

Chapter 1

Corporate Finance and the Financial Manager

Note: All problems in this chapter are available in MyLabFinance. An asterisk (*) indicates problems with a higher level of difficulty.

1. A corporation is a legal entity separate from its owners. This means ownership shares in the corporation can be freely traded. None of the other organizational forms share this characteristic.
2. Owners' liability is limited to the amount they invested in the firm. Stockholders are not responsible for any encumbrances of the firm; in particular, they cannot be required to pay back any debts incurred by the firm.
3. Corporations and limited liability companies. Limited partnerships provide limited liability for the limited partners, but not for the general partners.
4. Advantages: Limited liability, liquidity, infinite life
Disadvantages: Double taxation, separation of ownership and control
5. Real estate corporations must pay corporate income taxes but REITs do not pay corporate tax; instead, they must pass through substantially all of the income to the trust unit holders to whom the income is taxable.

6. **Plan:** First find the value remaining after corporate taxes. Then determine the remainder after personal taxes.



Execute: First the corporation pays the taxes. After taxes, $\$2 \times (1-0.34) = \1.32 per share is left to pay dividends. Once the dividend is paid, personal tax on this must be paid leaving $\$1.32 \times (1-0.18) = \1.0824 per share.

Evaluate: After all the taxes are paid, you are left with \$1.0824 per share.

7. **Plan:** First find the value remaining after corporate taxes. Then determine the remainder after personal taxes.



Execute: As a REIT, there is no corporate tax so the full \$2 per share can be paid out to you as a unit holder. You must then pay personal income tax on the distribution. So you are left with $\$2 \times (1-0.4) = \1.20 per share.

Evaluate: After all the taxes are paid, you are left with \$1.20 per share.

8. The investment decision is the most important decision that a financial manager makes, as the manager must decide how to put the owners' money to its best use.

9. The goal of maximizing shareholder wealth is agreed upon by all shareholders because all shareholders are better off when this goal is achieved.
10. Shareholders can do the following:
- a. Ensure that employees are paid with company stock and/or stock options.
 - b. Ensure that underperforming managers are fired.
 - c. Write contracts that ensure that the interests of the managers and shareholders are closely aligned.
 - d. Mount hostile takeovers.
11. When your parents pay for the meal, you benefit from the food but do not take on the cost of the food. This is similar to the agency problem in corporations, when managers can benefit from taking actions in their own personal interests using money that belongs to shareholders.
12. The agent (renter) will not take the same care of the apartment as the principal (owner), because the renter does not share in the costs of fixing damage to the apartment. To mitigate this problem, having the renter pay a deposit would motivate the renter to keep damages to a minimum. The deposit forces the renter to share in the costs of fixing any problems that are caused by the renter.
13. There is an ethical dilemma when the CEO of a firm has opposite incentives to those of the shareholders. In this case, you (as the CEO) have an incentive to potentially overpay for another company (which would be damaging to your shareholders) because your pay and prestige will improve.
- *14. **Plan:** For each of (a) to (d) you must determine if your personal change in monetary wealth more than offsets the value to you of losing your leisure time (valued at \$51,000). If it does, then you would decide to proceed with the new project.

Execute:

- (a) If you owned 100% of the company and the project were accepted, your personal shares of stock would increase in value by 100% of \$1 million = \$1 million. This would more than offset your personal cost of lost leisure; therefore, your decision would be to proceed with the project.
- (b) If you owned 1% of the company and the project were accepted, your personal shares of stock would increase in value by 1% of \$1 million = \$10,000. This would not be enough to offset your personal cost of lost leisure; therefore your decision would be to reject the project.
- (c) If you owned 3% of the company and the project were accepted, your personal shares of stock would increase in value by 3% of \$1 million = \$30,000. In addition, you would receive a bonus of \$25,000, so in total your monetary wealth would increase by \$55,000. This more than offsets your personal cost of lost leisure; therefore, your decision would be to proceed with the project.

- (d) If you accept the project your monetary wealth would increase by $\$25,000 + 3\%$ of $\$X$. For you to decide to accept the project, this must be greater than $\$51,000$ (the value of your lost leisure). Solving for X we get the following:

$$\$25,000 + 0.03X > \$51,000$$

$$0.03X > \$26,000$$

$$X > \$866,666.67$$

Evaluate:

