RESEARCH AND PRODUCT DEVELOPMENT

Introduction to Calendar Spread Options on Live Cattle and Lean Hogs

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Calendar Spread Options (CSOs) are options on the spread price difference between two futures contract months. A CSO call is the equivalent of having one long nearby futures contract and one short deferred futures contract. A CSO put is equivalent of having one short nearby month and one long deferred month contract. The standard convention for determining the spread price difference between the futures months is to subtract the price of the deferred month from the price of the nearer month. Unlike standard options, CSOs are sensitive to the value and volatility of the spread price rather than the price of the underlying commodity. CSOs can provide a more efficient risk management vehicle for hedgers and other market participants who are exposed to calendar spread price risks than by combining standard options on different contract months. Premiums for standard options are sensitive to the value of the underlying commodities so can change when prices change even if the respective price difference is unchanged.

Visit www.cmegroup.com/livestockcso for Live Cattle and Lead Hog CSO contract specifications.

Example 1: Pork Processor using CSOs to Hedge Purchases

A pork processor needs to buy hogs to produce meat. The facility has contracted to buy hogs at a cash-price basis versus futures from hog farmers, but has not priced the futures contract. To manage this price risk, the facility buys hog futures. When the hogs are purchased and delivered, the facility will need to sell its long futures position. Since the facility is frequently buying contracted hogs, the long futures positions must be rolled forward, which subjects the facility to calendar spread price risk. The spread price risk is that the nearer futures price will decline relative to the deferred contract price. Then when the facility must roll its hedged position forward, it will have to sell the nearer futures contract and buy the deferred futures contract at a disadvantaged price differential. The facility can hedge its price spread risk by purchasing a CSO put option. For example, by purchasing a Feb-April CSO put with a strike price of +1, the facility will have the right to roll its long hedges forward from February to April at no wider than a price difference of +$1/hundredweight (February price minus April price) between the months. If the price difference turns out to be zero or negative, the facility can take advantage of that and have protection against the spread price moving unfavorably.

Example 2: Beef Processor using CSOs to Hedge Purchases

A beef processor needs to buy cattle to produce meat. The facility has contracted to buy cattle at a cash price basis versus futures from ranchers but has not priced the futures contract. To manage this price risk, the facility buys cattle futures. When the cattle are purchased and delivered, the facility will need to sell its long futures position. Since the facility is frequently buying contracted cattle, the long futures positions must be rolled forward which subjects the facility to calendar spread price risk. The spread price risk is that the nearer futures price will decline relative to the deferred contract price. Then when the facility must roll its hedged position forward, it will have to sell the nearer futures contract and buy the deferred futures contract at a disadvantaged price differential. The facility can hedge its price spread risk by purchasing a CSO put option. For example, by purchasing a Feb-April CSO put with a strike price of +.50, the facility will have the right to roll its long hedges forward from February to April at no wider than a price difference of +$.50/hundredweight (February price minus April price) between the months. If the price difference turns out to be zero or negative, the facility can take advantage of that and have protection against the spread price moving unfavorably.

Example 3: Feedlot using CSOs to Hedge Sales

A feedlot needs to sell finished cattle to packers. The facility has contracted to sell cattle at a cash price basis versus futures to packers but has not priced the futures contract. To manage this price risk, the feedlot sells live cattle futures. When the cattle are sold and delivered, the feedlot will need to buy and offset its short futures position. Since the feedlot is frequently selling contracted cattle, the short futures positions must be rolled forward which subjects the feedlot to calendar spread price risk. The spread price risk is that the nearer futures price will rise relative to the deferred contract price. Then when the feedlot must roll its hedged position forward, it will have to buy the nearer futures contract and sell the deferred futures contract at a disadvantaged price differential. The feedlot can hedge its price spread risk by purchasing a CSO call option. For example, by purchasing a Feb-April CSO call with a strike price of +.50, the feedlot will have the right to roll its short hedges forward from February to April at no wider than a price difference of +$.50/hundredweight (February price minus April price) between the months. If the price difference turns out to be zero or negative, the feedlot can take advantage of that and have protection against the spread price moving unfavorably.

Example 4: Hog Farmer using CSOs to Hedge Sales

A hog farmer needs to sell finished hogs to packers. The facility has contracted to sell hogs at a cash price basis versus futures to packers but has not priced the futures contract. To manage this price risk, the feedlot sells lean hog futures. When the hogs are sold and delivered, the facility will need to buy and offset its short futures position. Since the facility is frequently selling contracted hogs, the short futures positions must be rolled forward which subjects the facility to calendar spread price risk. The spread price risk is that the nearer futures price will rise relative to the deferred contract price. Then when the facility must roll its hedged position forward, it will have to buy the nearer futures contract and sell the deferred futures contract at a disadvantaged price differential. The facility can hedge its price spread risk by purchasing a CSO call option. For example, by purchasing a Feb-April CSO call with a strike price of +1, the facility will have the right to roll its short hedges forward from February to April at no wider than a price difference of +$1/hundredweight (February price minus April price) between the months. If the price difference turns out to be zero or negative, the facility can take advantage of that and have protection against the spread price moving unfavorably.

With narrower strike intervals than standard options, CSOs can more precisely hedge exposure to spread price risks. Using a CSO call or put can provide protection against disadvantageous spread price movements yet still allow for the opportunity to profit from favorable spread price changes. CSOs on CME Group Live Cattle and Lean Hog futures provide market participants with the transparency and financial integrity of exchange traded and centrally cleared vehicles for managing their time-related price risks.

For more information on Live Cattle and Lean Hog CSOs, visit www.cmegroup.com/livestockcso.

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