1). Which of the following is NOT considered one of the basic questions of corporate finance?

(a) What long-term investments should the firm choose?
(b) At what rate of interest should a firm borrow?
(c) Where will the firm get the long-term financing to pay for its investments?
(d) What mixture of debt and equity should the firm use to fund its operations?
(e) How should the firm manage its working capital, i.e., its everyday financial activities?

What Is Corporate Finance?

- Corporate Finance addresses the following three questions:
  - 1. What long-term investments should the firm engage in?
    - The capital budgeting decision: the process of planning and managing a firm's investment in long-term assets.
    - E.g. product or service, equipment replacement.
  - 2. How can the firm raise the money for the required investments or assets?
    - The capital structure decision: the mixture of debt and equity.
  - 3. How much short-term cash flow does a company need to finance its daily operations?
    - The working capital decision: planning and managing the firm's current assets and liabilities.
    - E.g. sell on credit? how much inventory should we carry?

2). A financial manager is responsible for deciding whether or not new manufacturing equipment should be purchased to replace existing equipment. The new equipment would reduce labour expenses and would allow the firm to reduce its investment in inventory. Which of the financial management areas would be involved in the decision process?

I. Capital budgeting.
II. Capital structure management.
III. Working capital management.

(a) I only.
(b) I and II only.
(c) II and III only.
(d) I and III only.
(e) I, II, and III.

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    - E.g. sell on credit? how much inventory should we carry?

3). Which of the following is the BEST description of the goal of the financial manager in a corporation where shares are publicly traded?

(a) Maximize sales.
(b) Maximize profits.
(c) Avoid financial distress.
(d) Maintain steady earnings growth.
(e) Maximize the current value per share of the existing stock.

What Is Corporate Finance?

- Objective of financial management: Maximize firm value, shareholder wealth, or the stock price ?
- In traditional corporate finance, the objective in decision making is to maximize the value of the firm. But firm value itself is a difficult number to estimate.
- A narrower objective of managers is to maximize stockholder wealth.(Implicit assumption: Bondholders/Banks can protect themselves by writing in covenants and setting interest rates).
- When the stock is traded and markets are rational and viewed to be efficient, the objective is to maximize the stock price.

4). Which of the following is/are correct regarding agency costs?

I. Indirect costs occur when managers, acting to minimize the risk of the firm, forego investments shareholders would prefer they take.
II. Direct costs occur when shareholders must incur costs to monitor the manager's actions.
III. Direct costs occur when managers buy assets considered unnecessary by the firm's owners.

(a) I only.
(b) I and II only.
(c) II only.
(d) II and III only.
(e) I, II, and III.

The Agency Problem

- Information Asymmetry
  - One party (managers/CEO) in a relationship has more or superior information compared to another shareholders)

- Agency costs
  - Direct agency costs
    - the purchase of something for management that can't be justified from a risk-return standpoint, monitoring costs. (personal gains)
  - Indirect agency costs
    - management's tendency to forgo risky or expensive projects that could be justified from a risk-return standpoint. (career concerns)

5). A corporation:

I. Is subject to double taxation.
II. Can be sued.
III. Can have an unlimited life.
IV. Can be a general partner in a partnership.

(a) I and III only.
(b) II and III only.
(c) II, III, and IV only.
(d) I, II, and III only.
(e) I, II, III, and IV.

A limited partnership is similar to a general partnership except that it has two classes of partners. The general partner(s) have full management and control of the partnership business but also accept full personal responsibility for partnership liabilities. Limited partners have no personal liability beyond their investment in the partnership interest. Limited partners cannot participate in the general management and daily operations of the partnership business without being considered general partners in the eyes of the law.

The general partner can be either an individual or a corporation. One of the more common limited partnership situations involves a silent partner, where one or more limited partners provide financing for the venture and the general partners run the business. A limited partnership in this case protects the assets of silent partners by limiting their exposure and liability and acts as a conduit to pass current operating profits or losses on to them.

