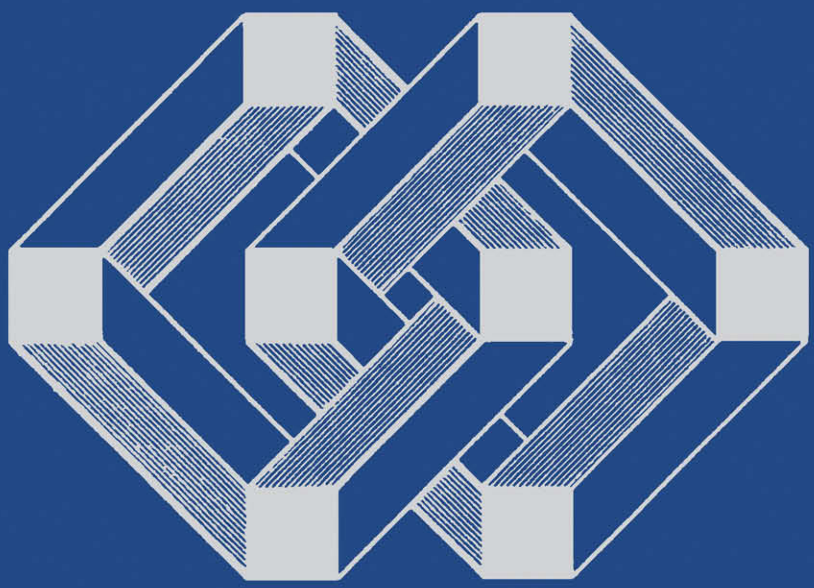
Lusztig/Schwab

Managerial Finance in a Canadian Setting

FOURTH EDITION



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Managerial Finance in a Canadian Setting

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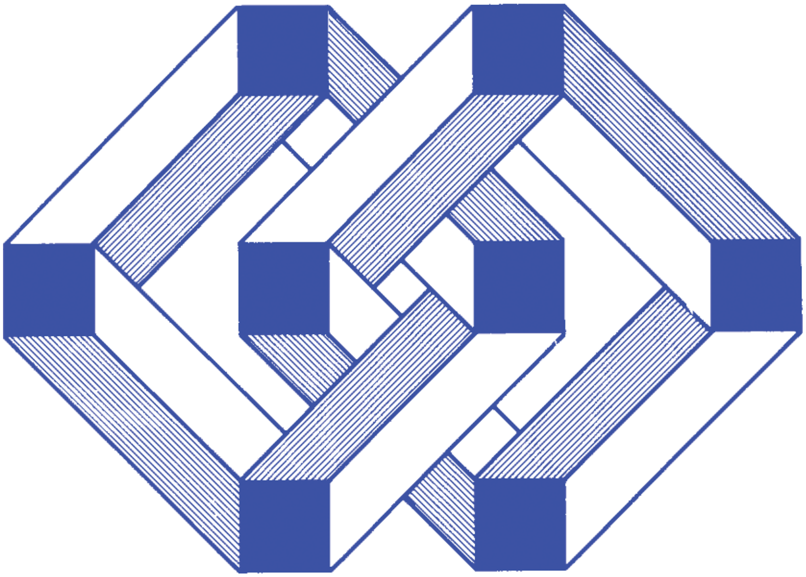
Peter Lusztig
Bernhard Schwab

FOURTH EDITION



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To
Elisabeth Schwab,
and to the memory of
Suzanne Lusztig,
Alfred Peter Lusztig,
and
Martin Schwab

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Preface

During recent years, financial theory has developed rapidly; today it involves new approaches and perspectives — and a changed emphasis in teaching. Given the increased reliance on economic theory and quantitative analysis, a widening gap between academics and practitioners has emerged. We believe that such a rift is undesirable, and throughout all editions of this book have worked to avoid this dichotomy. Thus, although the standard body of modern finance is carefully developed, we avoid emphasizing mathematical analysis and formalism *per se*; instead, we focus on relating the theory — its assumptions and conclusions — to the world of the practitioner. As a consequence, this text should be of use not only to students at academic institutions and those entering the professions, but to interested executives as well.

We have been pleased by the reception accorded to previous editions of this book. In preparing this revised and updated fourth edition, we have retained and attempted to improve those features that contributed to the strength of the previous work:

- clear writing style, structure, and lay-out
- good blend between theory and practice
- up-to-date Canadian content
- strong international emphasis that is integrated throughout
- frequent use of examples
- comprehensive end-of-chapter problem sections including questions for discussion, research questions, problems with detailed solutions, additional problems, and short cases
- use of starred sections and appendices for more advanced material that can be omitted without loss of continuity
- organization of the book into more-or-less self-contained parts to allow for flexibility of sequencing and coverage of material.

