

Commodity Derivatives Accounting



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As of now there is no accounting standard in India which specifically addresses the issue of commodity derivatives. The article examines the accounting treatment for trading in commodity derivatives relevant in Indian conditions.

As there is no accounting standard in India which specifically addresses the issue of commodity derivatives, the easiest approach is to treat derivatives as *off balance sheet items* and account them on the date of their settlement. Any realized gain or loss in respect of settled contracts is to be recognized in the income statement along with the underlying transaction.

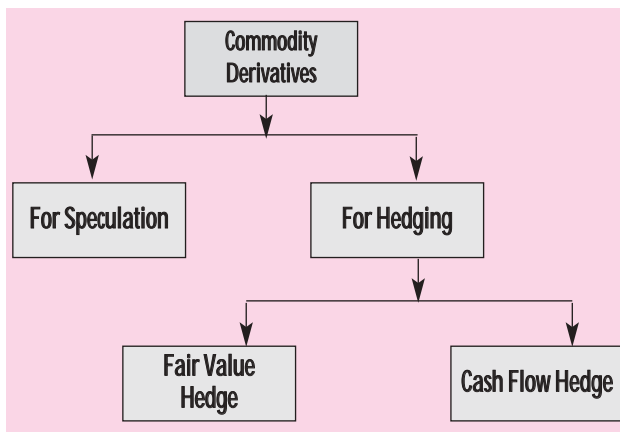


However, derivatives have high leverage and the value of a derivative generally changes over the duration of its life because of market developments. Shareholders should be aware of these developments, and companies should report changes in the value of their derivative holdings on a periodic basis. Changes in the value of derivatives should be reflected both on the balance sheet and in earnings. *Mark-to-market* should be the basis for valuing derivatives. When a derivative is used to hedge the value of an asset, liability, or fixed commitment, the effects of price changes on the derivative and the hedged item should be reported.

In the absence of specific Accounting Standard in India, IFRS – 39 provides acceptable basis of accounting, as ICAI is committed to adopt IFRS. The account-

ing treatment prescribed henceforth is in accordance with this **IFRS – 39**.

Types of Derivatives from accounting perspective:



1. Derivatives Used For Speculation (*Held For Trading*)

Derivatives used for trading purposes are intended to gain from market price changes of these instruments. They are held with the objective of gaining from speculation.

Accounting Treatment: They are initially measured at cost, which is the fair value of whatever was paid or received to acquire the financial asset or liabil-

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ity. Transaction costs can either be included in the initial measurement of financial instruments or be expensed as and when incurred. Subsequent to initial measurement, at each reporting date, all such instruments are re-measured to fair value (mark-to-market) with gains and losses recognized in the income statement immediately.

Example: Accounting for a Simple Speculative Position

Suppose in August a company expects the price of sponge iron to fall below Rs.4.50 per kg. by the end of the year. So it enters into a futures contract to sell 100,000 kg. of sponge iron in December for Rs.4.50 per kg. The transaction is speculative in that the company is assumed not to produce or hold the metal for sale.

Next, suppose that in September the value for December sponge iron futures rises to Rs 5.00 per kg. At the end of September, the company has a potential liability equal to the Rs.0.50 rise in price times the 100,000 kg. in the December sales contract, or Rs.50,000. The drop in market value of the company's derivative holdings should be reported as a liability of Rs.50,000 in the company's third-quarter financial statements. The company's earnings for the third quarter should be reduced by Rs.50,000.

Suppose, then, that in December the company's expectations are vindicated, and the spot price of sponge iron falls to Rs.4.00 per kg. The company can settle the contract or, alternatively, purchase 100,000 kg for Rs.4.00 per kg and sell the 100,000 kg to the contract's counterparty for Rs.4.50 per kg. Either way, the company realizes a profit of Rs.50,000 on its derivatives trade. The effect on shareholders' equity in the fourth quarter is a positive Rs.100,000 (cash increases by Rs.50,000 in the fourth quarter at the same time that Rs.50,000 in liabilities carried from the third quarter is eliminated). For the entire year, the impact on earnings is Rs.50,000: the positive Rs.100,000 recognized in the fourth quarter plus the negative Rs.50,000 recognized in the third quarter.

Issue Involved: Guidance Note on Accounting for Equity Index and Equity Stock Futures and Options issued by ICAI for equity derivatives suggest that while all mark-to-market losses should be recognised, mark-to-market gains should be deferred till maturity of the

derivative contract. This is based on the Principle of Prudence. Hence recognition of both mark-to-market profit and loss (as recommend under IAS and US GAAP) may not be possible under Indian GAAP.