The Three Types of Firms in Canada

	Advantages	Disadvantages

Corporation
 	
(A business created as a distinct legal entity owned by one or more individuals or entities)
	• Limited liability
	• Unlimited life
	• Transfer of ownership is easy
	• Easier to raise capital
	• Separation of ownership and management
	  • Benefit from ownership in several different businesses (diversification)
	  • The expertise of others (comparative advantage)
	  • Easier to transfer ownership
		• Double taxation (income is taxed at the corporate rate and then dividends are taxed at the personal rate)
		• Separation of ownership and management
		  • Agency problems if management goals and owner goals are not aligned.
		  • More expensive form of organization to establish and maintain (corporate taxes have to be filed every year).
		  • Lenders sometimes require the owners of small corporations to make personal guarantees on any credit/loans extended to the corporation, thereby eliminating the limited liability benefit.

15/24

Structure

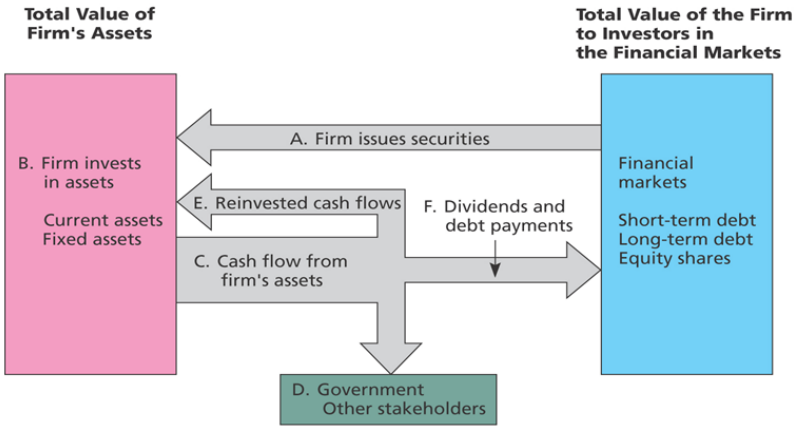
Corporations and partnerships differ in their structures, with corporations being more complex and including more people in the decision-making process. A corporation is an independent legal entity owned by shareholders, in which the shareholders decide on how the company is run and who manages it. A partnership is a business in which two or more individuals share ownership. In general partnerships, all management duties, expenses, liability and profits are shared between two or more owners. In limited partnerships, general partners share ownership responsibilities and limited partners serve only as investors.

6). Which of the following represent cash outflows from a firm?

I. Issuance of securities.
II. Payment of dividends.
III. New loan proceeds.
IV. Payment of government taxes.

(a) I and III only.
(b) II and IV only.
(c) I and IV only.
(d) I, II, and IV only.
(e) II, III, and IV only.

Cash Flows to and from the Firm



A. Firm issues securities to raise cash.
B. Firm invests in assets.
C. Firm's operations generate cash flow.
D. Cash is paid to government as taxes. Other stakeholders may receive cash.
E. Reinvested cash flows are plowed back into firm.
F. Cash is paid out to investors in the form of interest and dividends.

A. Cash comes into the firm from the sale of debt and equity.
B. The money is used to purchase assets.
C. Those assets generate cash flows.
D. Cash is used to pay stakeholders.
E. Reinvest in additional assets.
F. Repay debtholders and pay dividends to stockholders (residual).

7). You've just joined the investment banking firm of Dewey, Cheatum, and Howe. They've offered you two different salary arrangements. You can have $80,000 per year for the next two years, or you can have $60,000 per year for the next two years, along with a $35,000 signing bonus today. The bonus is paid immediately, and the salary is paid at the end of each year. If the interest rate is 10% compounded monthly, which do you prefer?

(a) $80,000 per year for the next two years.
(b) $60,000 per year for the next two years along with $35,000 signing bonus today.
(c) You are indifferent between these two choices.
(d) You have insufficient information to judge.
(e) Procrastination is often a wise policy.

Multiple Cash Flows - PV Example 1 continued

- Find the PV of each cash flow and add them
  - Formula Approach
    - Year 1 CF: $200 / (1.12)^1 = 178.57$
    - Year 2 CF: $400 / (1.12)^2 = 318.88$
    - Year 3 CF: $600 / (1.12)^3 = 427.07$
    - Year 4 CF: $800 / (1.12)^4 = 508.41$
    - Total PV = 178.57 + 318.88 + 427.07 + 508.41 = 1432.93

Question 2 (3 Marks)

Suppose you plan to deposit $100 into an account in one year and $300 into the account in three years. How much will be in the account in five years if the interest rate is 8%?