At the same time, this fourth edition embodies a variety of significant changes. They include:

- introduction of the institutional material on financial markets, including basic concepts and terminology, at the outset (in Part 1: The Institutional Environment)
- a comprehensive discussion of valuation early on in the book (Part 2: The Valuation of Investments)
- coverage of capital structure and dividend policy in the same part (Part 4: Capital Structure and Dividend Policy), and the combining of two third-edition chapters on dividends into one

- thorough updating throughout to make the material relevant for corporate finance in the current economic, institutional, and international environment. This includes revisions to the extensive end-of-chapter problem sections.
- continued efforts to streamline and edit the material presented for even greater clarity.

In our view, these represent major improvements that should further strengthen the very positive acceptance of our book by students, faculty, and the business community. The introduction of a comprehensive discussion on valuation early on is particularly important as it establishes an understanding of basic financial concepts (including the time value of money, expected returns, and risk), and outlines the general framework for analysing financial decisions (maximizing the firm's economic value). This permits a more unified treatment of the topics that follow.

The new Part 2 of the book (Valuation) consists of five chapters that cover compounding and discounting; valuation of debt and the determination of interest rates; risk, expected return, and the valuation of stocks; and capital budgeting (two chapters). This sequencing has allowed us to integrate the concept of economic value as it is applied in financial markets with financial decision-making at the level of the firm (such as in the valuation of real assets in the context of capital budgeting). It has also resulted in an integrated treatment of theory and practice, a feature that has always been viewed as a strength of our book. Finally, it has led to a more comprehensive coverage of modern capital-market theories in the main body of the text. (We have deleted the old Chapter 28 that in previous editions covered some of this material.)

Our book has been used in a variety of educational settings. Its modular structure, combined with the use of starred sections and appendices, has made it possible to cover materials at various levels of detail and difficulty, and to meet different educational objectives. In the typical one-term courses, instructors are likely to emphasize particular subsets of chapters. The book does, however, provide a complete reference source that students will find useful to have at their disposal both as a basis for future coursework and in a work environment. Because of its comprehensive and self-contained nature, including the many examples and problems with detailed solutions, the book provides strong support for self-study, and it has been widely used by students, professionals, and executives in this context.

Once again, preparation of this new edition has benefited from extensive classroom testing as well as from advice and feedback from a number of colleagues. Furthermore, it has built on the demonstrated strengths of the successful third edition. Based on early feedback and reactions, we are confident that our revisions have resulted in a strong product that can successfully meet the challenge of teaching managerial finance in the environment of the late 1980s.

Concurrent with the preparation of this fourth edition, our co-author Guy Charest (Laval University) has worked on the second French-language edition of our book. We are particularly pleased that we will thus be able to serve the entire Canadian market with a unified product that at the same time duly recognizes the distinctive institutional environment and character of its separate regions.

We are indebted to many people for their assistance in making this and earlier editions of this book possible. In addition to our editor, Peter Scargall, and the staff at Butterworths, we want to express our particular appreciation to:

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Lastly, we thank our wives, Penny and Beatrix, for their patience, encouragement, and understanding during this book's four rather lengthy gestation periods.

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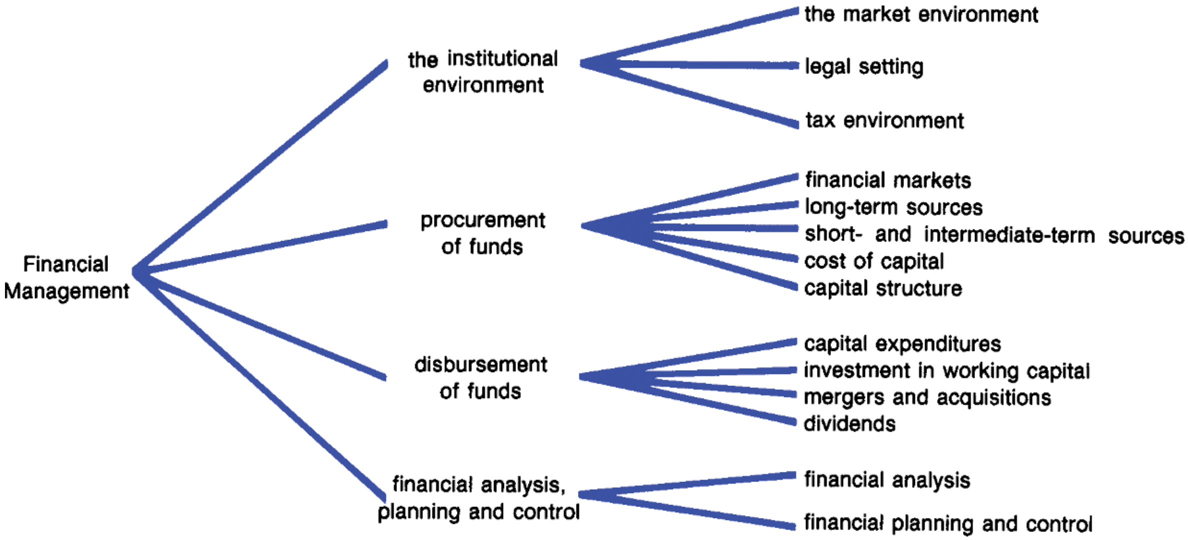
Introduction

