Speculation in Commodity Market

Prepared & Presented by:

Dr. Guechari Yasmina

1. Concept of Speculation

1. **Definition of speculation**: **Speculation** is the buying (selling) of an asset or financial instrument with the hope that the price will increase (decease) in the future (CFI Team, 2023).
2. **Speculators** are those who buy and sell futures contracts to profit from changes in commodity prices. They are prepared to accept risks that **hedgers** do not wish to assume.

1. Concept of Speculation

3. Types of speculator

i. ***Bullish speculator:*** is one who expects the prices of securities to rise ; so, he buys – long futures- with the hope of selling them at a higher price in the future and make a profit.

ii. ***Bearish speculator:*** is one who expects the prices of securities to fall in the future ; so, he sells – short futures, with the hope to profit from being able to repurchase them at a lower price in the future.

1. Concept of Speculation

4. The basic elements in speculation

i. ***Asset:*** is the futures contract of commodities

i. ***Contract Size*** : The contract size specifies the amount of the asset that has to be delivered under one contract.

Example: The oil futures size is 1000 barrels, corn futures size is 5000 Bushels, wheat futures size 5000 bushel. So, if trader (speculator or hedger) wants to buy or sell for example 6000 barrels he has to buy 6 oil futures contracts.

iii. ***Delivery Months*** : A futures contract is referred to by its delivery month.

Example, corn futures traded by the CME Group have delivery months of March (March corn futures),

1. Concept of Speculation

iv. ***Convergence of futures price to spot price:*** When the delivery period is reached, the futures price converges (equals—or is very close to)—to the spot price.

v. ***Positions:*** in the futures contract the investor could take long or short position.

a. **Long position:** the buyer in the futures contract is known as to hold a long position or simply long.

b. **Short position:** the seller in the futures contracts is said to be having short position or simply short.

1. Concept of Speculation

vi. Futures Margins: (***Initial Margin***) is the amount of funds required to enter into a futures position—typically a fraction of the total value of the contract. Whether trader go long or short, initial margin requirements are the same but vary by futures product—typically ranging anywhere from 2% to 12%.

Maintenance Margin is the balance trader must keep in his account to stay in the position, and that's normally 70% to 85% of the initial margin (TD Ameritrade, 2019)

1. Concept of Speculation

- **Example:** two canola futures contract of 20 tonnes for $550 per tonne. The initial margin is 5%, and the maintenance margin is 80%.
- The total contract value is 2*(20*550) = 22000$.
- Then, the initial margin is 0.05*22000 = 1100$;
- The maintenance margin is 80% of the initial margin i.e. 0.8*1100 = 880$.
- If the trader loses 400$ this amount will be soustracted from the initial margin and become 1100– 400 = 700$ less than 880; in this case, the trader will receive a margin call to bring its account back to the required margin level; the broker contacts the trader to send $400 to bring the margin account back to the $1100 initial margin level.

1. Concept of Speculation

vii. ***Marking to market (or mark-to-market)*** is the process used to price futures contracts at the end of every trading day.

viii. ***clearing house :*** acts as an intermediary in futures transactions.

2. Example

- **Example 1 (long position):** Assume a trader expects wheat prices to rise over the next few months. Through a commodity broker, he buys 15000 bushels of October wheat futures at $7.57per bushels. Assume the initial margin is 8% and the maintenance margin is 75%; and that the size of wheat futures contract is 5000 bushel/contract. If the wheat futures contract closing price in each day following the contract are:

Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Trade price	7.55	7.49	7.45	7.4	7.36	7.42	7.5	7.55	7.61	7.7	7.81	7.89	7.95	7.98	8.11

2. Example

- **First**– the trader will buy 3 futures contracts of 5000 bushels (5000*3=15000 bushels).
- **Second**– the amount required by the broker to initiate futures position is the **initial margin** which is: 0.08(15000*7.57) = **9084$**. the amount of money a trader must have on deposit to continue holding the position is –**maintenance margin**– which is 0.75*9084 = **6813$.**
- **Third**– the position the investor take is **long position**, because he buys a futures contract now, and sells them in the future, he will make a profit if the Wheat futures contract prices will increase and incurs a loss if the price of wheat futures contract will decrease.

