

UNIVERSITY OF TEXAS AT AUSTIN

## Lecture 2

**Transaction costs.**

*Transaction costs.* It is customary for the facilitators of operations in financial markets to create revenue via *transaction costs* applied to different trades made by investors.

The *market makers'* role is to provide financial instruments and assets to be sold to investors and also to accept sales from the investors. Their source of revenue is the difference between the price at which they are willing to buy an asset, i.e., the *bid price*, and the price for which they are willing to sell an asset, i.e., the *ask price*. Note that the terms “bid” and “ask” are used from the perspective of the market maker. Of course, to make the whole scheme make sense, the bid price is smaller than or equal to the ask price.

The *brokers* work for investors to implement the trades. Typically they charge a type of commission. We will only consider commissions charged per trade. Such commissions may be proportional (a percentage of the monetary amount exchanged in the transaction) or fixed.

**Example 2.1.** *Source: Problem 1.3.c. from McDonald.*

ABC stock has a bid price of \$40.95 and an ask price of \$41.05. Assume there is a \$20 brokerage commission. Suppose that you buy 100 shares, then immediately sell the 100 shares with the bid and ask prices being as above. What is your round-trip transaction cost?

Remember that the terminology bid and ask is formulated from the market makers perspective. Therefore, the price at which you can buy is called the ask price. Furthermore, you will have to pay the commission to your broker for the transaction. You pay:

$$(\$41.05 \times 100) + \$20 = \$4,125.00$$

Similarly, you can sell at the market maker's bid price. You will again have to pay a commission, and your broker will deduct the commission from the sales price of the shares. You receive:

$$(\$40.95 \times 100) - \$20 = \$4,075.00$$

Your round-trip transaction costs amount to:

$$\$4,125.00 - \$4,075.00 = \$50$$

**Problem 2.1.** The bid-ask spread on a share of stock is \$100-\$102. A 5% commission is paid for either buying or selling. Calculate the round-trip transaction cost.

- (a) \$14.10
- (b) \$12.10
- (c) \$6.10
- (d) \$4.10
- (e) None of the above.