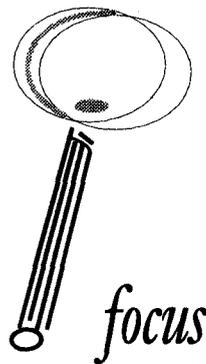


1

Financial Decision Making and the Techniques Used in Financial Analysis



Learning Objectives

By the end of this chapter, you should be able to:

- Discuss the financial analyst's role in an organization.
- List at least six financial analysis topics.
- Describe the three main financial management decisions.
- Identify five forces that influence the average profitability of an industry.
- List the four balanced scorecard perspectives.

The accounting function quantifies the economic relationships of an enterprise; the finance function, on the other hand, manipulates those relationships in order to optimize the company's liquidity and profitability. The accounting model may be viewed as a set of specific rules and conventions, the purpose of which is to record, analyze, and report the historic experience of all aspects of a firm's operation. The financial model is a diverse set of techniques that are used to analyze and manage the future direction of the firm's investments and financing. The purpose of this course is to acquaint the student with the various financial techniques within the construct of the accounting framework.

Managers at every level must make difficult financial decisions continuously. Analytical tools or techniques are important in decision making, analysis, planning, and control. Aspects of financial management are performed by most managers today, and it is important that managers be able to apply analytical techniques to their specific financial problems or decisions. It is

**Exhibit 1-1****Financial Analysis Topics**

- **Profit planning**
 - **Cash management**
 - **Capital investment**
 - **Lease versus purchase (buy)**
 - **Financing structure**
 - **Cost of capital**
 - **Dividend policy**
 - **Merger and acquisition**
 - **Tax management**
 - **Measuring management performance**
 - **Measuring corporate health**
-

impossible to say which of the various techniques of financial analysis is the best. They are all tools to be used in decision making and, as such, should be applied according to the situation.

FINANCIAL ANALYSIS

Financial analysis is part of the financial decision making process. Financial decision making involves analyzing the financial problems that the company faces and deciding which course of action should be taken. In order to make financial decisions, you must be able to identify potential financial problems and analyze the effects of alternative courses of action. Thus, as a decision maker, you must be able to use the analytical techniques of financial analysis. The role of financial analyst may be assumed by any manager. Those managers who are involved in financial decision making but who may not perform the actual financial analysis should know the techniques and tools used to arrive at the recommendations the analyst makes. This course is for both those managers who want to do their own financial analysis and those who delegate this responsibility but nonetheless use the findings of financial analysis in their decision making. Financial analysis topics are listed in Exhibit 1-1.

THE ROLE OF THE FINANCIAL ANALYST

Although this course is directed primarily toward those managers who will perform their own financial analyses, an overview of the role of the financial analyst in a large company will provide any manager with some insights on the importance of financial analysis. The position of the financial analyst in the corporate structure and the scope of his or her work are interdependent. Presumably, the needs of the enterprise govern the analyst's role and position

in the company. Our first step, then, is to describe the analyst's mission, and our next step is to place the analyst where the objectives of that mission can best be attained.

Definition of the Analyst's Job

The financial analyst is a staff member who diagnoses the monetary effects of management's proposals and decisions for executives. Acting as an internal consultant, the financial analyst conducts studies on, interprets information concerning, and designs controls for profitability, cash flows, and diverse fiscal matters. The analyst does these tasks on behalf of decision makers; he or she does not usually make decisions. The analyst's role, therefore, generally ends at clarifying and evaluating options.

Typical Assignments

The purview of financial analysis for a company depends on its perceived needs and the types of decisions its management makes. Companies' needs differ, but the areas of financial analysis most analysts deal with include long-range planning, profit planning and budgeting, capital investment decisions, operational auditing, mergers and acquisitions, and the administration of temporary corporate investments.

There are many projects that financial analysts must perform periodically. These activities include analyzing the company's liquidity, performing operational audits, and supervising the company's day-to-day financial activities. In addition, the analyst has annual or semiannual duties, including conducting a sales analysis, analyzing the company's debt structure, developing the financial statements and ratio analyses, and analyzing the investment of liquid reserves.