$$V_5 = 100(1+0.08)^{5-1} + 300(1+0.08)^{5-3} = 136.05 + 349.92 = \$485.97$$

Multiple Cash Flows - FV Example 3

- Suppose you plan to deposit $100 into an account in one year and $300 into the account in three years. How much will be in the account in **five** years if the interest rate is 8%?
  - Formula Approach
    - FV = $100(1+0.08)^{5-1} + 300(1+0.08)^{5-3}$ = 136.05 + 349.92 = 485.97
  - Calculator Approach
    - Year 1 CF: 4 N; -100 PV; 8 I/Y; CPT FV = 136.05
    - Year 3 CF: 2 N; -300 PV; 8 I/Y; CPT FV = 349.92
    - Total FV = 136.05 + 349.92 = 485.97

Question 3 (3 Marks)

Suppose you want to buy some new furniture for your family room. You currently have $500 and the furniture you want costs $600. If you can earn 6% per year, how long will you have to wait if you don't add any additional money?

$$\$600 = \$500(1 + 0.06)^t$$

$$t = \frac{\ln(600/500)}{\ln(1 + 0.06)} = 3.13\ years$$

Quick Quiz – Part IV

- Suppose you want to buy some new furniture for your family room. You currently have $500 (PV) and the furniture you want costs $600 (FV). If you can earn 6%, **how long** will you have to wait if you don't add any additional money?
- Formula: t = ln(600/500) / ln(1+0.06) = 3.13 years
- Calculator: PV = -500; FV = 600; I/Y = 6; CPT N = 3.13 years

Question 4 (3 Marks)

You are considering an investment that compounds monthly. What quoted (annual) rate must this investment offer for you to earn an EAR of 10%?

$$APR\ compounded\ monthly = 12\left[(1+0.1)^{1/12} - 1\right] = 9.57\%$$

APR - Example 1

- Suppose you want to earn an effective rate of 12% and you are looking at an account that compounds on a monthly basis. What APR must they pay?

$$APR = 12\left[(1+.12)^{1/12} - 1\right] = .1138655152$$

$$\text{or } 11.39\%$$

Question 5 (3 Marks)

What would your payment be on a 10-year, $150,000 loan at 10% interest compounded semiannually assuming the payments are made annually?

$$EAR = \left(1 + \frac{0.1}{2}\right)^2 - 1 = 10.25\%$$

$$PMT = \frac{150{,}000}{PVIFA(EAR; 10)} = \$24{,}675$$

Mortgages - Example 1

- Theodore D. Kat is applying to his friendly, neighborhood bank for a mortgage of $200,000. The bank is quoting 6% (**APR with semi-annual compounding**). He would like to have a 25-year **amortization period** and wants to make **payments monthly**. What will Theodore's payments be?

- First, calculate the EAR $EAR = \left[1 + \frac{0.06}{2}\right]^2 - 1 = 6.09\%$

- Second, calculate the effective monthly rate (**make payments monthly**)

$$\text{Effective Monthly Rate} = \left[1 + 0.0609\right]^{1/12} - 1 = 0.4939\%$$

- Then, calculate the monthly payment

$$200{,}000 = \frac{C}{0.004939}\left[1 - \frac{1}{1.004939^{300}}\right]$$
$$C = 1{,}279.61$$

- OR, 300 N, 0.4939 I/Y, 200,000 PV, CPT PMT

Question 6 (1 Mark)

Gilles Lebouder has just been offered a job at $50,000 a year. He anticipates his salary will increase by 5% a year until his retirement in 40 years. Given an interest rate of 8%, what is the present value of his lifetime salary?

$$\text{PV} = \frac{C_1}{r-g}\left[1-\left(\frac{1+g}{1+r}\right)^T\right] = \frac{\$50{,}000}{0.08-0.05}\left[1-\left(\frac{1+0.05}{1+0.08}\right)^{40}\right] = \$1{,}126{,}571$$

Growing Annuity - Example 1

- Gilles Lebouder has just been offered a job at $50,000 a year. He anticipates his salary will increase by 5% a year until his retirement in 40 years. Given an interest rate of 8%, what is the present value of his lifetime salary?

- Growing annuities have a **finite number** of growing cash flows
- Growing annuity formula: $PV = \frac{C_1}{r-g}\left[1-\left(\frac{1+g}{1+r}\right)^T\right]$

$$PV = \frac{\$50{,}000}{0.08-0.05}\left[1-\left(\frac{1.05}{1.08}\right)^{40}\right] = \$1{,}126{,}571$$