Chapter 1 Introduction to Financial Management and Markets

The objectives of this chapter are to introduce you to:

- *The roles of the corporation and financial managers*
- *Financial securities and markets*
- *The importance of financial mathematics and models*
- *The structure and organization of the text*

1.A: CORPORATE GOVERNANCE AND FINANCIAL OBJECTIVES

Business organizations provide goods and services in free market economies, intending to generate profits from their business activities. The most common forms of business organizations in the United States are *proprietorships*, *partnerships* and *corporations*. A proprietorship is owned by a single individual who retains all of its profits and is responsible for all of its obligations. A partnership is jointly owned by more than one entity who shares in its profits and obligations. They are typically treated by governments as entities separate from their owners and other affiliates; they can enter into contracts, borrow, lend, own property, pay income taxes and exercise other rights just like individuals do. Corporate organizations, also known as limited liability companies, public limited companies and joint stock companies trade all over the world.

A precise definition for the corporation or business firm is not as simple as it seems. Widely varying definitions exist serving many purposes. We might loosely define the business firm to be a contractual structure within which various entities function for the purpose of creating wealth. Unfortunately, this definition is somewhat vague and is not entirely consistent with definitions offered in other academic disciplines (or even by other academics and practitioners within the finance discipline). Nonetheless, this definition does capture the most important elements of what we normally think of as relating to the business firm. The business does function to create wealth and does involve contractual agreements between various parties. The central contractual arrangements are the *corporate charter* (*articles of incorporation*) and the *corporate bylaws*. The corporate charter is normally filed with a state government and will contain basic information such as the corporation's founders, its name, business purposes, etc. The corporate bylaws regulate corporate governance, including specifying details concerning the company's *Board of Directors*, the corporation's chief governing body overseeing its management. In any case, as will demonstrate later, our definition is quite general and useful for purposes of a variety of types of financial analysis.

It is easy to assume that the objective of the corporation is to maximize its profits. However, determining the objectives of the firm is rather difficult because the typical firm will have many types of participants (stakeholders) with varying concerns.[1] Among these potential

[1] A stakeholder is anyone who has an interest in or a claim on the firm.

stakeholders are shareholders, creditors, managers, employees, customers, suppliers, governments and a variety of special interest groups. The objectives of these different types of participants will almost certainly be in conflict. We could assume that the primary objective of the corporation is to create or maximize wealth. However, exactly whose wealth is to be maximized? Maximization of shareholder wealth may directly conflict with the maximization of managerial wealth or the wealth of creditors. This conflict in corporate objectives is known as the agency problem. Corporations must maintain plans to align objectives of its participants to contend with this problem. For example, bonus or stock plans for managers and employees may help align their objectives with those of the shareholders; managers and employees' participation in such plans may increase the incentive to act on behalf of shareholder interests. Maximizing wealth can even conflict with maximizing profits because profits are normally measured on an annual or other short-term basis while wealth derives from cash flows over a much longer term.

However, the primary objective of the corporation from the typical investor's perspective is to maximize shareholder wealth. Investors create or purchase shares of corporate stock with the hope that their investments will return them some form of profit; they intend for their investments to make them wealthier. But, should the investor's interests be the sole determinant of the decisions and activities of businesses which have such an enormous impact on employees, consumers and other stakeholders?

From a more social perspective, the primary objective of the corporation in a "free market" economy is to promote the optimal allocation of society's productive resources and to provide for its future welfare. One might argue that in a capitalist economy free of a variety of frictions such as governmental interference and excessive costs of obtaining information and executing transactions, firms providing products and services to their customers most effectively and efficiently promote the optimal allocation of society's resources. Furthermore, corporations that provide products and services to their customers most effectively and efficiently may be the most profitable. Hence, investors should find that holding shares of stock in these corporations will lead to maximization of their own wealth. Thus, corporations that maximize shareholder wealth may be those that promote the optimal allocation of society's resources.

This text will present many analyses based on the assumption that the financial objective of the corporation is to maximize shareholder wealth. This is not to say that the corporation does not have numerous other objectives; obviously, most do. Many corporations have specific objectives regarding community service, employee satisfaction and other matters that may, on the surface, seem unrelated to or in conflict with the shareholder wealth maximization objective. In many instances, realization of these objectives may lead toward the long-term maximization of shareholder wealth. Nonetheless, it may be quite reasonable to assume that the primary financial objective of many corporations is to maximize shareholder wealth. Certainly, assuming shareholder wealth maximization to be the primary corporate objective is convenient for purposes of financial analysis.

