Liability Trading 3

Having shown exemplary performance working with Harbringer Co. last week, you've been promoted to manage your own liability book.

Fall is just around the corner and the dreary trading volumes of the summer are a thing of the past. This morning a slew of earnings reports were released and you're expecting a lot of portfolio repositioning throughout the next week which means it's going to be a busy week on your trading desk.

Your responsibility is to review block trade requests for two different stocks, Crazy Incorporated (CRZY), and Tame Dining Co. (TAME). Institutional orders will be routed directly to your desk. These orders for CRZY or TAME will be to buy shares from you at a premium to the market price, or sell shares to you at a discount to the market price. The orders will be block-sized trades, and it is completely up to you whether you accept or decline the orders.

Your risk management team has provided you with the following memo:

Effective immediately, trading limits will be applied on a portfolio basis instead of a single position basis. Traders are given a limit of 100,000 shares net, or 250,000 shares gross. Net limits are calculated by taking the sum of your positions – long and short positions will cancel each other out. Gross limits are calculated by taking the sum of the absolute value of your positions, which means short and long positions are additive. The following are a few examples:

CRZY	TAME	Net	Gross
Long 50,000	Long 25,000	75,000/100,000	75,000/250,000
Long 25,000	Short 25,000	0/100,000	50,000/250,000
Short (35,000)	Long 125,000	90,000/100,000	160,000/250,000

Throughout the trading case, you will receive 5 block trades and your objective is to accept the trades that provide an appropriate (and profitable) spread on the market price, then use market, limit, or marketable limit orders to unwind the positions. Given that you have no information pertaining to the direction of the market, you should not be speculating. The institutional orders that you receive may be profitable, but your ability to appropriately cover your positions associated with the institutional orders and manage your liquidity and market risks will determine your overall P/L.

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Your risk management team has also instructed you to avoid any strategy that may contribute to front-running, which is the unethical and illegal practice of trading a security for your own account while taking advantage of the information contained in the pending orders from your institutional clients. Your risk management team is very concerned about front-running, as they know that the wrong behaviour of one employee can potentially affect the reputation of the entire company. They sent you an email and attached a short summary of regulatory rules related to front-running defined by IIROC[1]:

> *The regulatory rule provides that no Participant shall trade in equities or derivatives to take advantage of information concerning a client order that has not been entered on a market place that reasonably can be expected to change the prices of the equities or the related options or futures contracts.*

This means that buying or selling securities with advance knowledge of an institutional order that you received is an illegal practice that is expressly forbidden.

Last, in your job description as a liability trader, it is clearly stated that you should only trade to unwind positions that you accumulated as a consequence of transactions with institutional clients. You should not trade for any other reason (e.g. market making, following the trend, etc.).

Examples

While all institutional orders will have a favourable spread associated with them, market conditions will dictate whether an order should be accepted or declined. You should review the liquidity in the market at the time of accepting the order, as well as the price spread between the current market price and agreed upon block price. If there is insufficient liquidity, or the price spread is too small, the order should be declined as you will be taking on too much risk by accepting it.

The following is an example of an order you should accept:

An institution would like to sell 50,000 shares of CRZY to you at a price of $9.90. Would you like to BUY the shares? (Accept/Decline)

Order Book:

Bid Volume	Bid Price	Ask Price	Ask Volume
8,000	9.98	10.00	5000
25,000	9.95	10.03	3000
7,000	9.90	10.07	2000
10000	9.88	10.42	18000
15000	9.84	10.45	25000

In the above situation, you can accept the order (and buy 50k @ 9.90) and, other things equal, immediately sell 40,000 shares at prices of $9.98, $9.95, and $9.90. This leaves 10,000 shares

[1] From "Universal Market Integrity Rules" from IIROC (Investment Industry Regulatory Organization of Canada): http://www.iiroc.ca/industry/rulebook/Documents/UMIR0401_en.pdf

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remaining, which you could sell at $9.88 or use limit orders to try to unwind the remaining shares at a profit. The probability of profit from working this tender offer (institutional order) is extremely high given the generous price spread offered by the institution.

