

Trading Simulation: Open Outcry

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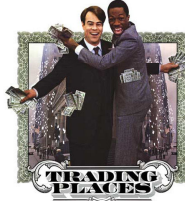
1



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Mike Gorun Varun Dube
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K. SCHNEIDER

Quant Trading Simulation

When: December 4, 2008 @ 7PM
Where: Martin Gruber Conference Room
KMEC, 9th Floor
44 West Fourth Street, NY, NY

For more details, visit our website

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Rules

- So the game uses a deck of cards and at least 3/4 people. First, we need to know the number of people playing...we need $6 + N*2$ cards where N is the number of people playing. Ideally, you would not have a traditional deck of cards, but cards with numbers on them, ordered from 1 to $(6 + N*2)$. As an example, if we had 5 people playing, we would need 16 cards numbered from 1 to 16...
- Now, every person playing gets 2 cards, face-down, and there are 3 cards placed in the center (like community cards in Texas Hold 'Em). Each person can look at their cards, but will only know their two cards (no peeking, sharing, cheating). Every "round", one of the community cards will turn over and everyone will know the value of 5 different cards (3 community, 2 theirs) by the end of 3 rounds.
- The goal of the game is to buy and sell shares, which are cashed in at the end to the dealer at a specific price. The specific price is equal to the sum of ALL the cards in play (so, that's 3 community cards + $2*N$ cards in N players hands).

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3



Rules, cont...

- Example: We have 2 players:
 Player 1 --> 1, 4
 Player 2 --> 3, 6
 Community --> 2, 10, 8
 ==> Price = $1+4+3+6+2+10+8 = 34$
- So, assuming perfect knowledge, the Players can extrapolate the expected outcome at each round using the known cards. So Player 1, using only his cards, can say "oh, well I know that we have cards from [1,10] and there are only 7 cards in play, so knowing the average of [1,10] is 5.5, the expected total is $5.5*7 = 38.5$. However, since I know two of the cards, I can subtract $5.5*2$ from the total, giving me 27.5, and then add my two cards to it, getting 32.5, which is MY expected total!" Therefore Player 1, would most likely bid/ask around his price of 32/33. Player 2 would do the same, his price being $5.5*7 - 5.5*2 + 3 + 6 = 36.5$ and his bid/ask probably 36/37. A-ha! we have a game!

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4



Rules, cont...

- The format of the bidding is done by one player asking another "what's your spread for _____" where the blank is a quantity. **THE OTHER PLAYER MUST RESPOND WITH A SPREAD.** This simulates the idea of being a market-maker, since they never (almost never*) have the option of saying "I don't want to deal with you on this." Only one trade can be done between the same pair of people each round (i.e. I can't buy 10 shares from Jon at \$30 and then ask him again if I thought his price was low and buy another 10 again at \$30). No one is forced to execute trades, but if someone asks you to trade, you must.
- We usually set limits on the amount played, or require that it be done in batches of some number...like 10, for easy calculation of P&L later. All shares (either long or short) will be settled with the dealer at a choice price (the specific price that comes in after 3 rounds of betting)...we can make this more real by making the price have a spread or whatever...

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5



Rules, cont...

- Our rules may differ by having a different sum (instead of the price being the sum of the cards, it may be the product...or the product of the community cards plus the sum of the rest...) or by adding dice/coins to the mix -- you know, "quant" stuff.
- ChangeUps:
 - Round 1 → 5-minute rounds; cards [1,30]; 6 players a game; 3 games running at the same time moderated by Varun, Arvinth, and Mike; trade size of 10 units and fixed spread of 1 for trades
 - Round 2 → Added two extra cards to the set: -29, +60; 3-minute rounds; trade size of 10 units with fixed spread size of 1 or 100 units with fixed spread size of 2

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6



Performance

<input type="checkbox"/> Name	Round 1	Round 2
Paul Leybov	-2990	+2710
Sukh Grewal	-2290	+1350
Sameet Durg	+1410	-3460
Timur Abdrakhmanov	+2665	+1540
Michael Khanarian	+3340	
Ram Yamarthy	+4930	+4660
Kent Quanrud	+3090	+12450
Sebastian Intveen	+56	+9200
Abhishek Mehta	-30500	+11200
Reid Petersen	+40	+50000
Austin Frenkel -	2550	+5980
Jaeyong Heo		-20300
Ravi	+2160	-7360
Victor Zhu	-5000	+2000

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7

