Mohamed Khidher University
Faculty of economics, Commercial and Management Sciences
Department of commerce

Major: International Business
Module: Commodity Market
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exercises series n°6 correction

Exercise One answer:

Question n°	*1*	*2*	*3*	*4*	*5*
Answer	*d*	*c*	*b, c*	*c*	*b*

Exercise two answer:

1. There will be a margin call when $3646.5 has been lost from the margin account this will occur when the price of gold increase by 3646.5/200 = $18.2325; the price of gold must therefore rise to $1233.73/ounce for there to be margin call. If the Margin Call is not meet the broker close out the trader position
2. There will be a margin call when $1800 (9000 - 7200) has been lost from the margin account (this will occur when the price of oil decrease by 1800/2000 = $0.9 ; the price of oil must therefore fall to 89.1/barrel for there to be margin call. If the Margin Call is not meet the broker close out trader position
3. **T**he total profit is (80.5 – 78.5) *2000 = $4000; of this (80.5 – 79.10)*2000 = $2800, $2800 is realized on day-by-day basis between September 2022 and December 2022, a further (79.10-78.5)*2000 =$1200 is realized on day-by-day basis between January 2023 and April 2023.
4. First calculate the initial margin: (15000*150) *3= 6750000*0.05= 337500 cent = $3375, the maintenance margin is 3375*0.8= $2700. So, there will be a margin call when $675 has been lost from the margin account. this will occur when the price of orange juice falls by more than 3375/45000 = $0.015 or 1.5 cent to less than 148.5cent. 1000 can be withdrawn from the margin account if there is a gain of $1,000, this will happen if the Futures price rise by $ 0.0222 or 2.22 cent means the price become 152.2 cent per pound.
5. First calculate the initial margin and maintenance margin:

   The value of the futures contract is 5000*450 = 2250000 cent = $22500
   Initial margin = 22500*0.05= 337500 cent = $1125.

The maintenance margin is 1125*0.75= $843.75.

So, there will be a margin call when $282 has been lost from the margin account. $1500 can be withdrawn from the margin account if there is a gain of $1,500, this will happen if the Futures price fall by $ 0.3 or 30 cent means the price become 480 cent per bushel.

Exercise three answer

I. **First-** the trader buys 4 oil futures contracts of 1000 barrels (1000*4=4000 barrels).

Second- Initial margin which is: 0.08(4000*80) = **25600$**.

Maintenance margin- which is 0.8*25600 = **20480$.**

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 oil futures prices will increase and incurs a loss if the price of oil futures contract will decrease.

Day	Trade price ($)	Settlement price ($)	Daily gain ($)	Cumulative gain ($)	Margin account balance ($)	Margin call ($)
1	**80**				**25600**	
1		80.2	800	800	26400	
2		80.3	400	1200	26800	
3		80.5	800	2000	27600	
4		80.9	1600	3600	29200	
5		81.1	800	4400	30000	
6		80.8	-1200	3200	28800	
7		80.2	-2400	800	26400	
8		79.7	-2000	-1200	24400	
9		79.3	-1600	-2800	22800	
10		78.7	-2400	-5200	20400	**5200**
11		79.5	3200	-2000	28800	
12		80.4	3600	1600	32400	
13	**80.9**		2000	**3600**	34400	

The speculator buys oil futures contract means he is taking a long futures position. The initial margin is $25600 and to hold the position the trader must have $20480 in his account.

From the Day one to the Day 5, the trader makes a successive profit, from the Day 6 to Day 10 the trader position incurs a loss and On Day 10, the balance in the margin account falls below the maintenance margin level. This drop triggers a margin call from the broker for an additional $5200 to bring the account balance up to the initial margin level of $25600. From the Day 11the trader started making profit. On Day 13, the investor decides to close out the position by selling four contracts. The futures price on that day is $80.9, and the investor has a cumulative gain of $3600.

Note that, we can also calculate the cumulative gain in this way (the last Day closing price – the first day opening price) * size = (80.9-80) * 4000 = $3600. or the (final balance -initial balance) – margin call = (34400 -25600)-5200=$3600.

I.First- the trader will sell two futures contracts of 5000 bushels (2*5000=10000 bushels).

Second- Initial margin which is: 0.06(10000*6.85) = $**4110**.

Maintenance margin- which is 0.8*4110 = $**3288.**

Third- 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 Corn futures price will decrease and incurs a loss if the price of Corn futures will increase.

Day	Trade price ($)	Settlement price ($)	Daily gain ($)	Cumulative gain ($)	Margin account balance ($)	Margin call ($)
1	**6.85**				**4110**	
1		6.88	-300	-300	3810	
2		6.9	-200	-500	3610	
3		6.91	-100	-600	3510	
4		6.9	100	-500	3610	
5		6.87	300	-200	3910	
6		6.85	200	0	4110	
7		6.81	400	400	4510	
8		6.79	200	600	4710	
9		6.75	400	1000	5110	
10		6.7	500	1500	5610	
11		6.68	200	1700	5810	
12		6.7	-200	1500	5610	
13	**6.69**		100	**1600**	**5710**	

In this example, the speculator sells a Corn futures contract means he is taking a short futures position. The initial margin would be \$4410 and to hold the position the trader must have \$ 3288 in his account.

From the Day one to the Day 3, the trader makes a successive loss. From the Day 4 till the Day 13 he makes a successive profit. On Day 13, the investor decides to close out the position by buying two futures contracts. The futures price on that day is \$6.69, and the investor has a cumulative gain of \$1600.

Note that, we can also calculate the cumulative gain in this way

(the first Day opening price – the last day closing price) * size = (6.85-6.69) * 10000 = \$1600. Or,

(the balance of the last day – the initial margin) – margin call = (5710– 4410) – 0 = \$1