

## TraderExercise #1



### *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.

A screenshot of a web interface. At the top, there are two tabs: 'CONTACT' and 'TEACHING MATERIALS'. Below the tabs is a large grey rectangular area. At the bottom of the page, there is a label 'SELECT LOBBY:' followed by a dropdown menu containing the text 'LBS'. To the right of the dropdown menu is a 'Go' button.

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

**TraderEx Stand-Alone**

You can run the TraderEx Trading Simulation in Stand-Alone mode as well as in a networked environment with other traders  
[Click here to run the TraderEx Stand-Alone Simulation.](#)

**TRADER-EX SETUP CONFIGURATIONS**

<p><b>Select Simulation Environment:</b></p> <p><input checked="" type="radio"/> Stand Alone  <input type="radio"/> Networked  <input type="radio"/> Tutorial</p> <p><b>Enter the Number of Stocks:</b> <input type="text" value="1"/></p> <p><b>Enter the Scenario Number:</b> <input type="text" value="5"/></p> <p><b>Simulation Features:</b></p> <p><input checked="" type="checkbox"/> Order Driven  <input type="checkbox"/> Call Auction  <input type="checkbox"/> ...</p>	<p style="text-align: center;"><b>Configuration:</b></p> <p><input checked="" type="radio"/> Basic <input type="radio"/> Advanced</p> <p>Information arrives every <input type="text" value="2"/> hours</p> <p>Orders arrive every <input type="text" value="3.0"/> minute(s)</p> <p>Daily Return Volatility <input type="text" value="2.0"/> %</p> <p>Simulation will run <input type="text" value="3.0"/> day(s)</p> <p>Limit Order Percentage to <input type="text" value="3.5"/> %</p> <p>Initial Price <input type="text" value="4.0"/></p>
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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.

**Price 20.10**  
**Volume 19**  
**Time 15:36:11**

**QUOTE**  
 Standard View  Compressed View

Bid/TA	Offer/TA
19.90 58	20.10 79

HIT  BID \$  OFFER  TAKE

21.10			X
21.00	84		X
20.90	69		X
20.80	32		X
20.70			X
20.60	26		X
20.50			X
20.40	60		X
20.30			X
20.20	101		X
	20.10	79	X
	20.00		X
	58	19.90	X
	101	19.80	X
	45	19.70	X

**HISTORY**  
 My Trades  All Trades

SYMBOL	SIDE	TYPE	# VOL	TIME	PF
Awaiting order 0					
TRADES: 0					
<b>BLOTTER</b>					
[15:36:11] 19 TAKEN from Book at 20.10					
[15:36:11] Market Purchase Order for 19 units					
[15:33:03] New Limit Offer at 20.20 for 38 units					

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.

The screenshot displays a trading interface with three main panels: QUOTE, HISTORY, and STOCK 1 CHARTS.

**QUOTE Panel:** Shows Bid/TA at 19.90 (51 units) and Offer/TA at 20.20 (128 units). A table below lists various price levels with corresponding bid and offer quantities.

**HISTORY Panel:** Shows two trades for Stock1:
 

SYMBOL	SIDE	TYPE	# VOL	TIME	PRICE
Stock1	Buy	Limit	10	16:16:06	20.00
Stock1	Buy	Market	45	15:45:20	20.10

**STOCK 1 CHARTS Panel:** A line chart titled 'Avg Cost vs. VWAP' showing price fluctuations and average cost lines. The y-axis ranges from 20.0800 to 20.0925.

**STATS Panel:** Shows a Net Position of 55 units, Cash of (\$1,104.50), My Avg Cost of \$20.08, and Unrealized P&L of (\$10.00).

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.

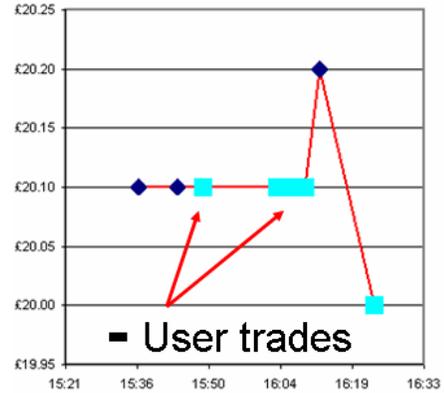
a) At the end of the run, copy and paste all of the data from My Trades and All Trades from "HISTORY" (see above) into a spreadsheet.

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



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



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?