

Risk Management Analysis

Scenario 1: Hedging Market Risk

Situation:

Your team expects coffee prices to rise due to poor weather conditions affecting crops. The goal is to hedge against price volatility and manage financial exposure.

Risk Mitigation Strategies:

1. Long Futures Contracts:

- Purchase coffee futures contracts to lock in current prices before they rise.
- Ensures cost predictability for buyers needing future coffee supplies.

2. Call Options on Coffee Futures:

- Buy call options to secure the right (but not the obligation) to purchase coffee at a fixed price.
- Provides upside participation if prices increase while limiting downside risk.

3. Cross-Hedging with Correlated Commodities:

- Hedge exposure by taking positions in related commodities like cocoa or sugar, which often correlate with coffee price movements.
- Diversifies risk while maintaining exposure to the commodity sector.

Scenario 2: Credit Risk with a New Supplier

Situation:

You are considering a contract with a new coffee supplier from a region with a volatile economy, increasing the risk of counterparty default.

Risk Mitigation Strategies:

1. Credit Default Swaps (CDS):

- Purchase CDS contracts to protect against supplier default.
- Acts as insurance by transferring credit risk to another party.

2. Collateral and Margin Requirements:

- Require the supplier to post collateral (e.g., cash or assets) before contract execution.
- Use Potential Future Exposure (PFE) models to set appropriate margin requirements.

3. Credit Scoring and Risk Assessment Models:

- Use Altman Z-score or machine learning credit models to evaluate supplier financial stability.
- Set contract limits and payment terms based on creditworthiness.

Scenario 3: Operational Risk in Trade Execution

Situation:

An increase in trading errors due to manual processes raises operational risks, impacting execution efficiency and market positioning.

Risk Mitigation Strategies:

1. Process Automation & Algorithmic Trading:

- Implement automated trading systems to reduce human errors in execution.
- Use moving average crossover strategies for systematic trade execution.

2. Robust IT Infrastructure & Cybersecurity Measures:

- Conduct downtime probability analysis to ensure trading system reliability.

- Implement cybersecurity risk models to protect against hacking attempts and system failures.

3. Regular Audits & Compliance Monitoring:

- Perform variance analysis and compliance scorecards to detect anomalies in trade execution.
- Train employees using real-time trading simulations to improve execution accuracy.

Final Recommendation

By implementing hedging techniques, credit risk controls, and operational safeguards, Citi's MQA division can effectively mitigate risks while maintaining profitability and compliance in coffee futures trading.

This analysis aligns with best risk management practices and ensures optimal decision-making in volatile market conditions.