The main functions of financial management are the procurement of funds to support the normal operations and expansion of a business, and control over the disbursement of these funds. Both the procurement and the disbursement of funds can be broken down into several subcategories. In the procurement of funds, for example, it is convenient to distinguish between raising long- and short-term capital, as the institutional arrangements tend to be different. Apart from a knowledge of the various individual sources of financing, the financial officer who procures funds must also be concerned with the overall cost of these funds to the enterprise, and with determining the optimal mix of funds, or the capital structure. On the disbursement side, it again is useful to distinguish between long-term capital investments and the short-term commitments of funds to working capital. Long-term investments may either take place internally or involve the acquiring of other firms through mergers. In addition, the firm can distribute surplus funds by paying dividends.

Other important, although somewhat ancillary, areas of financial management are financial analysis, planning and control, and an understanding of the institutional environment. Before major financial decisions can be made, we have to provide a proper diagnosis of the firm's current financial situation through financial-statement analysis. This diagnosis then forms the basis for financial projections and planning. Finally, financial management is influenced strongly by the institutional setting within which it takes place. In this regard, key areas of concern are the general market environment, the legal setting, and taxation. A summary of the main areas of financial management is given on the following page.

For pedagogical purposes, we found it useful to break up the material in the following way. We begin with an overview of the finance function and the institutional environment within which it is carried out (Part 1). We then introduce some basic conceptual foundations that are mainly concerned with the determination of economic value (Part 2). In a free-market framework, firms should strive to maximize such value, and the maximization of economic value provides the link between the procurement and the disbursement of funds. Specifically, firms can only enhance their economic value if they invest in productive assets whose expected returns are commensurate with the returns anticipated by investors who provide the funding. Thus, the financing conditions encountered in capital markets largely determine the criteria that a firm should apply in controlling the



disbursement of its own financial resources. Consequently, a good understanding of the concept of economic value, and how investors apply it in valuing securities, becomes an important prerequisite for managerial finance. Part 2 of the book deals with valuation first as it applies in financial markets, and then as it should be applied within the firm in evaluating capital expenditures.

The next portion of the book covers in detail the procurement of funds, including various long-term sources and their costs (Part 3), the optimal financing mix or capital structure and its relationship to dividend policy (Part 4), and a range of short- and intermediate-term financing alternatives (Part 5).

Having completed the longer-term strategic aspects of financial management, we proceed to discuss shorter-term operating decisions. Part 6 (financial analysis, planning and control) provides a useful transition, in that it ties together the operating and strategic elements. The management of individual categories of current assets and overall working capital follow in Part 7.

The topic of external expansion (mergers and acquisitions) is placed at the end of the book (Part 8) for two reasons. First, mergers entail a variety of financial considerations that are covered in various preceding sections. Second, the topic may be viewed as somewhat ancillary or beyond the scope of an introductory finance course. Placing it at the end permits omission without loss of continuity.

Part 1

The Institutional Environment

In Part 1, we deal with the broad institutional environment within which financial management takes place. This includes a brief introduction to selected areas of business law and taxation, which have such a strong influence on financial decisions that at least a basic exposure is necessary.

We begin in Chapter 1 by looking at the free-market framework, essentially describing the micro-economic environment of managerial finance. We also explore the implications of this framework for the financial goals of the enterprise, and provide an overview of the finance function. In Chapter 2, we review the legal framework, with particular emphasis on various forms of business organization, including the corporation. In Chapter 3, we deal with taxation and its effects on financial decisions. Finally, in Chapter 4, we explore the institutional setting that we find in financial markets and with which the financial executive must interface.

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The Role of the Financial Manager and Financial Objectives of the Firm

1.1 Introduction

This chapter outlines the role of the financial executive within the firm: his typical duties, responsibilities, and place within the organization. The chapter also discusses the economic framework within which financial managers operate and the financial objectives of the firm. It is important to have an understanding of the goals that motivate financial decision making, as the quality of financial decisions can only be judged if one has a clear objective in mind.