In the above example, you may not want to sell 40,000 at the market, but instead, use limit orders to try to get better prices/fills. However, note the tradeoff between market risk and liquidity risk. Immediacy provided by market orders reduces your exposure to market risk, that is, it allows you to cover at least part of the block trade at a profit prior to potential market price changes that could negate the profit inherent in the price spread associated with the tender offer. On the other hand, large market orders can result in price impact in illiquid markets, that is, push the price against you and consequently negate the potential profit. Being a successful liability trader requires you work with both market orders and limit or marketable limit orders to optimally manage both liquidity and market risk.

The following is an example of an order you should decline:

An institution would like to sell 50,000 shares of CRZY to you at a price of $9.97. Would you like to BUY the shares? (Accept/Decline)

Order Book:

Bid Volume	Bid Price	Ask Price	Ask Volume
8,000	9.98	10.00	5000
25,000	9.95	10.03	3000
7,000	9.90	10.07	2000
10000	9.88	10.42	18000
15000	9.84	10.45	25000

This situation is different because the institution is now providing a much smaller liquidity spread (a price closer to the market prices). If you agree to buy the shares at $9.97, you currently have little chance that you will be able to profitably dispose of them (only 8000 shares are currently bid higher than the block price).

In this simulation, the stock price follows a random walk with a zero mean. Any forecasts of future market movements are purely speculative. Therefore, you should not guess whether the stock will go up, or go down, and use that guess as the basis for accepting the institutional orders. Rather you should base your decision on an evaluation of the liquidity risk associated with the order. You could analyze the orders in the limit order book and obtain information on whether there are currently more (fewer) buyers than sellers, which would signal more buy (sell) liquidity and potentially small price impact if large orders were to be traded in the market[2]. However, it is important to distinguish this forecast of market liquidity as being very different from forecasting the exogenous changes in market price.

[2] For example, if there are many active bidders in the order book, and few active sellers, one can consider that there are currently more buyers than sellers and once those buyers conclude their buying the price will be higher. On the surface, this is accurate, however the picture becomes very muddled when/if traders begin to "game" the information system and submit bids/offers to hide their true intentions. In real markets, algorithms are continually submitting "fake" bids and offers to prevent others from determining whether they are buying or selling shares.

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Liability Trading Simulation #3 – LT3

During the LT3 simulation, you will receive 5 institutional orders (tenders) throughout the duration of the 5 minute trading simulation. The orders will take on the following form:

"An institution would like to SELL 75,000 shares of CRZY to you at a price of $9.75. Would you like to BUY the shares from them?" (Accept/Decline)

Your responsibility is to evaluate the order, accept or decline it, and manage the risk of your trading positions appropriately. You have been given a net trading limit of 100,000 shares and a gross trading limit of 250,000 shares. There is a maximum order size of 25,000 shares for CRZY, and 10,000 shares for TAME when submitting a single order. There is a transaction fee of 2 cents per share.

Please note that you have 30 seconds to accept/decline the tender offer from the institutional client. During those 30 seconds, you should not trade the other side of the market otherwise you may be penalized. Following the example above, if you are going to buy the 75,000 shares of CRZY from the institutional client, you should start selling the shares from your account only after having accepted the order from your client. If you start selling before, you are front-running and, as discussed above, this is illegal, unethical and your instructor may decide to penalize you.

The 5 minutes of trading will simulate one week of calendar time. In this time the stocks are expected to move as much as 10-15% up or down.

Please note that we use the term "Institutional Orders" and "Tender Offers" interchangeably.

Discussion Questions and Follow Up:

(1) Should you automatically accept all institutional orders?

(2) When evaluating an institutional order, what information is important to evaluate whether or not to accept or decline the order?

(3) What information may be gleaned from the limit order book when executing your strategy? What types of strategies can be employed to exploit this information?

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