

Bid-Ask Spread Example 1

Question 1: On the right is a screenshot which shows the market depth for ANZ bank shares.

Question 1a: What is the bid-ask spread on these shares?

Answer: bid-ask spread = ask - bid

$$= 33.91 - 33.9$$

$$= \$0.01$$

ANZ BANK FPO [ANZ] (ASX:ANZ)					
Price		Today's Change			
\$33.905		-\$0.435	-1.27 %		
Bid \$33.900		Offer \$33.910			
Hide Market Depth					
at 05/05/2014 01:14:46 PM					
Buyers			Sellers		
No	Qty	Price	Price	Qty	No
	000's	(\$)	(\$)	000's	
9	7	33.900	33.910	9	28
18	6	33.890	33.920	6	24
17	13	33.880	33.930	7	16
11	9	33.870	33.940	11	7
8	31	33.860	33.950	4	6

Question 1b: What is your best estimate of the 'true price' of these shares?

Answer: midpoint = (ask + bid)/2
 = (33.91 + 33.9)/2 = 33.905

Question 1c: What is the best price that you could **buy** one share when placing a **market** order?

Answer: We execute our market buy order against the limit sell orders shown in the limit order book. The lowest price that we can buy from these sellers is at **\$33.91**, which is the best 'ask' or 'offer'.

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Question 1d: How much money could you sell 10,000 shares for, using a market order? (Note that in this question you are selling, in the previous question, you are buying).

Answer: We can only sell to the buyers, and they are prepared to sell 7,000 shares at \$33.9, and then we'll have to sell the remaining 3,000 shares at the slightly worse price of \$33.89. So altogether that's:

$$\begin{aligned} \text{Sales} &= 7,000 * 33.9 + 3,000 * 33.89 \\ &= \$338,970 \end{aligned}$$

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Question 1e: What is the implicit cost of selling these 10,000 shares, given your 'true price' answered above?

Answer: The actual sale price less the 'true' midpoint price summed across all stocks will give the total implicit cost.

$$\begin{aligned} \text{ImplicitCost} &= 7,000 * (33.9 - 33.905) + \\ &\quad 3,000 * (33.89 - 33.905) \\ &= 80 \end{aligned}$$

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Bid-Ask Spread Example 2

Question 2: On the right is a screenshot from a brokerage which shows the market depth for Heritage Bank Notes (ticker: HBSHA).

Question 2a: What is the bid-ask spread on these notes?

Answer: \$0.05

Question 2b: What is your best estimate of the 'true price' of these notes?

Answer: \$108.575

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HBSHA **QUOTE**

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HERIT BANK 10MTH19
[HBSHA] (ASX:HBSHA)

Price	Today's Change	
\$108.600	\$.100	.09 %
Bid \$108.550	Offer \$108.600	

[Hide Market Depth](#)

at 10/10/2012 05:34:57 PM

Buyers			Sellers		
No	Qty	Price	Price	Qty	No
	000's	(\$)	(\$)	000's	
1	0.15	108.550	108.600	0.094	1
1	0.2	108.510	109.000	0.2	1
3	0.434	108.500	109.200	0.374	1
1	0.225	107.800	110.499	0.415	1
1	0.05	107.750	110.500	1	1

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Question 2c: What is the best price that you could buy one Heritage Note when placing a market order?

Answer: \$108.6

Question 2d: How much would it cost to buy 200 notes using a market buy order, excluding explicit transaction costs?

Answer: Expense = $94 * 108.6 + 106 * 109$
 $= \$21,762.4$

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HBSHA

Quick Quote

HERIT BANK 10MTH19
[HBSHA] (ASX:HBSHA)

Price	Today's Change	
\$108.600	\$.100	.09 %
Bid \$108.550	Offer \$108.600	

[Hide Market Depth](#)

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