**MFE5130 – Financial Derivatives**

**First Term, 2018-19**

**Class Activity (13-September-2018) (Solution)**

**Important Notes:**

1. This class activity is counted toward to your class participation score. **Fail** to hand in this class activity worksheet in the class will receive **0 score** for that class.
2. **0 mark** will be received if you leave the solution blank.

|  |  |
| --- | --- |
| Name: | Student No.: |

**Trading Volume and Open Interest**

**Trading volume:**

Trading volume counts the number of financial contracts that change hands for a given period of time. Simply speaking, trading volume counts the number of transactions of the financial contract.

**Open interest:**

Open interest measures the total number of outstanding contracts. More precisely, open interest is the total number of contracts for which counterparties have a future obligation to perform. (Since each trade of a contract has both a buyer and seller, a buyer-seller pair counts as *one* contract.). Open interest is an important statistic in derivatives markets.

**Problem**

Consider a financial contract in MFE exchange. There are three traders, A, B, and C. Over one day, the following trades occur:

* A long, B short, 5 contracts.
* A long, C short, 15 contract.
* B long, C short, 10 contracts.
* C long, A short, 20 contracts.

1. What is each trader’s net position in the contract at the end of the day? (Calculate long positions minus short positions.)

**Solution**

We have the following for the different trades and different dealers:

|  |  |  |  |
| --- | --- | --- | --- |
|  | A | B | C |
| Trade 1 | +5 | –5 |  |
| Trade 2 | +15 |  | –15 |
| Trade 3 |  | +10 | –10 |
| Trade 4 | –20 |  | +20 |
| Total | 0 | +5 | –5 |

Therefore, trader A’s net position is zero, trader B is long five contracts, and trader C is short five contracts.

1. What are trading volume and open interest? (Calculate open interest as the sum of the net *long* *positions*, from your previous answer.)

**Solution**

Trading volume is equal to 5 + 15 + 10 + 20 = 50.

Open interest is equal to 5.

1. How would your answers have been different if there were an additional trade: C long, B short, 5 contracts?

**Solution**

Now all traders have a net position of zero. Trading volume has increased by five contracts to 55. Open interest is equal to zero.