

SS18 Trading

1. A trader has been given two trades to execute with the following characteristics. What tactics do you recommend?

Trade	Size (Shares)	Average Daily Volume (ADV)	Price	Spread (%)	Urgency
A	200,000	6,000,000	10.00	0.03	High
B	150,000	200,000	10.00	0.60	High

Solutions:

Trade A: In spite of the high urgency level, this trade represents 3 percent ADV. This trade is suitable for an implementation shortfall algorithm.

Trade B: This trade represents 75 percent ADV and has high spreads. It is not suitable for an algorithmic trade and should be traded using a broker.

2. Exhibit 1. NVRO Order Book, Tuesday

Bid				Ask			
Dealer	Time	Price	Size	Dealer	Time	Price	Size
C	11:49am	17.02	300	C	11:49am	17.05	3200
A	11:37am	17.00	1000	B	11:45am	17.09	2500
B	11:35am	16.95	5400	D	11:43am	17.15	4500
D	11:33am	16.90	9000	A	11:37am	17.20	500

Based on Exhibit 1, if the DAM trader places a market order to buy 5,700 shares of NVRO at 11:50am, and the order is filled at an average price of \$17.07, he will have paid an effective spread closest to:

- A. \$0.02.
B. \$0.03.
C. \$0.07.

Solutions: C

The effective spread is two times the deviation of the actual execution price from the midpoint of the market quote at the time of the order.

$$2 \left(17.07 - \frac{17.05 + 17.02}{2} \right)$$

3. The desk placed a limit order to buy 10,000 shares at \$17.05 or better. After buying 3,200 shares at \$17.05, the market traded up and closes at \$17.20. No further shares were bought that day. DAM paid \$64 in commissions, and the VWAP for the day's trading was 17.00.

The next day, Wednesday, the desk buys another 3,000 shares at \$17.25. The market closes at \$17.50 and no further action is taken. The desk pays \$0.02 per share in commissions for these trades.

At the end of Wednesday, DAM's implementation shortfall on the NVRO trade is *closest* to:

- A. \$1,084.
- B. \$2,434.
- C. \$4,376.

Solutions: B

B is correct. At the end of the second day, DAM wanted to own 10,000 shares of NVRO at \$17.05. Their gross paper profit/loss is thus

$$10,000 \times (\$17.50 - \$17.05) = \$4,500$$

Their actual position was long 3,200 shares at \$17.05 and 3,000 shares at \$17.25, and they paid $\$0.02 \times 6,200 \text{ shares} = \124 in commissions. Thus their actual profit/loss was

$$3,200 \times (\$17.50 - \$17.05) + 3,000 \times (\$17.50 - \$17.25) - \$124 = \$2,066$$

The implementation shortfall is just the difference between these, $\$4,500 - \$2,066 = \$2,434$.