Corporate governance concerns how a company is managed and the accountability of management and/or the board to its various stakeholders. Shleifer and Vishny [1997] provide a slightly narrower definition of corporate governance: "Corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment."[2] Effective corporate governance plays a crucial role in the success of the companies while poor governance not only risks failure of the company, but can undermine financial markets

[2] Shleifer, Andre and Robert Vishny (1997): "A Survey of Corporate Governance" *Journal of Finance* 52, page 737.

and the economy as well. Corporate governance usually focuses on the relationship between the corporate board of directors and corporate management and the accountability of both to shareholders and other stakeholders. Corporate control refers to the ability to direct the acquisition, use and distribution of corporate assets. Such control may itself be regarded as a valued asset, in part because managers can direct assets to themselves. The market for corporate control is simply the arena in which competitors for corporate control compete for the right to direct acquisition, use and distribution of corporate assets. Managers, owners of securities, workers, customers, suppliers and governments are all among the competitors for corporate control. The market for corporate control includes markets for managerial services and stock markets, since shares of stock generally confer rights to vote in corporate elections. For example, block holders (defined here to be share holders with very large stakes in the firm) who wish to increase their control in the firm might simply buy additional shares of stocks to control more votes. Some block holders might wish to purchase enough shares to take over their firms, affording them outright voting control. The United States maintains very active markets for corporate control while many other countries such as Germany are more reliant on institutional monitoring or government regulation.

Corporations command a variety of resources which require management. These resources include raw materials, labor and capital. Some corporations, particularly smaller ones, are well managed by shareholders. For example, the owners (e.g., partners) of a small construction firm are often quite capable managers. However, larger corporations usually have a large number of shareholders, most of whom have neither the time, interest nor the expertise to effectively manage the corporation's operations. Furthermore, many large corporations will find that their shareholders have a wide variety of vastly conflicting interests and opinions, necessitating some type of representative governance. For this and other reasons, most corporations provide for separation of ownership and management. Corporate directors and in some instances, chief executive officers are typically elected by corporate shareholders. Other high-ranking managers and officers are appointed by members of the company's board of directors. Thus, typically, shareholders will vote to elect members of the company's board of directors who in turn appoint top level managers. From the perspective of shareholders, the managerial function is simply to maximize shareholder wealth. Thus, managers (and board members) can be said to act as surrogates for shareholders; they are expected to act on behalf of the interests of shareholders (or at least in the interests of the majority that elected them).

One might wonder whether managers really act on behalf of the shareholders that appoint them. What is the primary objective of the manager? Some managers might be primarily interested in their own job security or increasing their status or salaries. These objectives may conflict with the interests of the shareholders who (through the board) appoint them. This is an example of the agency problem introduced earlier. Here, shareholders and the managers (agents) they appoint to represent them have conflicting interests. As mentioned earlier, it is possible to partially resolve this agency problem with appropriate incentive compensation and promotion schemes, although these schemes usually are not perfect and are often expensive.

Financial managers (including treasurers, vice presidents of finance, financial analysts, directors of mergers and acquisitions) are charged with the responsibility of managing the firm's finance function. The function requires two basic types of decisions:

1. **The Investment Decision:** Financial managers must decide which assets, projects or securities the firm should invest in, how much capital (money) to invest in each and when

these investments should be undertaken.

2. **The Financing Decision:** Financial managers must decide how and when to raise the capital required for its various investments, as well as how much and from whom to obtain this capital. The financial manager must determine appropriate means of compensation for those investors who have provided capital to the firm; that is, the manager must decide the levels of interest and dividend payments as well as when they will be made and the form they should take. This financing decision must be properly coordinated with the investment decision.

The financial manager typically is expected to forecast events likely to impact these decisions and develops plans and coordinates activities related to these decisions.