2. Derivatives Used For Hedging (*Non Trading Derivatives*)

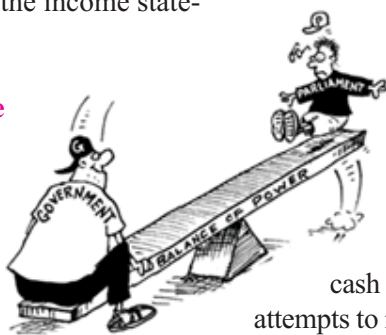
Hedging is the attempt to mitigate the impact of economic risks on an entity's performance. Derivatives used for hedging are intended to manage exposures or risk. Hedge accounting means designating a hedging instrument, normally a derivative, as an offset to changes in the fair value or cash flows of a hedged item. Hedge accounting attempts to match the offsetting effects of the fair value changes in hedged items and hedging instruments, and recognise them in net profit or loss at the same time.

Hedge accounting is an exception to the usual rules for financial instruments; there are strict criteria that must be met before it can be used. Management must identify, document and test effectiveness of those transactions that are intended to reduce risk.

The requirements are:

- (a) The hedged item and the hedging instrument are specifically identified;
- (b) The hedging relationship is formally documented;
- (c) The documentation of the hedged relationship must identify the hedged risk and how the effectiveness of the hedge will be assessed;
- (d) At the inception of the hedge, it must be expected to be highly effective, that is, the gains and losses on the hedged item and the hedging instrument should almost fully offset over the life of the hedge;
- (e) Effectiveness of the hedge must be tested regularly throughout its life. Effectiveness should fall within a range of 80 to 125% over the life of the hedge. This leaves some scope for short-term ineffectiveness, provided that overall effectiveness will fall within this range;
- (f) One to one designation is normally required between a single external asset, liability or forecast transaction and a single external derivative instrument; and
- (g) Hedges of forecast transactions are allowed if the forecast transaction is 'highly probable'. Further the expected transaction must be within a third party.

An enterprise that elects to apply hedge accounting is required to establish at the inception of the hedge





the method it will use for evaluating the effectiveness of the hedging derivative and the measurement approach for determining the ineffective portion of the hedge. Those methods must be consistent with the entity's approach to

managing risk.

Thus the criteria to achieve hedge accounting are onerous. Management should always consider the costs and benefits of using hedge accounting.

Hedge accounting can be divided into two general categories as follows:

- 3.1 Hedging of existing assets or liabilities (Fair Value Hedges); and**
- 3.2 Hedging of future/anticipated transactions (Cash Flow Hedges).**

Fair Value Hedge: It is a hedge of the exposure to changes in fair value of a recognised asset or liability or a previously unrecognized firm commitment to buy or sell an asset at a fixed price (or part thereof), that is attributable to a particular risk and could affect profit or loss.

Accounting Treatment: The gain or loss from the change in fair value of the hedging instrument is recognised currently in earnings. At the same time the gain or loss (that is, the change in fair value) on the hedged item attributable to the hedged risk shall adjust the carrying amount of the hedged item and be recognised currently in earnings.

If the fair value hedge is fully effective, the gain or loss on hedging instrument would exactly offset the loss or gain on the hedged item attributable to the hedged risk. Any difference that does arise, would be the effect of hedge ineffectiveness, which consequently is recognised currently in earnings.

Unrecognised Firm Commitments: A firm commitment is one in which price, quantity, and delivery dates have been fixed (our term contracts with National Oil Companies do not fall in this category). Cumulative changes in the fair value of the firm commitment is to be recognized as an asset or liability with corresponding effect on profit and loss. Upon acquisition of asset or assuming a liability, initial carrying amounts are to be adjusted by cumulative changes in fair value.

Example: Accounting for a Fair Value Hedging Position

Suppose the situation is identical to that described above, except that the company has an inventory of 100,000 kg of sponge iron that it plans to sell in December. The company's cost of the inventory is, for this example, Rs. 400,000 (fair value being Rs. 450,000). The company includes this amount of Rs.400,000 as inventory on its balance sheet. The company wants to protect the value of its inventory until its sale in December. In this case the company uses the futures contract (sale of 100,000 kg in December for Rs.4.50 per kg) to protect the value of its inventory. As before, the contract sales price for December is Rs.4.50, the December sponge iron futures price rises to Rs.5.00 in September, and the December spot price turns out to be Rs.4.00. Additionally, suppose the spot price of sponge iron rises to Rs.4.95 in September.