1.2 Role of the Financial Manager

Larger firms have long recognized the need for effective financial management and for having significant financial expertise among their senior executives. Over the years, the importance of finance in corporate management has grown, and today presidents and chief executive officers invariably have significant financial expertise, their often having been promoted from a previous position in financial management.

Several reasons can be given for this growth in the importance and scope of finance.[1] First, the scale of operations of business firms has greatly increased. The growing concentration of assets in large corporations and the increasing size of investments call for more long-range financial planning than was characteristic in earlier years. Second, the wide-spread diversification of products and the geographical dispersion of operations have increased the complexity of managing a business. Instead of firms with one division and a few products, we now have multiproduct, multidivisional, and multinational corporations. The effective control of such diverse operations has required a substantial strengthening of the finance function, particularly in an environment that has been characterized by increasing economic uncertainties. Finally, and as a result of the above developments, financial executives increasingly participate in formulating and implementing broad corporate strategy. Financial decisions directly affect the risk and prof-

1. C. Burck, "A Group Profile of the Fortune 500 Chief Executive," *Fortune*, May, 1976, p. 173.

itability of a firm. Risk and profitability, in turn, critically determine the firm's relative success in a competitive marketplace.

Organizationally, the finance function is handled in a variety of ways, and the financial executive's specific role will vary according to the nature of the business, the size of the firm, his own ability, and the abilities of other officers and directors. However, because financial decisions affect the destiny of the entire business, financial management is treated somewhat differently from other functional areas, and is generally viewed as part of the central management of the enterprise. As a consequence, even in the most decentralized firms with independent management of operations, perhaps in various parts of the world, financial management tends to remain quite centralized. A report on a sampling of 289 large corporations notes that in 91 percent of the cases the senior financial officer had the rank of vice-president and reported directly to either the president or the chairman of the board. The report concluded: "Finance is emerging as the business function that holds the corporation together at the top management level."[2] This centralization of the finance function is confirmed by a more recent survey of the 1000 largest U.S. corporations, most of which have widely dispersed operations.[3] Long-term financing, tax planning, and cash management were centralized in over 95 percent of all firms; financial planning and budgeting and capital-expenditure management were centralized in 74 percent of all cases, and only credit and accounts-payable management were decentralized by the majority of respondents, reflecting the judgment that these activities are best handled closer to the consumer or vendor.

Although the finance function is well developed in most larger firms, the frequent lack of financial expertise has become a serious deficiency in many smaller businesses. Here, the position of a financial executive may not even exist, and the president is left to assume all financial duties. Unfortunately, his competence in financial matters may be limited. In many small firms, the president is one of the original promoters of the company, often a person who either has developed a new-product idea or has a marketable technical competence. For example, computer companies are often formed by computer scientists or programmers, mining and oil companies by geologists, and manufacturing firms by inventors and engineers. The high failure rates experienced by small businesses in Canada can probably be attributed at least in part to a lack of financial expertise among management.

2. J. Krum, "Who Controls Finance in the Industrial Giants?", *Financial Executive* (March, 1970), pp. 20-28.
3. L. Gitman and C. Maxwell, "Financial Activities of Major U.S. Firms: Survey and Analysis of Fortune's 1000," *Financial Management* (Winter, 1985), pp. 57-65.

DUTIES OF THE FINANCIAL MANAGER

Today's financial officer is oriented toward the future performance of the enterprise. In contrast to the traditional accountant, who is more concerned with keeping an up-to-date record on past operations, the financial executive is more likely to participate in forecasting and forward planning.[4] In an environment that is characterized by complexity, rapid change, and a high degree of uncertainty, this responsibility for future planning and performance places increasing pressures on financial managers. They must be thoroughly familiar with financial and accounting theory and practice; be continually involved in the development of information systems by which data are made available in a timely fashion and in a form that facilitates decision making; understand the strengths and limitations of computers; and have an adequate knowledge of the newer analytical techniques in order to participate effectively in decision making. They must also be well versed in economics in order to assess current developments in financial markets, movements of interest and foreign exchange rates, and changes in price levels and in the general level of economic activity. In the economic environment of the 1980s, further specific skills that have been deemed increasingly important are the ability to contain costs and to foster productivity improvements in the face of increasingly intense price competition, and a deepened understanding of the international business environment. Required international expertise is no longer restricted to an "arms-length" financial control of foreign operations, but ranges from an in-depth understanding of business conditions and opportunities in a wide range of countries to the overall management of risk in an international context.[5] Finally, financial managers must have sound business judgment in order to make good decisions in areas where information is likely to be incomplete, where theoretical developments have often remained controversial, and where past experience may have but limited applicability.