Similarly, the analyst does specific projects that are either self-initiated or, as usually happens, requested by others. For example, if a financial analyst sees a marked decrease in a particular financial ratio, he or she may analyze the factors that would cause such behavior. Also, the analyst might analyze how the economic environment affects the company or, more specifically, how various tax policy changes will affect the company. However, most of the analyses conducted by the financial analyst are situation specific and usually are requested by other departments. For example, management may want to know whether a certain asset should be leased or bought; or the company may be considering purchasing land and therefore need a location analysis. The analysis may be company-wide or may just pertain to a division within the company.

Planning plays an important part in most assignments undertaken by financial analysts. By *planning*, we mean both short-term objectives as well as long-term strategic goals. Financial analysts must integrate the goals and objectives of their companies in their analyses. Consequently, most of a financial analyst's assignments implicitly or explicitly include aspects of company plans.

The Analyst's Position in the Corporate Structure

The position of the analyst in the corporate structure varies with the nature of the company and its administrative organization. In smaller firms, a single individual may handle all financial activities, including any necessary financial analyses. In larger firms, there generally is a staff of financial analysts reporting to a financial manager, who in turn reports to the controller, who is supervised by a vice-president of finance or chief financial officer. Financial analysts may be at the corporate or divisional level.

The analyst's position within the company is important, because the topics of financial analysis are used to help improve the value of the company - frequently, they are also sensitive, conflict-provoking subjects. For instance, after conducting a financial analysis, an analyst might recommend the dissolution of a certain division or department. To say the least, this recommendation would not be popular with the members of the department or division in question. Centralizing the position of the financial analyst indicates that the role is a service and is different from the operational units for which most of the analyses are performed. The advantages of placing the position in a central service unit include: (1) it allows the grouping of financial analysts, thereby pooling expertise and encouraging cooperation among analysts; (2) it promotes flexibility and accommodates departments that do not need an analyst full-time; (3) it facilitates multidepartmental assignments; and (4) it increases the neutrality and objectivity of analyses.

There are also advantages to placing the financial analyst in a decentralized position in the company, with financial analysis attached to and integrated with operating units. A decentralized positioning is favored when: (1) the analyst's role is to help and advise locally rather than to try to control from the corporate office; (2) the operating unit needs full-time analysts and the management of the unit is receptive to analytical services; or (3) the operations of the unit are highly complex and much research is necessary before financial analysis can be done.

The nature of a company signals which position-centralized or decentralized-maximizes the benefits from financial analysis. Some companies even mandate that a financial analyst work at a centralized corporate level and at a decentralized division level prior to being eligible for an advanced position. The rationale behind this rule is that the analyst will gain broader experience and familiarity with the company's products, policies, and procedures. In this course, the most important point is not the position of the analyst within the company, but rather the uses and benefits of financial analysis.

FINANCIAL MANAGEMENT AND FINANCIAL ANALYSIS

The financial manager and the financial analyst may or may not be the same individual. As we mentioned earlier, one major difference in their roles is that the managers make the financial decisions while the analysts recommend the best alternatives. The influence of the financial manager (and financial

management in general) has increased substantially in recent years. Once, the manager's responsibilities were confined mainly to preparing financial statements, managing the company's cash position, and providing the means for paying bills and procuring additional funds. Now, financial management includes: (1) investing idle cash and liquid reserves; (2) synchronizing cash receipts and disbursements; and (3) procuring financial sources of funds. Furthermore, the financial manager should be cognizant of external and internal user needs.

External users are primarily concerned about the liquidity, operating profits or losses, and business risk of the company. Business risks pertain to the relative volatility of the firm's expected net operating earnings. For example, a paper company experiences a business risk when its forests are exposed to losses due to fire or diseases. Internal users are not only concerned about the day-to-day liquidity and profit/loss record from operations, but are also concerned about financing sources and the accompanying financial risk. A financial risk pertains to the likelihood of default on financial obligations.

The evolution of financial management and the increased use of financial analysis have been furthered by the availability of computers at every level in a business enterprise. Accordingly, the application of computers as analytical tools enables managers at every level to use sophisticated financial models and techniques in their decision making.

