

# The Role of Managerial Finance

## 1.1 Finance and the Firm

### A. What is finance?

Fundamental Question:

Importance:

=>

=> must figure out value to know which is true

=> difficult because value today depends on what happens in the future

=> math fairly straight-forward once you have forecasts

Law of one price:

Equivalent assets:

Reason:

Implications:

=> much of the valuation in finance is relative

=> the value of one item should be the same (or very close) to something with a known value that is identical (or nearly identical).

Key issue that takes skill to figure out =>

=> best tool for valuing a project's cash flows => law of one price and value of comparable assets

B. What is a firm?

Firm =

=>

Project =

To get value:

=> in finance all costs and benefits of anything need to be expressed as equivalent cash today to determine the value

=> a project doesn't have to be a physical object

C. What is the goal of the firm?

=> a firm's owners and managers are often different people

=>

Standard view in finance: goal of manager =>

1.2 Managing the Firm

A. Key Financial Decisions

1. Investments:

2. Financing:

3. Net working capital:

B. Principles

1. Time Value of Money =>

=> discussed in chapter 5 in FIN 5360

2. Tradeoff between risk and return =>

=> to accept more risk, must earn a higher return and to earn a higher return, must accept more risk.

=> discussed in chapter 8 in FIN 5360

3. Cash is king =>

Note: income from operations is not the same as cash flow from operations (See in Ch. 3)

4. Competition for funding in the financial markets =>

5. Incentives matter =>

### 1.3 Organizational Forms

Comment: I think it is useful to think in terms of the tradeoffs in advantages and disadvantages of each type of firm

=> See Table 1.1 in the text for a list of advantages and disadvantages (strengths and weaknesses) of organizational forms.

Main Issues:

#### A. Sole Proprietorships

=> business owned and run by one person

##### 1. Advantages

1)

2)

3)

4)

##### 2. Disadvantages

1)

2)

3)

## B. Partnerships

=> like sole proprietorship except that more than one owner

### 1. Advantages

1)

2)

### 2. Disadvantages

1)

Note: in limited partnership, limited partners have limited liability while general partners retain unlimited liability

2)

Note: does not end on death or withdrawal of limited partner

## C. Corporation

=> a legal person separate from its owners

### 1. Advantages

1)

2)

3)

4)

### 2. Disadvantages

1)

Note: "S" Corporations pass earnings on to owners without being taxed at corporate level (only at personal level of owners). Strict limitations on qualifications for S tax treatment (see text).

2)

3)

## D. Business Organizational Form and Taxes.

Key idea: Income for a sole proprietorship is taxed as income for the owner at the individual tax rates shown in Table 1.2, but is not taxed at company level. Income for corporations is taxed at the company level (currently at a 21% rate) and then at the individual level if income paid out as dividends. Dividend income is generally taxed at 15% for the individual. For corporations, any interest expense is deducted from taxable income.

**TABLE 1.2** 2020 Federal Tax Rates for Individual and Joint Taxpayers

Income Tax Rate	Income brackets	
	Individual Taxpayers	Joint Taxpayers
10%	\$0 to \$9,875	\$0 to \$19,750
12%	\$9,876 to \$40,125	\$19,751 to \$80,250
22%	\$40,126 to \$85,525	\$80,251 to \$171,050
24%	\$85,526 to \$163,300	\$171,051 to \$326,600
32%	\$163,301 to \$207,350	\$326,601 to \$414,700
35%	\$207,351 to \$518,400	\$414,701 to \$622,050
37%	\$518,401 to Unlimited	\$622,051 to Unlimited
Capital Gain Tax Rate	Individual Taxpayers	Joint Taxpayers
0%	\$0 to \$40,000	\$0 to \$80,000
15%	\$40,001 to \$441,450	\$80,001 to \$496,600
20%	\$441,451 to Unlimited	\$496,601 to Unlimited
Net Investment Income Tax Rate	Individual Taxpayers	Joint Taxpayers
3.8%	Above \$200,000	Above \$250,000

Ex. Calculate 1) the taxes paid by a business for income of \$10,000, \$100,000, and \$1,000,000 if business is sole proprietorship and corporation. Also 2) calculate the average tax rates and 3) the amount left of the business income after taxes if a sole proprietorship and corporation if individuals pay a 15% tax on investment income.

1) business tax

Taxes for various income levels:			Ave Tax Rate:	
Income	Sole Prop	Corp	Sole Prop	Corp
10,000	1,002.5	2,100	0.100	0.21
100,000	18,079.5	21,000	0.181	0.21
1,000,000	334,427.0	210,000	0.334	0.21

## 2) Average Tax Rates

Note: Calculations shown for 100,000 income (see p. 7-8 for rest):

Sole Proprietorship:

Total Tax: 18,079.5 =

Average Tax rate =  $.18 = 18,080/100,000$

Corp:

Total Tax: 21,000 =

Average Tax rate =  $21,000/100,000 = .21$

## 3) left after all taxes:

Left After Corp & Personal Taxes:		
Income	Sole Prop	Corp*
10,000	8,997.5	6,715.00
100,000	81,920.5	67,150.00
1,000,000	665,573.0	671,500.00
* Assume 15% investment income tax		

Note: Calculations shown for 100,000 income (see p. 7-8 for rest):

Sole Proprietorship:  $81,920.5 = 100,000 - 18,079.5$

Corp:

Left after corp taxes =  $79,000 =$

Left after corp and personal taxes:  $67,150 =$

## E. Agency Problems and Agency Costs

Basic idea:

=>

Examples of agency problems:

Internal Corporate Governance:

=>

External Corporate Governance:

Tax Appendix: Calculations for income of 10,000 and 1,000,000

Income of 10,000:

1) Average Tax Rates

Sole Proprietorship:

$$\text{Total Tax: } 1002.5 = .1 \times 9875 + .12 \times (10,000 - 9875)$$

$$\text{Average Tax rate} = .10 = 1002.5/10,000$$

Corp:

$$\text{Total Tax: } 2,100 = .21 \times 10,000$$

$$\text{Average Tax rate} = 2100/10,000 = .21$$

2) left after all taxes:

Sole Proprietorship:

$$8997.5 = 10,000 - 1002.5$$

Corp:

$$\text{Left after corp taxes} = 7900 = 10,000 - 2100$$

Left after corp and personal taxes (assume person taxes paid at dividend rate of 15%):

$$6715 = 7900 - .15 \times (7900)$$

Income of 1,000,000:

1) Average Tax Rates

Sole Proprietorship:

$$\begin{aligned} \text{Total Tax: } 334,427 &= .1 \times 9875 + .12 \times (41,125 - 9875) + .22 \times (85,525 - 9875) + .24 \\ &\quad * (163,300 - 85,525) + .32 * (207,350 - 163,300) + .35 * (518,400 - 207,350) + \\ &\quad .37 * (1,000,000 - 518,400) \\ \text{Average Tax rate} &= .33 = 334,427/1,000,000 \end{aligned}$$

Corp:

$$\begin{aligned} \text{Total Tax: } 210,000 &= .21 \times 1,000,000 \\ \text{Average Tax rate} &= 210,000/1,000,000 = .21 \end{aligned}$$

2) left after all taxes:

Sole Proprietorship:

$$665,573 = 1,000,000 - 334,427$$

Corp:

$$\begin{aligned} \text{Left after corp taxes} &= 790,000 = 1,000,000 - 210,000 \\ \text{Left after corp and personal taxes (assume person taxes paid at dividend rate} \\ &\quad \text{of 15%):} \\ 671,500 &= 790,000 - .15 \times 790,000 \end{aligned}$$