The financial executive typically is involved in all areas of finance outlined in the introduction that precedes this chapter. His main responsibilities are the procurement of funds to support the ongoing operations and planned investments of the firm (treasury functions) and control over the disbursements of funds to ensure efficiency and adequate returns (controllership function). In this sense, the finance function links and co-ordinates between the liability side (financing and interfacing with financial markets) and the asset side (investments to

4. See L. Gerstner and H. Anderson, "The Chief Financial Officer as Activist," *Harvard Business Review* (September-October, 1976), pp. 100-106; also, L. Gitman and C. Maxwell, *op. cit.*
5. For greater detail on these points see, for example, G. Means, "The New CFO: Walking Today's Financial Tightrope," *Financial Executive* (November, 1984), pp. 10-16; also, F. Nadherny, "The State-of-the-Art CFO," *Financial Executive* (April, 1984), pp. 11-14.

satisfy consumer needs) of the balance sheet. Table 1.1 lists the responsibilities of a financial executive as compiled by the Financial Executives Institute, which is the leading professional association of senior financial managers. An actual job description for the chief financial officer of a major Canadian corporation is provided as the Appendix to this chapter. In terms of time spent rather than in importance of function, the financial officer is often most deeply concerned with short- and intermediate-term financial planning and with working-capital management. This is particularly true today because of the recent economic environment, which has been characterized by recurring periods of accelerating inflation and recession.

TABLE 1.1
Definition of a Financial Executive's Responsibilities

A financial executive has policy, management, planning, and control responsibilities for the standards, practices, and performance of several, or all, of the following:

Controller functions, such as:
- analysis and interpretation of financial results and projections, and effective communication of that information to internal and external interests;
- analysis and interpretation of competitive, social, environmental, economic, and political factors, and their potential financial impact;
- establishment of internal accounting and financial reporting policies;
- development of long- and short-range financial plans, and the measurement of performance against plan objectives; and
- development and maintenance of accounting, auditing, and management control systems.

Treasury functions, such as:
- development and implementation of strategies for capital formation;
- planning tax strategies for implementation and compliance with records and filing requirements of various taxing authorities;
- analysis and interpretation of the impact of internal and external events on capital formation; and
- cash and funds management; credit, inventory, and risk management.

Other functions, such as:
- management of information systems;
- communicating with investors and others in the financial market regarding financial matters;
- strategic planning, financial modelling; and
- economic evaluation.

The financial executive is an integral member of business management. He develops and contributes to policies that direct the organization to its goals; and he initiates response or responds to internal and external forces that are relevant to his responsibilities in the business-management structure.

Source: *Financial Executives Institute, Bulletin No. 299* (July 6, 1981), p. 2. Reprinted by permission.

Under such circumstances, financial planning and working-capital management are critical in ensuring the firm's liquidity and short-term survival, and they require constant attention and updating. Specific activities include financial analysis and control through the accounting systems, the preparation of budgets and financing plans, the management of current assets, and the maintenance of ready access to financial markets through good working relationships with banks and other financial institutions. Other recurring and time-consuming duties include advising on dividend policy, managing pension programs, and fostering good public and shareholder relations. Evaluation and financing of major long-term investments, although critically important for long-run success and profitability, are likely to occur at less frequent intervals. The fact is that the financial executive, like other senior officers, typically has to spend a great deal of time on the more routine and possibly less exciting aspects of corporate management.