1.B: A BRIEF INTRODUCTION TO THE FINANCIAL ENVIRONMENT

A *financial security* is a contract or certificate indicating a financial claim. For example, a *corporate bond* is a security which indicates a claim by its owner on a specified series of interest payments and principal repayment by the firm. The corporation is obligated to make payments to the bondholder as specified by the bond contract. A share of *corporate stock* is a residual claim; that is, shareholders have a right to receive all cash flows (according to a schedule determined by the firm) which remain in the corporation after obligations to all other claimants have been satisfied. Corporations and other business enterprises issue securities for the purpose of raising money; investors may be willing to purchase securities in order to receive cash flows associated with them. Corporations raise money or capital from the sales of securities in order to pursue their profit-making activities. Investors purchase these securities in order to secure for themselves claims on these profits.

Corporate issues are made either to specific investors (private placements, e.g., a bank note) or to the general public (public placements, e.g., publicly traded common stock). *Primary markets* for securities are the markets of original issue; by participating in these markets, corporations sell their own securities to raise money. Thus, a corporation may raise money by issuing or selling securities in primary markets. *Investment banks* are financial institutions whose function is to assist corporations in the placement of their securities to investors. Investment banks provide advice and other assistance to firms concerning the marketing and pricing new issues. Advertisements (sometimes called "tombstone ads") related to primary market offerings may be seen in financial publications such as *The Wall Street Journal*. *Secondary markets* exist for many previously issued securities. Secondary markets provide liquidity for primary market participants. That is, secondary markets provide the opportunity for original purchasers of securities to sell their securities before they mature, expire or cease generating payments from the corporations. The New York Stock Exchange, Shanghai Stock Exchange and other exchanges provide secondary markets for many corporate issues, especially shares of stock for many of the largest companies in the their respective countries. Issues not traded on exchanges are said to be traded in the "over-the-counter" markets. The over-the-counter-markets allow for public trading for all securities not listed on the exchanges. The National Association of Security Dealers Automated Quotation System (NASDAQ) is among the most visible components of the over-the-counter markets. Exchanges for trading securities exist all over the world and securities from many countries are traded in the United States as well as Shanghai and Hong Kong.

Introduction to the Financial Environment

International economics is primarily concerned with trade among nations and the economic impact of such trade. Economists often refer to open market macroeconomics international finance. Financial economists often include the study of international financial markets, corporate finance and investments under the discipline of international finance. Internationalization of firms and economies is increasing as communications, transportation, information and trading systems become increasingly sophisticated. Firms are finding new markets and resources outside of their traditional regions of operations and many countries are frequently opening their economies to increased foreign competition. Many economies such as India and China are growing in sophistication and industrialization, presenting numerous opportunities for import and export. Thus, more opportunities are opening for individuals with an understanding and background in international finance. As countries within the world economy become more dependent on one another, knowledge of international finance becomes a more valuable asset.

The most important security issues for most corporations around the world are stocks and bonds. However, in addition to the markets for corporate securities, there exist well-developed markets for a variety of other types of issues. For example, the U.S. federal government raises money through the sale of U.S. Treasury securities including Treasury Bills, Treasury Notes and Treasury Bonds. These are all debt instruments indicating that the United States government has borrowed money from their original purchasers. State and local governments issue municipal bonds (this term applies to state issues as well) which often confer certain income tax advantages. A variety of other institutions offer securities, including nonprofit institutions, mutual funds and government agencies. There even exist active markets for securities representing claims on other securities (*derivative securities*, which are securities whose values are derived from the values of other securities). Derivative securities include options and futures contracts. An option contract provides its owner the right to buy or sell another security at a specified price on or before a given date. The owner of the option contract may choose whether he wishes to exercise his right to buy or sell. A forward or futures contract obligates its participants to execute an agreed upon transaction at a later date. All of these different types of securities and markets will be discussed in greater detail later in this text.

1.C: FINANCIAL AND ECONOMIC MODELS

Financial analysis starts with the construction of *financial models*. A model is an artificial or idealized structure describing the relationships among variables or factors. Much of the methodology in this book is intended to facilitate the development, implementation and analysis of financial models to solve financial problems. The use of models is important in finance because the direct analysis of actual markets is extraordinarily complex. For example, a thorough valuation of a stock should require us to understand everything about the economy, political arena, human psychology, etc. that could have an impact on that stock's value. This thorough understanding is simply impossible; it is much more practical to construct a valuation model which accounts for only the most important factors. Models provide the analyst the opportunity to simplify real world circumstances to a construct that can be easily be manipulated and understood. Financial decision makers frequently use existing models or construct new ones that relate to the types of decisions they wish to make.