ACTIVITIES AND FINANCIAL STATEMENTS

Companies use physical and financial resources to implement their business strategies. What a business does is the result of its business activities -its operating activities (e.g., producing and selling goods), its investment activities (e.g., acquiring and selling plant and equipment assets), and its financing activities (e.g., issuing and retiring long-term notes). These activities are reported in summary form in the financial statements through the company's accounting system. Financial reports are prepared on an accrual basis rather than on a cash basis. Accrual accounting recognizes revenue when it is earned and expenses when they are incurred, regardless of whether cash is received or paid. Accrual accounting, in contrast to cash-basis accounting, reports the full economic consequences of business activities.

Accrual accounting necessitates assumptions and estimates in reporting financial information. While managers have the most knowledge to make these assumptions and estimates, they also have some incentive to manipulate financial data for the company's benefit. Management's discretion is reduced by the requirement to follow Generally Accepted Accounting Principles (GAAP). Such limitations can have both good and bad effects. Similarly, the verification of the preparation of financial statements on the basis of GAAP by independent auditors can be both beneficial and not beneficial.

Managers still have discretion to tell their story; GAAP does not eliminate choice completely. Managers have discretion to disclose as much information as they like. Managers want to provide information so that investors and

creditors can understand the business. On the other hand, they do not want to disclose information that may hurt the firm competitively or that might indicate that the firm is performing poorly if such information can be hidden. The role of the financial analyst is to understand the reality of the business despite shortcomings in the reporting process.

BUSINESS STRATEGY

A company must have a strategy to create and sustain a competitive advantage. One strategy is to differentiate a product or a service to make it unique because of its high quality or technological capabilities. Another strategy is to focus on costs by concentrating on product efficiencies, or purchase discounts, or by outsourcing. Lower costs lead to high sales volume through lower prices. Such operational efficiencies can be easily imitated, resulting in nobody having a clear advantage over others. Most companies try to implement both strategies.

Porter (1996) notes that competitive strategy means being different—either performing different activities or performing activities differently from other companies. A company may specialize in producing just a few products, or providing just a few services, or on meeting the needs of a select group of customers. Strategic positioning means choosing activities that differ from your competitors'. The same activity set cannot be everything to everyone. To sustain a strategic position, trade-offs are required. But what activities is the company going to forgo? The whole system is important. We must not speak of key or critical success factors. One activity affects another. It is harder to imitate a whole integrated system than a single activity.

In its 1997 annual report, William C. Foote, Chairman and Chief Executive Officer of USG Corporation, states the company's strategic objectives:

1. Increase operational excellence (core values—safety, quality, service, low cost, integrity).
2. Invest for growth (being a low-cost producer so as to maintain profitability throughout the economic and construction cycle).
3. Improve financial flexibility (achieving debt reduction, eliminating collateral on debt obligations).
4. Build the USG team (enhancing the team's effectiveness by increasing diversity).

COMPETITIVE ENVIRONMENT

Porter (1985) writes that the average profitability of an industry is influenced by five forces. The first three—rivalry among existing firms, threat of new entrants, and threat of substitute products—relate to the degree of actual and potential competition. The fourth and fifth—bargaining power of buyers and bargaining power of suppliers—determine whether or not the potential profits are kept by the industry.

The degree of competition depends on factors such as the following:

- growth of the industry (whether rapid or stagnant)
- number and size of firms in the industry
- differentiation among products
- existence of economies of scale
- amount of research and development needed
- amount of brand advertising needed
- existence of entrance and exit barriers
- distribution networks established
- threat of substitute products

The bargaining power of buyers is important, because if the buyers are economically powerful compared to the company selling the product or service, prices can be kept low; therefore, the selling company's revenues are not as high as they could be. Similarly, if the bargaining power of suppliers is high compared to the company selling the product or service, input prices are higher; consequently, the selling company's costs are higher than they could be.

Different industries have different competitive environments. Exhibit 1-2 presents the competitive environments in the personal computer and cereal industries.