Following the mark-to-market valuation method in the first example, at the end of September, the value of the derivative declines by Rs.50,000, increasing the company's liabilities by that amount. However, with the spot price of sponge iron at Rs.4.95 in September, the inventory has increased in value by Rs.45,000 (Rs.4.95 times 100,000 in liquidation value of the inventory minus Rs.450,000 in initial fair value of the inventory). If both the derivative position and inventory are marked to market, the effect on shareholders' equity is the gain in value on the inventory (Rs.45,000) less the increase in liabilities (Rs.50,000) or a negative Rs.5,000. A negative Rs.5,000 would also be the effect on earnings in the third quarter. The impacts on reported earnings and the balance sheet should include the change in value of the hedged item as well as the change in value of the derivative used to hedge the value of the item.

In December, when the inventory is actually sold, the company can settle its contract and sell its sponge iron inventory of 100,000 kg, realizing Rs.450,000 in cash. Recalling that the inventory was marked to market at Rs.445,000 at the end of September, the net effect on the company's assets in its fourth-quarter financial report is a positive Rs.5,000 (i.e., an increase in cash of Rs.450,000 less the elimination of Rs.445,000 in inventory). On the liabilities side, the Rs.50,000 from the third quarter is eliminated when the December contract is settled. The net effect on earnings in the fourth quarter is a positive Rs.55,000: a

positive Rs.5,000 in asset value change plus a Rs.50,000 reduction in liabilities. For the year, the total effect on earnings is a positive Rs.50,000: a negative Rs.5,000 from the third quarter plus a positive Rs.55,000 from the fourth quarter. The intended effect of the hedge was just to maintain inventory value from August until sale in December, which it did.

Issue Involved: As per Accounting Standard-2, inventory should be measured at cost or fair value whichever is lower. Hence any adjustment of gain on hedged item (inventory) to carrying cost of inventory, as suggested above, may not be possible under Indian GAAP.



Cash Flow Hedge: A cash flow hedge uses a derivative to hedge the anticipated future cash flow of a transaction that is expected to occur but whose value is uncertain. This contrasts with a firm commitment, where price, quantity, and delivery date have been fixed. Hedging the value of a firm commitment is a fair value hedge.

A cash flow hedge differs from a fair value hedge in the following way. In a fair value hedge, the hedged item is an asset, liability, or fixed commitment. Assets and liabilities are carried on the balance sheet, and changes in the fair value of a fixed commitment are carried on the balance sheet during the duration of the hedge. With a cash flow hedge, it is the cash flow from an expected future transaction that is being hedged, and so there is no balance sheet entry for the hedged item.

Accounting Treatment: In other words when a cash flow hedge exists, the fair value movements, on the part of the hedging instrument that is effective, are recognised in equity (under the head “other comprehensive income”) until such time as the hedged item affects profit or loss. Any ineffective portion of the fair value movement on the hedging instrument is recognised in profit or loss.

When the expected transaction does take place, gain or loss recognised in equity can either be charged to profit or loss in the period during which forecasted transactions affect earnings or be adjusted to the initial carrying amount of the corresponding asset or liability.

Example: Accounting for a Cash Flow Hedging Position

An example of a cash flow hedge is a metal com-

pany that, in August, fully intends to purchase 100,000 kg of sponge iron in December and wants to protect its cash flow from an unforeseen rise in the purchase price of sponge iron. In order to hedge its exposure to rising sponge iron prices, the company can, in August, enter into a contract to purchase 100,000 kg at the December futures price of, say, Rs.4.50 per kg. By this action, hedging is used to lock in the amount of cash flow to be paid for sponge iron in December.

The company documents that it will be using a futures contract to stabilize cash flow associated with this purchase, and so it is a cash flow hedge. In August, the company enters into a futures contract for the purchase of 100,000 kg of sponge iron in December at Rs.4.50 per kg. If the December contract price rises to Rs.5.00 per kg by the end of September, the value of the contract will increase by Rs.50,000, and that amount will be included as an asset in the company’s third-quarter report to shareholders. The effect on reported third-quarter earnings will be zero. Here the hedge was fully effective.

A perfectly effective hedge is one in which changes in the value of the derivative exactly offset changes in the value of the hedged item or expected cash flow of the future transactions. The part of the change in the value of the derivative that is not effective in offsetting undesired changes in expected cash flow is recognized in the income statement. *For example*, the expected transaction might be a sponge iron delivery in London, but the hedge is for sponge iron delivered at Singapore. In this case, the delivery location of the item being hedged is different from the delivery point of the hedging instrument. To the extent that changes in the price of sponge iron in London differ from changes in the value of the Singapore-based hedge, there will be hedge ineffectiveness.

Conclusion

The above discussion clearly conveys the number of accounting complexities involved in the issue. Unless the ICAI comes with clear guidelines on the subject the confusion is here to stay.

References: IFRS (International Accounting Standards) 32, 39; www.iasb.org, FAS (US GAAP) 133, 137, 138; www.fasb.org, Guidance Note on Accounting for Equity Index and Equity Stock Futures and Options; www.icai.org;