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Hedging – The Simple & Effective Way of Risk Management in Metal Commodities

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Abstract

Post industrialization due to boom in manufacturing and production sector the metals like Iron, Copper, Aluminium, Nickel etc. are in great demand. These metals are widely used in different industries for the production of wide range of products ranging from capital goods to power and automobile. The companies are in continuous need of these metals as a main raw material for their production. As these metals are explored and obtained from the crust of mother earth and there prices largely depends upon availability and demand supply scenario hence are exposed to high risk of price fluctuations. Due to price fluctuations in main raw material the company's balance sheets are also influenced by this phenomenon. Sometimes the fluctuations in prices are in favour of company while sometimes they go against the company. This leads to uncertainty for company and make management worried on the front of maintaining consistency in profits. By analysing the price trends in metal commodities & concept of hedging the researcher will simplify the hedging technique which will be useful for every company involved in metal businesses.

In this research paper the researcher made an attempt to suggest appropriate risk management technique and to simplify the concept of hedging by suggesting how to minimize risk arising out of price fluctuations in metal commodities or hedge open positions of companies involved in production of metal related business.

Key Words: - Hedging, Price fluctuations, Risk management, Ferrous Commodities, Exposure.

INTRODUCTION

The companies involving in production and processing of goods related to metal space are exposed to high risk because of inherent quality of metals to give wild swings in prices in either side. Companies which have risk management strategies minimize their risk exposure with respect to unexpected price changes in respective commodities. In risk management hedging is a very basic and widely used technique used by corporate. It minimizes the risk arising out of wild fluctuations in prices of commodities. Though the hedging is very effective and widely trusted technique of risk management many companies are not able to use this technique due to lack of awareness and technicalities involved in it. However small companies and entrepreneurs also do not know, how to minimize their exposure in commodities with the concept of hedging, which leads to unexpected losses.

List of Metals in Commodities Market:-

Precious Metals:-

1. Gold
2. Silver
3. Platinum

Base Metals:-

1. Aluminium
2. Copper
3. Iron ore
4. Zinc
5. Nickel
6. Lead

Indian Companies Involved In Metal Businesses

1. Tata Steel
2. JSW Steel
3. JSPL
4. NMDC
5. MMTC
6. Hindalco
7. Balco etc.

In addition to this there are thousands of small and medium size companies which are involved in the metal sector and for whom fluctuations in prices of metals is a cause of concern.

SCOPE OF RESEARCH

The scope of study is limited to only one risk management technique i.e. hedging. No other risk management technique is taken into consideration for research.

The scope of study is also limited to only commodities coming under metals category. No other category of commodity is taken into consideration in this study.

RESEARCH OBJECTIVES

The objectives of this research studies are:-

1. To study, simplify the concept of hedging and suggest this risk management technique to companies engaged in metal businesses.
2. To help entrepreneurs involved in metal businesses to insulate their profits from unexpected price fluctuations in metals.

HYPOTHESIS

H1. The companies involved in metal businesses are always exposed to high risk of unexpected fluctuations in prices of metals.

H2. Companies involved in these businesses can insulate their profits against price fluctuations by using hedging technique.

RESEARCH METHODOLOGY

Primary Data & Secondary Data

The researcher studied the concept of hedging from the past data which was already available in the published books, referred journals, websites of commodities exchanges, magazines, business papers etc. Hence no primary data is involved in this research study.

As the research aims at simplifying the technique of hedging, complete research is based on available secondary data only.

The methodology involved in research was simple analytical. By studying and exploring the past data researcher tried to simplify the concept of hedging as much as possible for assisting companies insulating their profits from unexpected price fluctuations in ferrous commodities.

ANALYSIS & INTERPRETATION

Concept of Hedging

Making an investment to reduce the risk of adverse price movements in an asset. Normally, a hedge consists of taking an offsetting position in a related security, such as a futures contract. An example of a hedge would be if you owned a stock, then sold a futures contract stating that you will sell your stock at a set price, therefore avoiding market fluctuations.

Companies and investors use this strategy when they are unsure of what the market will do. A perfect hedge reduces your risk to nothing (except for the cost of the hedge).

Different Instruments Used By Metal Companies for Hedging Their Open Positions:-

1. Future contract
2. Forward contract
3. Option contracts
4. Swap and swaptions

Hedging Simplified

After the thorough study of different hedging techniques the researcher has designed following simple strategy for metal companies to insulate their profits against unexpected price fluctuations.

An offset hedge is designed to remove the basis price risk of the physical operation by offsetting it with an equal and opposite sale or purchase of a futures contract on the Exchange. Any risk of price volatility that arises from the physical transaction is thereby eliminated.

An offset hedge is a financial operation in which the hedger (the company hedging) maintains a 'balanced book' with each physical transaction being offset by a commodities exchange transaction. In this example both the buyer and the seller choose to hedge their price risk. However, it is not necessary for both parties to the physical transaction to hedge; this will depend entirely on their organization's internal practices and approach to risk management.

Following Three Simple Steps Will Hedge Companies Open Positions:-

1. Physical Transaction

A producer agrees to sell a specific quantity of physical material to a consumer for a delivery date in the future. For hedging to be successful for either party, the contract must be agreed basis the current commodities exchange official settlement price.Both the producer and the consumer are likely to be exposed to a change in price over the life span of the physical contract because the delivery date is in the future. Each company has the ability to hedge this exposure on the commodity exchange.

