TraderExercise #1

TraderEX, LLC.
The Power of Simulation

London Business School

Trading in order book systems: Effective buying and selling

> **Trading financial instruments is different than standard consumer activities. As consumers, we buy at posted prices. Traders discover prices as both sellers and buyers, and they supply and demand liquidity. This case introduces trading in an electronic order book, the most common market structure today. Order books hold and display limit orders from liquidity suppliers, and execute trades when market orders are entered and matched with the resting limit orders. This exercise will introduce the mechanics of order entry and execution.**

For most of us in our daily economic lives, we are buyers of goods and services. We look in the store window or at displayed items on the shop shelves. We assess the posted price for an item relative to its value to us and our budget, and we buy or we pass by. Trading is different. Market participants are selling and buying in equal measure, and prices are "discovered" at the time of the transaction. Some traders supply liquidity and other demand liquidity. The quantity bought or sold can impact the prices.

Go to http://www.etraderex.co.uk/ and login as **lbs1** with password **london**. In the upper right of the screen, make sure the LBS "lobby" has been selected.

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SELECT LOBBY: LBS   Go

Scroll to the bottom and "Click here" under the **Stand-Alone** software version.

Retain the default settings:

In TraderEx, the Stand Alone | Order Driven mode with all default settings will open with the market display below. Due to U.S. clock settings in the software, the market open time may be 15:30 to 22:00, a 6 ½ hour trading day.

Click on the GO button to advance time. After the first trade for 19 at 20.10, the book looks as below. First, use a market order for buy 5. Move the cursor up to the white rectangle next to the "TAKE" button. Enter "5" and click on the TAKE button. Next, enter a buy limit order on the left, BID side of the book. Do that by clicking on the rectangle at the price level you choose lower than the offer quote. When clicked, the rectangle will change from dark grey to light grey. Enter the quantity to buy at the limit price, up to 99 maximum. Press the <Enter> key to submit the order. Click GO several times to advance the clock. Has your limit order traded? If not, cancel it by clicking the red button next to your buy order, and re-enter it at a higher, more aggressive price.

Continue from 15:30 to 18:45 (use TIME display at the top of the screen), and enter buy orders of size 1 to 99 to accumulate a position of 250. This should take about 5-10 minutes in real time.

Once you are long 250, sell the 250 units to return to a zero position by the 22:00 close of the market. What is your realized Profit & Loss (P&L)?

Click on the RESET button at the lower right of the screen and run the simulation again. From 15:30 to 18:45 **sell 350 units short to have a –350 position**.   As your sell orders execute, your blotter will fill in with the trades you have made and the Net Position will update.

From 18:50 to 22:00 **buy back the 350 units to return to a zero position**. In the illustration, the user is Long +55. Clicking the red X button next to a limit order will cancel it.
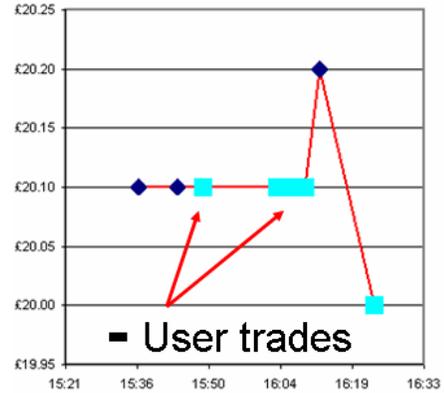
a) At the end of the run, copy and paste all of the data from My Trades and All Trades from "HISTORY" (see above) into a spreadsheet.

Ignore the BUY: xxx above "BLOTTER", and rely on the "Net Position" figure under "STATS."

STATS

Net Position:	0	My Volume(%Mkt Shr):	700 (22.17%
Cash:	$22.90	Realized P&L:	$22.90
My Avg Cost:	$0.00	Unrealized P&L:	$0.00

21:47:38 21:47:38 21:47:38 21:27:32 21:27:32 21:25:57 21:18:54 21:18:54 21:18:54

HISTORY

◉ My Trades ○ All Trades

SYMBOL	SIDE	TYPE	# VOL	TIME	PRICE
Stock1	Buy	Limit	18	20:31:34	19.60
Stock1	Buy	Limit	53	20:25:16	19.60
Stock1	Buy	Limit	4	20:02:47	19.70
Stock1	Buy	Limit	6	20:01:01	19.70
Stock1	Buy	Limit	23	19:56:22	19.70
Stock1	Buy	Limit	45	19:55:00	19.70
Stock1	Buy	Limit	12	19:51:58	19.70
Stock1	Buy	Limit	32	19:26:03	19.90
Stock1	Buy	Limit	58	19:23:01	19.90
Stock1	Buy	Market	37	19:15:16	20.10
Stock1	Buy	Market	21	19:15:16	20.10
Stock1	Buy	Market	41	19:15:16	20.10
Stock1	Sell	Market	18	18:43:57	19.70
Stock1	Sell	Market	8	18:43:52	19.70

BUY: 187   TOTAL: 25

Total Avg
Avg Cos

20.50
20.25
20.00
19.75
19.50
19.25
19.00
18.75

— AvgCost   —
— totalAvgPrice

BLOTTER

[22:00:00] 41 SOLD to Book at 19.20

a. cont.) Produce a graph similar to this one:

- User trades

b) What is your realized P&L at the end? Do you understand why the P&L is what it is? This is not a "highest profit wins" contest.

c) What percentage of your trading was done by limit order and what percent by market order?

d) Graph the market's trade prices, your trades (indicate limit and market orders), and an end of day VWAP line (see example at right)

e) What post-trade analyses could a market participant use to improve their order placement decision making in the future?