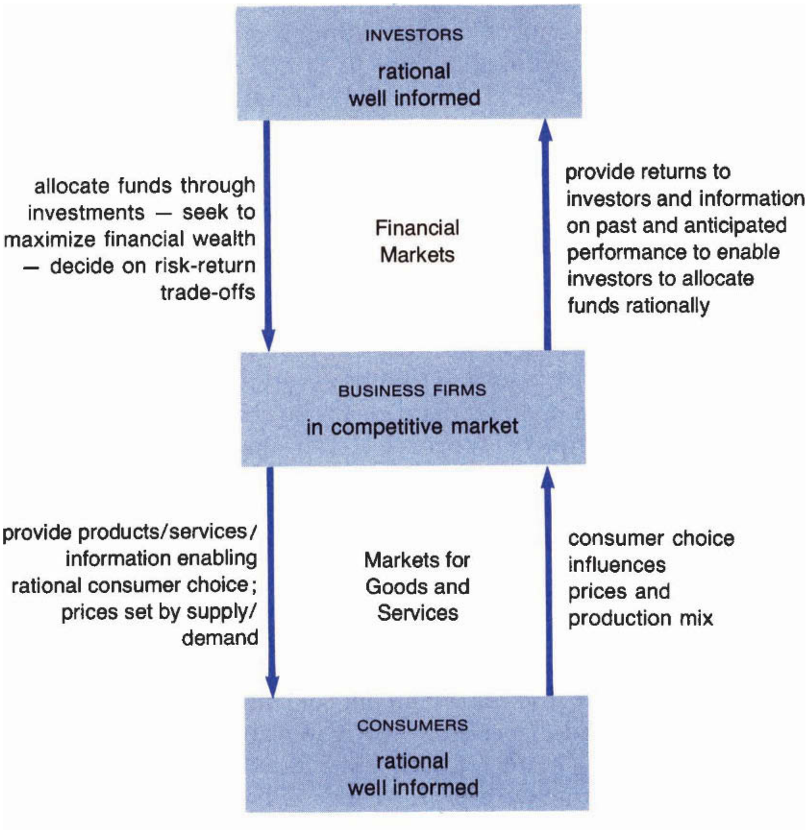
1.3 Market Environment

In dealing with the subject of finance, we can discuss various areas of financial decision making in a purely "descriptive" manner. We would observe the real world and its institutional environment, and based on such observations attempt to describe how various participants in the financial arena tend to operate: managers, shareholders, creditors, and others. Such a descriptive approach is an important part of any discussion of finance. It is useful in providing students with a feeling for "the real world", and with some appreciation for the actual environment within which they will have to operate. At the same time, finance as an academic discipline has more to offer than a mere recount of what can be observed. The "normative" aspect of finance — financial theory — is concerned with how financial decisions ought to be made or with improving financial practice.

A prerequisite for the development of financial theory is the formulation of financial objectives. Clearly we can only term a decision as "good" or "bad", "better" or "worse", if we have some standard against which we can measure performance. The purpose of developing financial objectives is to provide such a standard. In this section, we review the philosophy and framework of free markets, and discuss the implications of the market environment for the formulation of financial objectives.

Much of the economic system of our Western industrialized nations is based on the philosophy of free markets. This free-market framework is illustrated schematically in a simplified fashion in Figure 1.1. Businesses obtain funds by selling securities, such as stocks or bonds, in financial markets where investors allocate their savings to the purchase of securities so as to maximize their wealth. Businesses then allocate the funds received to capital investments, such as plant and equipment, so as to maximize their own wealth by satisfying consumer demand for goods and services. This system is appealing because it fits well into our general democratic philosophy. It allows for free investor and consumer choice, with businesses simply reacting to the collective choices made by market participants.

FIGURE 1.1
Simplified Framework for a Free Market Economy



The free-market system also has important underpinnings in economic theory that date back to Adam Smith.[6] Thus, one can show that under assumptions of "perfect markets" (implying, for example, perfect competition, rational and well-informed investors and consumers, and prices that capture all external costs or benefits), this system will lead to an "efficient" allocation of resources in the economy. Busi-

6. A. Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations* (New York: P.F. Collier and Son, 1901).

nesses that best serve consumer interests will capture an increased share of the market and reap higher returns. Investors will be attracted to make additional funds available to such firms, thereby ensuring that financial resources are allocated to ventures and organizations that most efficiently serve the economic preferences of society.

Free markets may have limitations that will be explored below. Rightly or wrongly, however, most financial theory has been developed within the framework of free markets. That framework, therefore, will serve as a background for much of the material to be presented in this book, making it important to detail the specific implications that a free-market system has for the financial objectives that businesses ought to pursue.

1.4 Objectives of Financial Management

MAXIMIZATION OF PROFITS

Often, an almost stereotyped response regarding the objectives of business in a competitive market environment is the maximization of profits. This position is reinforced by some of the early economic literature on the subject. To quote one respected economist: "That the entrepreneur aims at maximizing his profits is one of the most fundamental assumptions of economic theory. So much so that it has almost come to be regarded as the equivalent of rational behavior . . . we have a vested interest in maintaining this assumption — it makes economic analysis so much simpler."[7]

In recent decades, the objective of profit maximization has come under increasing criticism, even by those who accept the framework of private enterprise and free markets. We note in this context that the notion of profits itself is subject to different interpretations, with economists typically using a broader and more encompassing definition than accountants. Some of the concerns arise when the narrow accounting definition is applied in a broad economic context.[8] Specifically, the critics have shown that the concept of profit maximization can not only have conceptual flaws, but can also be too ambiguous to be operationally meaningful. Hence, it should not be the goal of business and, in fact, it is not the objective that businessmen say they pursue. The three main issues in this context are:

7. See P. Scitovsky, "A Note on Profit Maximization and its Implications," *Review of Economic Studies* (1943-44), p. 57.

8. Accountants typically measure profits as the residual gain that accrues to equity investors after deducting interest on debt but before provision of any returns on equity capital. Economists view profits as the residual gain left after a fair-market-determined return (including possible premiums for risk) has been provided on all capital (including equity) invested. If we use this broader economic definition, many of the inconsistencies that we discuss below disappear, as economic profits can be linked to an increase in shareholder wealth much more readily than accounting profits.

