of risk identified in the Risk Register



Risk Management Policies

- Strategic risk management assistance may include...
 - Valuing assets using quantitative techniques and options theory
 - Selecting and implementing valuation measurements such as value-at-risk
 - Enhancing credit risk management capabilities
 - Developing exposure reduction strategies
 - Developing risk management control policies and procedures



Components of RiskAudit

- Control structure
 - Ensures the existence and use of a valid risk management system
- Compliance of risk management system
 - Identifies gaps in adherence
- Critical parameters
 - Determines the appropriateness of parameters and assumptions



Mechanism of RiskAudit

- Review of existing risk management policies and procedures
- Review of typical transactions to ensure adherence to risk control program
- Review of risk models and technical aspects of risk control procedures



Hedge Program Requirements

- For dynamic hedging program, significant monitoring is required
- Systems and risk controls
- Modeling and pricing tools



Stress Testing, Back Testing

- Quantitative modeling
- Benchmarking



Capital Requirements Assessment for Hedging Activity

- Direct start-up costs (people & technology)
- Capital commitment necessary to provide credit support for hedging volumes
- Cash outlay for option premiums
- Modeling of liquidity risk
- Counter party credit exposure



Selection of Hedge Instruments

- Over-the-counter instruments (OTC)
- Exchange traded derivatives
- Credit positioning of counter party credit risk
- Customizable
- Determining optimal duration of the hedges
- Fixed price, options or hybrids



Hedge Instruments

- Futures
- Swaps
- Options
 - Caps
 - Collars
- Hybrids
 - “Participation swaps”
- Indexed/linked derivatives
 - Total cost cap



Hedge Transacting

- OTC master agreement negotiations
- Transaction pricing, structure
- Timing
- Support in execution



Possible Scenarios?

- Mostly likely real price spike would be a Mid-east oil disruption (Iran?)
 - *Unpredictable, but probability is still low*
 - *Supply disruption driven by Mid-east conflict*
 - *Not economic driven actions by OPEC*
- Demand side of equation
 - *Weather, as always*
 - *And now, uncertainty on the economy*



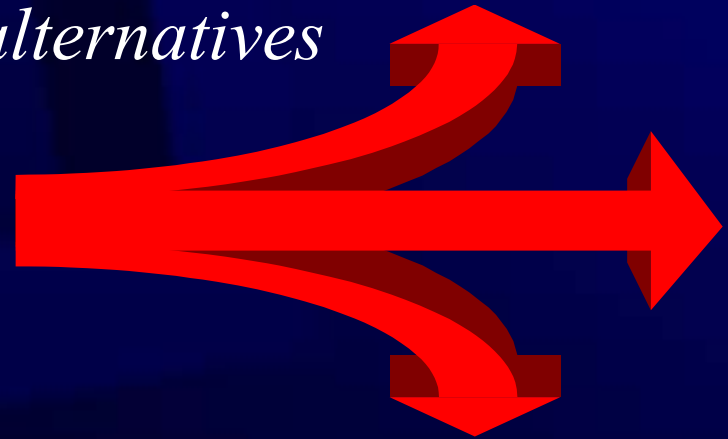
What Are the Implications?

- This is an environment where both sides of the market should be considering risk management strategies
 - *Producers / refiners should be considering some revenue protection strategies in high margin environment*
 - *Fuel consumers covering against a move to new, even higher price levels or extreme price spikes*
- Price volatilities likely to remain high



Strategy Considerations

- Now is the appropriate time for ‘scenario planning’ and sensitivity analysis
 - *Business operations in a potentially volatile environment*
 - *Price risk management alternatives*
 - *Is \$125 oil a possibility?*
\$150 spike?



U.S. FAS 133 Highlights

- Hedge accounting
- Fair value
- Cash flow hedges and fair value hedges
- Hedge effectiveness testing
- IAS 39 internationally



Conclusions

- Fuel price risk management critical
- Effective hedging can add value
- Hedging activity can add a ‘control’ risk factor
- Accounting & reporting requirements must be considered



Risk Limited Highlights

- Resources, independent
- Experienced in implementation, not just theory
- Track record in which you can be confident
- Expertise that can be relied upon



*for additional information, please contact a Risk Ltd
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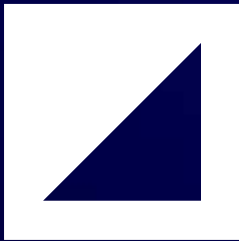
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