- (e) In part (a) you (as the CEO) are perfectly aligned with the owners of the company as you actually own the whole company. Thus, you receive the full benefit of the $\$1$ million increase in equity value and this offsets the value to you of the lost leisure. In part (b), your incentives are not aligned with shareholders because the project should be accepted to maximize shareholder wealth, but you reject it because the increase in your monetary wealth does not offset the cost of your extra effort and lost leisure time. Here, the principal-agent problem results in a decision that is costly to shareholders as a whole. In part (c), your incentives are aligned with shareholders as you receive enough of a monetary benefit to offset your cost of lost leisure. In part (d), though, we can see that the bonus scheme does not always solve the principal-agent problem. Your incentives are aligned with all shareholders when the project increases the equity value by an amount greater than $\$866,666.67$. However, if the increase in equity value is lower, you would decide to reject the project even though accepting it would maximize shareholder wealth.
15. This will impact and hurt the customers. It will be a negative impact for the customers as they will likely get sour milk. It will also be a negative impact for shareholders because, in the long run, customers will realize that the supermarket sells sour milk and they will switch supermarkets. Thus, the value today of the future income and cash flow streams generated by the supermarket will drop because of the long-term loss of customers caused by this strategy. This will negatively impact the current stock price as stockholders anticipate these long-term negative effects.
- *16. There are many considerations for you as CEO. One is the cost-benefit analysis of constructing the SD project and reaping the savings in disposal costs – that should show whether the SD project increases shareholder value. In addition, if your bonus is tied to earnings, you may be tempted to accept the project because of your higher bonuses for each of the next 10 years. There are other considerations, though. For example, is the SD method legal? If not, then the company could face substantial fines and reputational damage by using SD. Also, SD may leak into the ground water – that could further damage SPB's reputation, cause major lawsuits and environmental clean-up charges. These costs would affect the cost-benefit analysis for sure. For your personal situation, will you be retiring soon and just care about the next bonus or do you plan on working for this company long term? Will you hold this company's stock long term or do you plan to sell it quickly before a catastrophe from the project might occur? This situation ties into the principal-agent problem in that as CEO you may accept SD due to your higher bonus and potentially even a higher short-term stock price, but the ultimate effect on SPB's true shareholder value may drop if the project is made public, a catastrophe happens, or other negative factors outlined above are factored in.

17. The shares of a public corporation are traded on an exchange (or "over the counter" in an electronic trading system) while the shares of a private corporation are not traded on a public exchange.
18. A primary market is where the company sells shares of itself to investors. The secondary market is where investors can buy and/or sell the company's shares with other investors (but not the company itself).
19. Investors always buy at the ask and sell at the bid. Since ask prices always exceed bid prices, investors "lose" this difference. It is one of the costs of transacting. Since the market makers take the other side of the trade, they make up this difference.
20. **Plan:** For market orders, use the ask price as what you pay when buying a stock and use the bid price as what you receive when you sell a stock.

Execute:

- a. With a market order to buy, you pay the quoted ask on Sept. 14 at times the number of shares purchased: $\$14.60 \text{ per share} \times 500 \text{ shares} = \7300 . You then sell using a market order, so you receive the quoted bid on Sept. 15 at times the number of shares sold: $\$15.04 \text{ per share} \times 500 \text{ shares} = \7520 . Your gain is $\$7520 - \$7300 = \$220$.
- b. Using the limit order prices, you pay $\$14.58 \text{ per share} \times 500 \text{ shares} = \7290 when purchasing the shares and you receive $\$15.08 \text{ per share} \times 500 \text{ shares} = \7540 when selling the shares. Your gain is $\$7540 - \$7290 = \$250$.

Evaluate:

- c. The trade-offs between using market versus limit orders are as follows:
- Market orders are executed instantaneously, it may take some time before a counterparty accepts your limit order, or it may be the case that your limit order is never executed.
 - Using market orders, you buy at the ask and sell at the bid, so the bid-ask spread is an implied transaction cost. Using limit orders you can buy closer to the bid and sell closer to the ask; thus, you can avoid much or all of the bid-ask spread as a transaction cost.
21. **Plan:** For market orders, use the ask price as what you pay when buying a stock and use the bid price as what you receive when you sell a stock.

Execute:

- a. With a market order to buy, you pay the Sept 16 quoted ask times the number of shares purchased: $\$15.14 \text{ per share} \times 1000 \text{ shares} = \$15,140$. You then sell using a market order, so on Sept. 17 you receive the quoted bid times the number of shares sold: $\$15.12 \text{ per share} \times 1000 \text{ shares} = \$15,120$. Your gain is $\$15,120 - \$15,140 = -\$20$, or, put another way, you have loss of \$20. Notice, that even though the stock price went up, you lost money because of the high bid-ask spread.
- b. Using the limit order prices, you pay $\$15.08 \text{ per share} \times 1000 \text{ shares} = \$15,080$ when purchasing the shares and you receive $\$15.18 \text{ per share} \times 1000 \text{ shares} = \$15,180$ when selling the shares. Your gain is $\$15,180 - \$15,080 = \$100$.

Evaluate:

- c. The trade-offs between using market versus limit orders are as follows:
 - i. Market orders are executed instantaneously; it may take some time before a counterparty accepts your limit order or it may be the case that your limit order is never executed.
 - ii. Using market orders, you buy at the ask and sell at the bid, so the bid-ask spread is an implied transaction cost. Using limit orders you can buy closer to the bid and sell closer to the ask, thus, avoiding much or all of the bid-ask spread as a transaction cost. Note, in this example with the market orders you lost money even though the stock price rose – this is due to the high bid-ask spread. By using the limit orders, you avoid the bid-ask spread and are able to have a gain of \$100 due to the stock price rising.