The easiest financial models to construct and analyze are often those that assume perfect

capital markets. Capital markets are the markets in which companies raise money to operate through the sale of financial assets (securities). Perfect capital markets require that:

1. No single investor can affect the market price of an asset through his transactions. This generally implies that there exist an infinite number of buyers and sellers for all assets, none of whom dominates the market.
2. There exist no transactions costs. Thus, investors can buy and sell assets without incurring brokerage fees.
3. There exist no income taxes
4. Markets exist for all assets such that any investor can easily purchase or sell any investment.
5. Investors have equal access to costless information.
6. Investors are rational and attempt to maximize their wealth.

Obviously, we do not observe such markets in the "real world." However, assuming the existence of such markets simplifies most financial models. Many models constructed under the assumption of perfect capital markets can be adjusted or modified to adapt to "real world" situations.

The aim of a financial model is to simulate or behave like a real financial situation. Analysts who create financial models exclude “real world” conditions that have only minor impact on the results of their decisions. Instead, analysts focus on those factors which are most relevant to their situations. The most important conditions retained by analysts for model-building along with those ignored for sake of simplicity form the basis for the set of assumptions for the model. In most cases, analysts must make unrealistic assumptions in order to simplify their models and make them easier to work with. The simplest models building on more restrictive simplifying assumptions can be adapted to more lifelike scenarios by relaxing the most unrealistic assumptions. The best financial models are those which appropriately account for the most significant factors affecting financial decisions, are simple enough be practical and easy to work with, and are useful for predicting actual financial results. Models that predict actual financial outcomes most accurately well are most useful. Unfortunately, accuracy and simplicity in the construct of financial models often conflict with each other. Some degree of inaccuracy in the model must usually be tolerated in order to maintain its ease of use and analysis. The appropriate tradeoff between accuracy and simplicity is a problem constantly faced by the financial analyst.

This book is concerned with both theoretical and practitioner-oriented models. The book’s primary focus is the mathematics and quantitative technique required to create and analyze financial models. Theoretical models are created to explain financial markets and scenarios; practitioner-oriented empirical models are intended to be applied to actual business situations. The financial analyst may construct and use a theoretical model to provide a framework for decision-making and then use a practitioner-oriented model to apply the theory. Analysts also use models to measure phenomena in financial markets and scenarios and to evaluate financial results. This book will emphasize practical applications of the most essential models.

QUESTIONS AND PROBLEMS

1.1. What factors will you want to consider when choosing among investment alternatives? What factors should a corporation consider when choosing among investment alternatives?

1.2. Are corporate managers overcompensated relative to their worth to the economic system? Who decides their compensation?

1.3. Why do many corporations link the amount of managerial compensation to firm profitability or the value of the firm's stock price?

1.4. Why might managers prefer to have the amount of their compensation linked to firm profits?

1.5. Why might it be undesirable to link corporate managers' pay to share prices?

1.6. Consider the following alternative executive compensation systems designed for a firm's CEO and Chairman of the Board:

- i. $500,000 annual salary only each year until retirement in ten years
- ii. $100,000 annual salary plus one percent of the corporation's profits in each of the next ten years (Corporate profits were $30 million last year.)
- iii. $100,000 annual salary for ten years plus three quarters of one percent of the firm's profits in each of the next twenty years (even though the chairman retires in ten years)

- a. Under which circumstances would each of the alternative compensation systems be preferred by the chairman?
- b. Why might shareholders prefer system iii to the other systems?
- c. Under which circumstances would system iii be less desirable to shareholders?

1.7. In many areas, a real estate broker might receive a commission of seven percent on the sale of a $300,000 home. Yet, stockbrokers may receive only a one percent commission on a $300,000 sale of common stock. Why do real estate brokers usually receive higher commissions than do stockbrokers?

1.8. Why do financial markets exist?

1.9. Why are many financial models unrealistic?

1.10. How can financial models be made more realistic?

1.11. What role should ethics play in the financial management of the firm? To what extent are these roles being played now?