Day	Trade price ($)	Settlement price ($)	Daily gain ($)	Cumulative gain ($)	Margin account balance ($)	Margin call ($)
1	**7.57**				**9084**	
1		7.55	- 300	- 300	8784	
2		7.49	- 900	- 1200	7884	
3		7.45	- 600	- 1800	7284	
4		7.4	- 750	- 2550	6534	**2550**
5		7.36	- 600	- 3150	8484	
6		7.42	900	- 2250	9384	
7		7.5	1200	-1050	10584	
8		7.55	750	-300	11334	
9		7.61	900	600	12234	
10		7.7	1350	1950	13584	
11		7.81	1650	3600	15234	
12		7.89	1200	4800	16434	
13		7.95	900	5700	17334	
14		7.98	450	6150	17784	
15	**8.11**		1950	8100	19734	

2. Example

- From the Day one to the Day 5, the trader incurs a successive loss, On Day 4, the balance in the margin account falls below the maintenance margin level. This drop triggers a margin call from the broker for an additional $2550 to bring the account balance up to the initial margin level of $9084. From the sixth Day the trader started making profit. On Day 15, the investor decides to close out the position by selling three contracts. The futures price on that day is $8.11, and the investor has a cumulative gain of $8100.
- **Note that,** we can also calculate the cumulative gain in this way (the last Day closing price – the first day opening price) * size = (8.11–7.57) * 15000 = $8100.
- Or (the balance of the last day – the initial margin) – margin call = (19734 – 9084) – 2550 = $8100.

2. Example

- **Example 2 (short position)**: Assume a traderr expects Soybean prices to fall over the next few months. Through a commodity broker, he sells 10000 bushels of November Soybean futures at $14.80 per bushels. Assume the initial margin is 10% and the maintenance margin is 80%; and that the size of Soybean futures contract is 5000 bushel/contract. If the Soybean futures contract closing price in each day following the contract are:

Day	1	2	3	4	5	6	7	8	9	10	11	12	13
Trade price	14.75	14.68	14.62	14.69	14.74	14.81	14.95	15.1	15.05	14.97	14.84	14.75	14.6

- **First-** the amount required by the broker to initiate futures position is the **initial margin** which is: 0.1(10000*14.80) = $**14800**. the amount of money a trader must have on deposit to continue holding the position is -**maintenance margin**- which is 0.8*14800 = $**11840.**
- **Second-** the position the investor take is **short position**, because he sells a futures contract now, and buys them in the future, he will make a profit if the Soybean futures contract prices will decrease and incurs a loss if the price of Soybean futures contract will increase.

Day	Trade price ($)	Settlement price ($)	Daily gain ($)	Cumulative gain ($)	Margin account balance ($)	Margin call ($)
1	**14.80**				**14800**	
1		14.75	500	500	15300	
2		14.68	700	1200	16000	
3		14.62	600	1800	16600	
4		14.69	- 700	1100	15900	
5		14.74	- 500	600	15400	
6		14.81	- 700	- 100	14700	
7		14.95	- 1400	-1500	13300	
8		15.1	- 1500	-3000	11800	3000
9		15.05	500	-2500	15300	
10		14.97	800	-1700	16100	
11		14.84	1300	-400	17400	
12		14.75	900	500	18300	
13		**14.6**	1500	**2000**	**19800**	

2. Example

- From the Day one to the Day 3, the trader makes a successive profit.
- From the Day 4 till the Day 8 he incurs a successive loss; on the Day 8, the balance in the margin account falls below the maintenance margin level. This drop triggers a margin call from the broker for an additional $3000 to bring the account balance up to the initial margin level of $14800.
- From the Day 9 the trader started making profit. On Day 13, the investor decides to close out the position by buying two futures contracts. The futures price on that day is $14.6, and the investor has a cumulative gain of $2000.
- **Note that,** we can also calculate the cumulative gain in this way
- (the first Day opening price – the last day closing price) * size = (14.8-14.6) * 10000 = $2000. Or,
- (the balance of the last day – the initial margin) – margin call = (19800 – 14800) – 3000 = $2000