E xhibit 1-2 Competitive Environments

Personal Computer Industry:

- **The industry is highly fragmented; no firm has a very large market share.**
- **There is intense competition for market share among competing manufacturers of component costs.**
- **Competing products are very similar.**
- **Entrance barriers are relatively low.**
- **There is a great deal of price competition.**
- **There is enormous pressure to introduce new product rapidly and provide high-quality customer support.**

Cereal Industry:

- **Prices of top national brand cereals have dropped due to inroads made by private cereal brand names.**
- **Advertising is important for reinforcing established brand names.**
- **Developing new products to take advantage of the growing awareness of people about nutrition is important, although new product failure rates have been high.**
- **The two top companies selling ready-to-eat cereals have over 60 percent of the market share.**
- **Pressure to reduce prices has resulted in increased emphasis on reducing manufacturing costs.**

THE APPLICATION OF ANALYTICAL TECHNIQUES FOR SPECIFIC PROBLEMS

Financial management may be broken down into three main decisions: the investment decision, the financing decision, and the dividend decision. The applications of the various financial analytical techniques likewise may be broken down into these decision units.

The use of a specific analytical model, such as net present value or internal rate of return, depends on the question being asked. Many problems in financial management can be dealt with by employing more than one financial analysis technique. The purpose of applying an analytical technique is not necessarily to calculate a definite answer; rather, the purpose of a technique is to provide a more informed basis on which to make a decision. An important consideration in financial analysis is timing. The timing of various financial policies is important in terms of interest rates, inflation, taxes, and the capital market. Most of the techniques used in financial analysis involve a time element. For example, when evaluating a capital investment proposal, the manager must be fairly certain of the times involved for ordering, installing or building, and starting up a new investment. In the following sections we will discuss how specific techniques can be used under certain circumstances and describe how we arrived at a financial decision.

Investment Decisions

Investment decisions are perhaps the most important of the three types of financial decisions, because the outcome of these decisions determines the amount of cash flows in future periods. Investment decisions in this context refer to both short- and long-term reallocations of corporate funds. Short-term investment decisions include the level of current assets (cash, accounts receivable, and inventories) necessary for day-to-day operations; whereas long-term investment decisions refer to fixed asset purchases, mergers, acquisitions, and corporate reorganizations.

Different techniques are used for effective management of short-term cash and accounts receivable than for purchases of long-term fixed assets. In order to gauge the proper level of cash, an analyst may develop a cash budget, use ratio analysis to determine the trends or variations of current assets and liquidity, or use pro forma income and balance sheets to plan income, funds flow, and cash flows. These various analytical tools are interrelated and should be used together to manage current assets.

Capital investment - a major aspect of the long-term investment decisions the allocation of capital to investment proposals that will realize benefits in the future. Investment proposals necessarily involve risk, because future benefits are uncertain. Consequently, investment proposals should be evaluated both for their expected return and for their risk to the company. Capital investment proposals include both investment in new assets and the relocation of capital and assets within the company.

The evaluation of capital investment proposals involves a number of different techniques and types of financial analysis, all of which are interrelated. A risk analysis determines the investment's risk as compared to the

company risk. A cost of capital analysis determines the correct discount rate to use in the cost analysis. A cash flow analysis determines the expected net cash flow from a new investment. The determination of a predicted cash flow could involve a sales analysis to predict future sales from the investment, an economic analysis to study future trends, or a financial forecasting analysis to determine cash income and expenses. Once the cash flow analysis has been completed, it is necessary to conduct a cost analysis to determine the returns of the new investment or the allocation of capital. The areas commonly studied in cost analysis include: net present value, internal rate of return, cost-benefit ratio, and the payback period. Upon completion of this evaluation, a sensitivity analysis to test the validity of the analyst's original basic assumptions is justifiable.

If mergers and acquisitions or failures and reorganizations are the subject of analysis, the analytical techniques used would include: determining certain financial ratios such as the price-earnings ratio, determining the exchange ratio, and analyzing the possible negotiation range for mergers and acquisitions. Also, the net present value technique could be used once the cash flows with either a merger or a reorganization has been predicted.