1. From an owner's or shareholder's point of view, profits have to be viewed in relation to the amount of capital invested.
2. The occurrence of profits is not a one-time event. Rather, most businesses anticipate a stream of profits over time. Hence, any operational objective ought to incorporate the "time value of money" that allows for profits to be compared and traded off across different time periods.
3. Any stream of anticipated profits is subject to risk. If a financial objective is to be operationally meaningful, it will have to allow for the explicit evaluation of risk.[9]

We discuss each of these points in turn.

PROFITS VERSUS RETURN ON CAPITAL INVESTED

Clearly, conceptual inconsistencies may arise if accounting profits are not related to the amount of capital invested or to the number of shares outstanding, as the wealth position of owners or shareholders could suffer even when total profits increase. For example, a firm could always increase its aggregate profits by raising additional capital through the sale of more common shares, and by investing the proceeds in projects that yield positive rates of return. If, however, such returns are below the average returns that the firm earns on its existing investments, a reduction in earnings per share will result. Such a dilution in earnings per share may suggest an inappropriate interpretation of profit maximization, as the original shareholders could now be worse off.

Example

A firm has 1,000 common shares outstanding and after-tax profits of $1,000 per year, yielding earnings per share of $1. Assume that a further 1,000 shares are sold that net the company $7,000 in new capital. These $7,000 are then invested to generate an additional after-tax profit of just $500 per year. Thus, although total profits have increased significantly to a new total of $1,500 per year, the position of the original shareholders has been diluted. Earnings per share have dipped from the original $1 to $0.75.

We conclude that profits have to be viewed in relation to capital invested if they are to guide financial decision making.

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9. A fourth issue that could be raised in this context is whether owners in their evaluation of an enterprise are mainly concerned with profits as defined by accountants or economists, cash flows or dividends. Although important, this issue is more technical than the issues presented above, and we postpone its discussion to the appropriate places in chapters 8 and 16.

Related to the above is the issue of dividend policy. So long as profits that are retained in the business can be invested to earn a positive return, earnings per share can be increased by retaining all profits and never paying dividends. Obviously, however, it would not be in the best interest of shareholders if a firm retained earnings only to invest surplus funds in a low-yielding savings account at a bank. Although earnings per share would increase modestly, shareholders would rather see the firm distributing its excess cash through dividend payments. Shareholders could then reinvest these monies themselves in more productive ventures. The return on capital invested by a firm — whether it is raised externally through the sale of new securities or internally through retained earnings — should always be commensurate with reasonable shareholder expectations in a given market environment. If it is not, disappointed investors will sell their shares and channel their funds elsewhere. As a consequence, the firm's stock price will fall, and shareholders will see their wealth position erode.

TIME AND RISK

Two key dimensions of almost any financial decision are time and risk. These variables are at the core of financial decision making, and will be recognized in every major section of this text. Typically, financial decisions entail a stream of uncertain future cash flows. For example, if a firm undertakes an investment, such as building a new plant, it does so on the expectation that the project will generate a stream of future cash flows that over time will both repay the investment and provide a fair return. Similarly, if an investor buys a security such as a common share, he does so in the anticipation of future cash flows in the form of dividends and/or capital gains. We will discuss the time value of money in detail in subsequent chapters. At this stage, we simply note that, because money can be invested to earn a return, identical dollar amounts received at two different points in time do not have the same economic value. A dollar received today can be reinvested immediately and earn interest — consequently, it is worth more than a dollar received sometime in the future. The statement of profit maximization ignores this fundamental time dimension and fails to provide any operational guidance on how we should trade off profits across different time periods. To illustrate, one investment may promise moderate but fairly immediate returns, whereas a second project may entail a lengthy start-up period but offer the potential for significant long-term gains. The two projects may be mutually exclusive. If a financial objective is to be operationally meaningful, it will have to provide guidance on how to decide between such alternatives.

Uncertainty or risk is the other key factor that affects financial decisions. As we know, the future is inherently uncertain, and any investor who relies on a stream of estimated future cash flows is subject to risk. Even the most carefully prepared projections may fail to materialize, and actual cash flows may fall short of or exceed original estimates. However, not all investments are subject to the same degree of risk. For example, the returns associated with government bonds are much more predictable than those expected from an investment in mining stock. Similarly, at the level of a firm, an investment to automate part of a well-known production process may result in more predictable returns than an investment that entails launching a new and untried product. Most market participants — investors and managers alike — are not indifferent toward risk, but view risk as something negative, to be avoided or reduced where possible. As a consequence, investors in financial markets generally demand a higher expected return, or a "risk premium", in order to invest in risky securities. Again, the concept of profit maximization ignores these well-documented preferences of decision-makers with regard to risk.

