Commodity Risk Management

Presented by: Dr. Guechari Yasmina E-MAIL: yasmina.guechari@univ-biskra.dz

1. Commodity Risk Management Definition

- ***Commodity risk:*** *is the possibility that* ***commodity price changes*** *will* ***cause financial losses*** *for either commodity buyers or producers.* ***For commodity producers****,* ***a decrease*** *in raw material prices is going to hurt, because they're going to receive less money for the raw material that they're providing.* ***For commodity buyers****—that is, the companies who rely on raw materials to produce their products—****an increase*** *in raw material prices is going to hurt, because they're going to pay more than they had expected to pay.*

2. Sectors exposed to Commodities Risk

1. Producers of the commodities: are exposed to price falls, which means they receive less revenue for commodities they produce. for example

- Mining and Minerals sector like Gold, steel, coal, etc
- The agricultural sector like wheat, cotton, sugar, etc
- Energy sectors like Oil, Gas, Electricity, etc

2. Sectors exposed to Commodities Risk

2. **Consumers of commodities** like Airlines, Transport companies, Clothing, and food manufacturers are primarily exposed to rising prices of raw material, increasing the cost of commodities they produce.

3. Factors of commodity price fluctuations

- Factors that can influence commodity prices include **politics, seasons, weather and technology**.
- ***Political factors*** can raise the price of some commodities while reducing the price of others. In 2018, former President Donald Trump imposed tariffs on steel and aluminum imported from foreign countries. The direct effect of these tariffs was to increase steel and aluminum prices in the United States relative to the rest of the world.

3. Factors of commodity price fluctuations

- ***Seasonal and other weather fluctuations*** have a substantial impact on commodity prices. The end of summer brings with it plentiful harvests, so commodity prices tend to fall in October. Droughts and floods can also lead to temporary increases in the prices of certain commodities.
- ***Technology*** can have a dramatic influence on commodity prices. For example: Aluminum was considered a precious metal until procedures for isolating it improved during the 19th and 20th centuries. As technology advanced, aluminum prices collapsed.

3. Types of Commodity Risk

- Price Risk
- Quantity Risk
- Regulatory Risk

4. Types of Commodity Risk

- There are three types of commodity risk to which an organisation may be exposed:

- ***Price Risk*:** arises from an adverse movement in the price of a commodity as determined by forces outside the control of the organisation such as the macroeconomic factors
- ***Quantity Risk:*** This risk arises due to changes in the availability of commodities.
- ***Regulatory Risk:*** Arises due to changes in laws and regulations, which impact prices or availability of commodities.

5. Commodity Risk Management Strategies

- Now we will discuss the risk management strategies from two angles
- Producers of commodities
- Buyers of commodities

5. Commodity Risk Management Strategies

1. Commodity Risk Management Strategies for Producers

1 – Diversification: In the case of diversification, the producer generally rotates his production (rotation through different products), while adopting diversification, producers should ensure that alternative products should not be subject to the same price risk.

Diversification example: In the case of a farm business, rotation of crops to produce different products can greatly reduce the large loss from price volatility.

5. Commodity Risk Management Strategies

2 – Flexibility: It is a part of a diversification strategy. A flexible business can change in line with market conditions or events that may hurt business.

Flexibility Example: A steel company in a falling prices scenario may, instead of producing steel using coal, use low-cost pulverized coal, which has the same effect but at a lower cost. This flexibility has the effect of improving financial performance.

5. Commodity Risk Management Strategies

3- Price pooling arrangement: means the commodity is collectively sold to a cooperative or marketing board, which sets the commodity's price based on several factors that result in an average price for all those within the group.

4- Storing: In times where there is an increased production, which results in reduced selling price, some producers may store the production till a favorable price is obtained. However, when considering this, storage cost, the interest cost, insurance, and **spoilage** costs need to be considered.

5- Production contracts: In the case of production contracts, the producer and buyer enter a contract, usually covering price, quality, and **quantity supplied**.

5. Commodity Risk Management Strategies

2. Commodity Risk Management Strategies for Buyers

The following are the most common methods of managing commodity price risk for the business of purchasing commodities.

1 – Supplier Negotiation: This buyer approaches suppliers for an alternative pricing plan. They may lower prices on increased volume purchases.

2 – Alternative sourcing: In this buyer, appoint an alternative producer for getting the same product or a different producer for substitute products in the production process.

5. Commodity Risk Management Strategies

3 – Production process review: This company usually regularly reviews the use of commodities in the production process to change the mix of products to offset commodity price increases.

Example: Manufacturers of food products continuously look for improvements in a product using less higher-priced or more volatile inputs such as sugar or wheat.

5. Commodity Risk Management Strategies

3. Financial Market Instruments to Manage the Commodity Risk

1 – Forward contracts: is contract between two parties to buy or sell an asset at a specified future time at a price agreed upon today.In this case, the risk of price changes is avoided by locking the prices.

- **Forward Contract Example:** Company "A" and Company "B" on 1st October 2022, entered a contract whereby company "A" sold 1000 tonnes of wheat to company "B" at 100$/tonne on 1st January 2023.
- According to the contract, whatever the price on 1st January 2023, "A" has to sell "B" 1000 tonnes at 100$/tonne.

5. Commodity Risk Management Strategies

- **2 – Futures contract:**
- In a simple sense, futures and forwards are essentially the same, except that the Futures contract happens on Futures exchanges, which act as a marketplace between buyers and sellers. The buyer of a contract is said to be a long position holder, and the selling party is said to be a **short position holder**. As both parties risk their counterparty walking away if the price goes against them, the contract may involve both parties lodging a margin of the value of the contract with a mutually trusted third party.

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- In October, an investor plans to sell 1,000 barrels of oil in December, and he is not sure about the future price of oil and wants to hedge against prices decrease. The price of a barrel in the spot market in October is $70 per barrel, and oil futures contracts for the month of December are traded at $70 per barrel. To cover the risk of a price drop in the future, the investor sells one contract of Oil Futures at a price of $70/barrel.
- **Scenario 1:** **price decrease**: In December, the price of oil in the spot market reached $65 per barrel. The investor delivers 1,000 barrels and gets $65, meaning he loses $5 for each barrel. However, by entering into a future contract, he can compensate for this loss by closing his short position with a buy transaction at $65.

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Spot Market	Future Market
October: a barrel of oil at $70	October: Selling a December oil futures contract at $70
December: A barrel of oil is sold at $65	December: Buy the December futures contract at $65
	Change: $5 profit

5. Commodity Risk Management Strategies

- A barrel of oil was sold in December at a price of ………………. $65
- Make a profit on the future contract position .... 5 dollars
- Net selling price .... 70 dollars

5. Commodity Risk Management Strategies

- **3 – Commodity options:**
- In the case of commodity options, a company purchases or sells the commodity under an agreement that gives the right and not the obligation to undertake a transaction at an agreed future date.
- **Commodity Options example:** Broker "A, "wrote a contract to sell 1 tonnes of steel to company "B" at 5000$/tonne on 1st January 2023 at a premium of 5$ per tonne. In this case, company "B" may exercise the option if the steel price is more than 5000$/tonne and may deny buying from "A" if the price is less than 5000$/tonne.