Financing Decisions

The financing decision varies depending on the size of the firm, the financing options available to the firm, the needs of the firm, and the location of the firm. Small firms generally do not have the same financing options that larger firms have; consequently, small firms are more likely to experience difficulties financing growth and/or avoiding bankruptcy.

Large firms are more likely to be able to obtain bank financing and to issue stock. Furthermore, large, established firms may have the opportunity to issue commercial paper. Small firms, on the other hand, usually depend heavily on family, friends, and supplier financing for start-up and working capital.

When making financial decisions, the manager must determine the best financing mix or capital structure for the company. In this sense, the best choice is the capital structure that allows the optimal valuation of the company for the shareholders. The important elements to consider in making financial decisions include: (1) the nature and riskiness of the business operation; (2) the capital structure (debt-to-equity ratio) desired; (3) the length of time the assets will be needed; and (4) the cost of alternative financing.

There are a number of pertinent analytical tools to use when the subject of analysis is the optimum capital structure of the company. A financial leverage analysis determines the company's financial leverage and how it can use financial leverage in its capital structure. Trend and historical analyses examine the company's past capital structure. Ratio analysis determines the current financial structure and other financial indicators. In addition to conducting the above analyses, the analyst could perform an analysis to determine the current cost of capital and ways to decrease this by changing the financing mix. All these analyses are concerned with the total valuation of the company.

Alternative sources of financing are an important subject of analysis, also. Businesses need short-, medium-, and long-term financing at various times to remain liquid and profitable. To analyze sources of short-term financing,

the analyst must study the costs of each source, applying techniques such as present value analysis, compounding analysis, and interest factor analysis.

To evaluate alternative sources of long-term financing, security markets, types of securities (such as debt or preferred stock), and common stock values and sales should be analyzed. An analysis of sources of long-term financing is linked to the capital structure analysis. Any analysis of a source of long-term financing would have to include a study of the effect of the financing on the company's capital structure as well as the costs and benefits of the financing.

Other forms of financing that could be the subject of financial analysis include term loans and lease financing. For either form, the analytical techniques used would include a comparison of that type of financing's present value costs or benefits with the present value costs or benefits of the alternatives.

Dividend Policy

The dividend policy that the company chooses is also a subject of analysis in financial management. The three standard dividend alternatives -the stable dividend policy, the constant payout ratio, and the regular low dividend policy plus extra-must be evaluated according to the company's specific situation. In addition, the repurchase of the firm's outstanding common stock must be considered. The aim of the analysis would be to determine which type of policy would maximize the value of the company's stock. To determine this, the analyst would compare the effects of different policies on the company's valuation. Choosing the dividend policy is a strategic decision, usually made by senior-level managers, with final approval subject to the board of directors.

PRIMARY GOAL OF FINANCIAL ANALYSIS

Criteria used in financial decision making should be based on the anticipated benefits to the present owners of the company. The primary goal is to increase the owners' wealth. The way to increase the owners' wealth is to increase the market value of their investment (equity) in the enterprise. Consequently, the decision criteria used in this course are those that maximize the market value of the shareholders' equity.

An immediately obvious question is what criteria to employ for companies that do not have an observable market price. The answer lies in the characteristics that cause any earning asset to have value. The rule, then, is to optimize the expected return and to minimize the risk of the equity. Such optimization refers to the balancing of the risk and the return in an attempt to maximize what the decision maker believes would be the market price of the owners' equity if it were traded in the market.

LONG-RANGE VERSUS SHORT-RANGE GOALS

It is important to note that decisions are analyzed differently, according to the decision maker's point of view. Different levels of management treat financial decisions in different ways. For example, the board of directors or

top management has a long-range view of the company and, therefore, of the effects of various decision alternatives on the company. Generally, top managers are more concerned with long-range strategic planning, and their decision criteria reflect this. Consider the dividend decision, which usually is made by the board of directors or top management. Their overriding consideration in choosing a dividend is the dividend's long-range impact on the company's stock price.

In comparison, the managers at the operating level of a company generally are more concerned with short-term goals and the short-term effects of various decision alternatives. For example, operating management is concerned with cash management decisions. Short-term objectives, such as cash liquidity and inventory control, are of primary concern in the financial analysis of cash management decisions.