2. Financial Transaction

Once the physical transaction has been agreed the hedger will instruct their broker to open a futures contract on the commodity exchange. This will be made up of an equal and opposite position for the same delivery date as their physical transaction. This allows the hedger to lock in the future price and delivery date to match the physical contract already agreed.

Once a commodity exchange contract, or trade, has been entered and matched by the broker, a process known as 'novation' takes place. This is when the clearing house, becomes the counterparty to both sides of the trade. The brokers are now no longer exposed to the credit worthiness of each other and the financial risk of default is taken on by the clearing house.

When entering into a futures contract a hedger is required to make margin payments to their broker. This includes an initial margin at the outset and variation margin throughout the life of the contract. Variation margins are a form of collateral which provide daily security against any adverse price movements of a futures position. Margins are a regulatory requirement and are calculated by clearing house, not the broker.

3. Settlement

Two days before the delivery date, the hedger will instruct their broker to financially settle the commodity exchange open position by buying or selling back the original futures contract at the current commodities exchange official settlement price.

In parallel to the financial transaction, the producer makes the physical sale of material to the consumer as agreed at the outset. Provided that this is agreed basis the current settlement price. The price risk of the base product over the period is eliminated for both parties, as the profits from one transaction offsets the losses from the other, and vice versa.

This Hedging Strategy Can Be Again Simplified With The Help of Following Example:-

Suppose an aluminum mill will need to procure 2,500 tons of aluminum in 3 months' time. The prevailing spot price for aluminum is USD 1,470/ton while the price of aluminum futures for delivery in 3 months' time is USD 1,500/ton.

To hedge against a rise in aluminum price, the aluminum mill decided to lock in a future purchase price of USD 1,500/ton by taking a long position in an appropriate number of LME Aluminum futures contracts.
With each LME Aluminum futures contract covering 25 tons of aluminum, the aluminum mill will be required to go long 100 futures contracts to implement the hedge.
The effect of putting in place the hedge should guarantee that the aluminum mill will be able to purchase the 2,500 tons of aluminum at USD 1,500/ton for a total amount of USD 3,750,000.

Let's see how this is achieved by looking at scenarios in which the price of aluminum makes a significant move either upwards or downwards by delivery date.

Situation 1: Aluminum Spot Price Rose by 10% to USD 1,617/ton on Delivery Date

With the increase in aluminum price to USD 1,617/ton, the aluminum mill will now have to pay USD 4,042,500 for the 2,500 tons of aluminum. However, the increased purchase price will be offset by the gains in the futures market.
By delivery date, the aluminum futures price will have converged with the aluminum spot price and will be equal to USD 1,617/ton. As the long futures position was entered at a lower price of USD 1,500/ton, it will have gained USD 1,617 - USD 1,500 = USD 117.00 per ton. With 100 contracts covering a total of 2,500 tons of aluminum, the total gain from the long futures position is USD 292,500.
In the end, the higher purchase price is offset by the gain in the aluminum futures market, resulting in a net payment amount of USD 4,042,500 - USD 292,500 = USD 3,750,000. This amount is equivalent to the amount payable when buying the 2,500 tons of aluminum at USD 1,500/ton.

Situation 2: Aluminum Spot Price fell by 10% to USD 1,323/ton on Delivery Date

With the spot price having fallen to USD 1,323/ton, the aluminum mill will only need to pay USD 3,307,500 for the aluminum. However, the loss in the futures market will offset any savings made.

Again, by delivery date, the aluminum futures price will have converged with the aluminum spot price and will be equal to USD 1,323/ton. As the long futures position was entered at USD 1,500/ton, it will have lost USD 1,500 - USD 1,323 = USD 177.00 per ton.

With 100 contracts covering a total of 2,500 tons, the total loss from the long futures position is USD 442,500

Ultimately, the savings realized from the reduced purchase price for the commodity will be offset by the loss in the aluminum futures market and the net amount payable will be USD 3,307,500 + USD 442,500 = USD 3,750,000. Once again, this amount is equivalent to buying 2,500 tons of aluminum at USD 1,500/ton.

BENEFITS OF HEDGING

1. Protection against unexpected and wild price movements.
2. Improve budget forecasts of costs and profits to the companies.
3. Protect physical inventory against a fall in prices of commodities.
4. Producer can offer a long-term fixed sales price and lock in a profit margin.
5. Companies will be able to access lower financing cost as banks view companies that hedge as lower risk.
6. The entire supply chain of a company benefits from a consistency and accuracy in pricing mechanism.

FINDINGS

1. The companies involved in metal space are prone to fluctuations in prices of commodities. These price fluctuations may affect the company's profits upto large extent.
2. This risk and uncertainty can be eliminated by using hedging with futures contract with the help of recognized and reputed commodities exchange.
3. If hedging is properly done by metal companies they can insulate their profits from unexpected price swings in metal commodities.

CONCLUDING REMARKS

By using this simplified hedging technique the ferrous companies can minimize their risk exposure against unexpected fluctuations in prices. This technique will minimize the risk of ferrous companies due to price fluctuations up to large extent.

As this technique is very simple and a layman can also adopt this technique in his respective ferrous metal company. But it is also advisable to ferrous metal companies to maintain risk management cell on an ongoing basis which will insulate their profit erosion due to unexpected price fluctuations. The company should properly maintain a separate commodities account with the reputed commodity exchange for its hedging operations which will require a very less margin and also eradicate the counterparty risk in trade.

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