

## Hedging Strategy Report for Farmer Brown

### **Objective**

Farmer Brown seeks to protect against price fluctuations in corn between February and July, aiming to secure a minimum revenue of \$2,000,000 while managing risk and maximizing potential gains.

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### **Hedging Strategies**

#### **1. Revenue Lock with Futures Contracts**

- **Action:** Sell 200 futures contracts at \$4 per bushel to lock in stable revenue.
- **Calculation:** 1,000,000 bushels / 5,000 (bushels / contract) = 200
- **Guaranteed revenue** = 1,000,000 × 4 = \$4,000,000.
  - **Outcome:**
    - If prices fall (e.g., to \$3.50), losses in the cash market are offset by gains in futures.
    - If prices rise (e.g., to \$5), futures losses are offset by higher cash market prices, ensuring a fixed revenue of \$4,000,000.
  - **Note:** Futures provide a direct and straightforward way to lock in revenue, making them ideal for farmers prioritizing certainty.

#### **2. Downside Protection with Put Options**

- **Action:** Buy put options with a \$4 strike price to set a price floor.
- **Mechanism:**
  - If market prices fall below \$4, the put guarantees Farmer Brown can sell at \$4.
  - If prices rise, the put is not exercised, and Farmer Brown benefits from higher market prices.
- **Trade-Off:** The upfront premium cost slightly reduces total revenue.
- **Note:** This strategy offers flexibility, allowing Farmer Brown to benefit from favorable price movements while ensuring protection against severe downturns.

#### **3. Cost-Effective Collar Strategy**

- **Action:** Combine protection with a put option at \$4 and sell a call option at \$4.10 to reduce costs.
- **Mechanism:**
  - The put ensures a minimum price of \$4.
  - The call caps gains if prices exceed \$4.10, but the premium received from selling the call offsets the cost of the put.
- **Outcome:** Provides protection at a lower cost, though it limits upside potential.
- **Note:** This strategy balances cost-effectiveness with protection, making it suitable for moderate risk takers.

#### **4. Risk Pooling via Insurance**

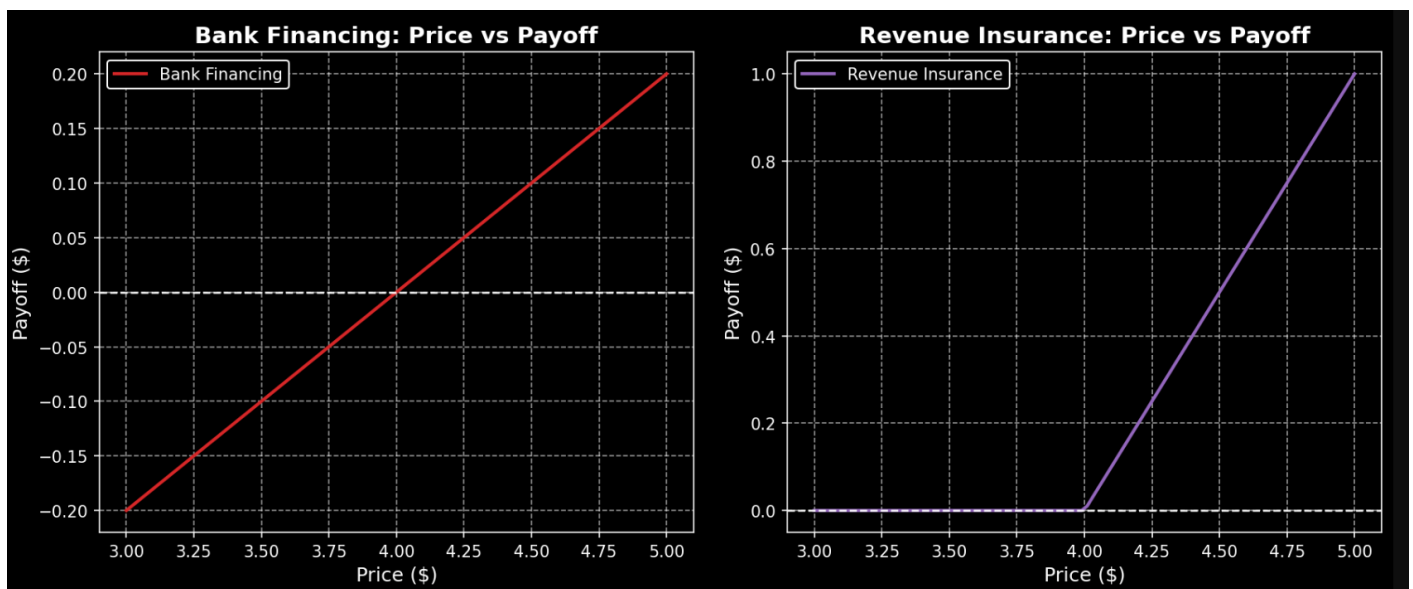
- **Action:** Join a risk-pooling or insurance scheme to protect against price or yield shortfalls.
  - **Mechanism:** If market conditions lead to revenue loss, the pool compensates, stabilizing Farmer Brown's income.
  - **Note:** Insurance schemes are beneficial for managing broader risks, such as yield volatility, which may not be addressed by market-based strategies.
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### **Recommendations**

- **Low Risk Tolerance:** Opt for futures contracts to guarantee \$4,000,000 in revenue.
- **Moderate Risk Tolerance:** Use a collar strategy to balance cost-effective protection with limited upside.
- **High Risk Appetite:** Purchase put options to set a price floor while benefiting from potential price increases.



- **Shorting Futures:** Payoff decreases as prices rise, providing a hedge against falling prices.
- **Costless Collar:** Payoff is capped within a range, protecting against extreme price movements.



- **Bank Financing:** Linear relationship shows potential costs or revenues tied to financing as prices vary.
- **Revenue Insurance:** Ensures a minimum payoff for price drops but caps gains at higher prices.