THE BALANCED SCORECARD

Long-range strategy can be linked with short-term actions through the implementation of the balanced scorecard. Combining financial and operational measures, the balanced scorecard gives management a comprehensive view of the business. According to Kaplan and Norton (1992), the balanced scorecard provides answers to four basic questions that enable management to focus on the most critical measures.

- How do customers see us? (a customer perspective)
- What must we excel at? (an internal perspective)
- Can we continue to improve and create value? (an innovation and learning perspective)
- How do we look to shareholders? (a financial perspective)

The balanced scorecard represents a fundamental change from traditional performance measurement systems by putting strategy, rather than control, at the center. Everyone in the company should be moving along the path toward the overall vision of the company.

Kaplan and Norton (1996) write that four management processes link long-term strategies with short-term actions:

1. Translating the vision into an integrated set of agreed-upon objectives and measures that are stated in meaningful terms.
2. Communicating management's strategy and linking it to departmental and individual objectives.
3. Through business planning, integrating business and financial plans and moving the company toward management's long-term strategic objectives by selecting measures of progress from each of the four balanced scorecard perspectives (listed above) and then setting targets for each of them.
4. Enabling a company through feedback and learning to see whether it and its components have met their financial goals and evaluating strategy in light of recent performance.

The balanced scorecard allows strategy to not only be implemented but also to evolve in response to competitive and technological changes.

TECHNIQUES PRESENTED IN THIS COURSE

In this course, we will present several specific financial analytical techniques. In Chapters 2, 3, and 4 financial statement analysis and the use of ratio analysis are explained. Chapter 5 provides a discussion of current asset and liability management. Chapter 6 describes several different techniques used to evaluate capital investment proposals. In Chapter 7, we will discuss business and financial risk and optimum capital structure. Chapter 8 explores mergers and acquisitions.



In this chapter, we discussed the role of the financial analyst, the criteria for financial decision making, the various financial decisions that most managers must make, and the specific analytical techniques that managers can use to make more informed financial decisions. Some techniques for analyzing three different financial decisions (investment, financing, and dividend) were explained. Also discussed were the interrelated topics in financial analysis.

The scope of financial analysis and its location in the organization varies. Financial analysis is fiscally- and economically-oriented staff work. Financial analyses are done not only by financial analysts but also by all managers who must make financial decisions. The topics covered in this course are just a few in the scope of financial analysis; however, the subjects and the specific analytic approaches presented are the basics upon which managers may expand their decision-making capabilities.

A company's strategy creates and sustains its competitive advantage. Most companies try to differentiate their products or services from their competitors and to control their costs. Profitability in an industry is a function of the rivalry among existing firms, threat of new entrants, threat of substitute products, bargaining power of buyers, and bargaining power of suppliers.

This course will enable managers to use financial analysis in a number of specific areas. More importantly, it presents sound financial analysis techniques that may be applied to most financial decision-making processes.



Review Questions

1. An advantage of placing the role of financial analysis in a decentralized position is: 1. (d)
 - (a) it increases the objectivity of analyses.
 - (b) it pools expertise and encourages cooperation among analysts.
 - (c) it facilitates multidepartmental assignments.
 - (d) it allows for necessary research to be conducted for a unit's operations that are highly complex.

2. Financial management is not concerned with: 2. (d)
 - (a) increasing the overall valuation of the company.
 - (b) the investment of funds in capital assets.
 - (c) obtaining the best mix of financing.
 - (d) preparing financial statements.

3. The main decisions in financial management do not include: 3. (c)
 - (a) the investment decision.
 - (b) the dividend policy.
 - (c) the personnel policy.
 - (d) the financing decision.

4. A company's operating activities include: 4. (a)
 - (a) producing goods or services.
 - (b) retiring long-term notes.
 - (c) acquiring plant and equipment.
 - (d) following GAAP.

5. Whether or not potential profits are kept by the industry is partly determined by: 5. (c)
- (a) threat of new entrants.
 - (b) rivalry among existing firms.
 - (c) bargaining power of buyers.
 - (d) threat of substitute products.