MAXIMIZATION OF SHAREHOLDER WEALTH

We would like to find a financial objective that overcomes the ambiguities and conceptual shortcomings of profit maximization. The key question in this context is whose value judgments one should rely on in developing time preferences and risk attitudes that are needed for the evaluation of streams of uncertain future cash flows. In the context of the free-market framework, the only justifiable source for such judgments is the market itself, and the time value and the risk attitudes that ought to guide managerial decision making are those observed in the marketplace. The time value of money is reflected in interest rates, and market trade-offs between risk and expected returns will be considered in detail in subsequent chapters. We will see that these market preferences are measurable, for example, by relating statistically expected or average returns for various types of securities to risk or variations in those returns over time.

To obtain financial objectives, we next need to translate such market preferences regarding time and risk into variables that are operationally meaningful at the level of the firm. The standard mechanism through which market preferences are reflected in economics is price — share price in our case, because common shares are certificates that confer ultimate ownership rights in the firm. If we substitute the maximization of the firm's share prices for profit maximization, we overcome most of the ambiguities discussed above, as the objective of share-price maximization incorporates both the time and risk dimensions that are so critical in financial decisions.

Example

Assume that a firm did not abide by market preferences in selecting its investment projects and was overly liberal in accepting risky projects that did not promise commensurate returns. Once investors perceived such a shift in investment policy, they would start selling their shareholdings in the firm, and reinvest in firms where the trade-off between risk and expected returns was more consistent with their preferences. As a consequence, share prices would drop until the anticipated returns were once again in line with market preferences. Similarly, if a firm were overly stringent in its acceptance criteria for new investments, it would reject some opportunities that the market would support. These projects would be taken up by competitors. The firm would have sacrificed growth potential and this would be reflected in a less than optimal share price.

Assuming rational and well-informed investors, the objective of financial management in a free-market framework should be the maximization of shareholder wealth as reflected in share prices.[10] Even if some shareholders should become dissatisfied with the policies being pursued, perhaps because their preferences differ from those that prevail in the market, their interests will be served as they can now sell their shares for a good price and pursue other activities that they find more suitable. Hence, we can essentially separate the decisions that management makes in running the firm, which ought to be guided by aggregate market preferences as outlined above, from preferences that individual shareholders may have. This *concept of separation* is important for financial management; it implies that the financial executive need not be concerned with individual shareholder reactions to his policies, but only with the aggregate judgment of the marketplace.

Example

Assume that a firm has paid a regular dividend over the past few years. This year, because of new technological developments, management has exciting new investment and growth oppor-

10. The maximization of shareholder wealth through share prices can be formulated and expressed in various ways. Thus, one can think about maximizing the price per individual share, the total market value of the firm's outstanding common equity or the firm's total market value of all outstanding securities (including debt and preferred shares). It can be shown that all these formulations of maximizing shareholder wealth are essentially equivalent and will lead to the same actions and results. See H. Levy and M. Sarnat, "A Pedagogic Note on Alternative Formulations of the Goal of the Firm," *The Journal of Business* (October, 1977), pp. 526-28. For a firm with a given set of investments and operations, this implies that the number of shares outstanding is given and remains constant. For example, a firm could alter its share price through stock repurchases or stock splits without affecting the wealth position of the individual shareholder or the total market value of its outstanding equity. We exclude from consideration such manipulations of stock price that are essentially effected by altering the number of shares outstanding, rather than by increasing the economic value of the firm.

> tunities. Because these imply substantial funding requirements, management decides to suspend its dividend payments temporarily in order to retain as much as possible for reinvestment. In aggregate, the market reacts positively to this news. As a consequence, the share price increases from the previous level of \$50 per share to \$60 per share. An individual shareholder who had come to rely on the regular dividend payments to supplement his income, is quite distraught by the announcement. As aggregate market reaction was positive, however, this investor still stands to gain. He can sell his shares, realize the capital gain, and reinvest the increased amount if he chooses in a similar firm that provides regular dividend payments. The firm's decision, being guided by market reaction as reflected in share price, has made everyone better off, even if it is at odds with individual shareholder preferences.

For other organizational forms of business where no share certificates exist, such as partnerships or sole proprietorships, it is conceptually easy to adapt this objective. In such cases, the goal becomes the maximization of the owner's wealth as expressed, for example, by the market value of the business if it were to be sold. From a practical point of view, however, a clear formulation of financial objectives becomes increasingly difficult as we move from market-based corporations whose shares are publicly traded to enterprises that have less-direct market links. Although we can find substitute objectives for profit-oriented private businesses, this general approach may no longer be entirely appropriate once we deal with organizations such as co-operatives or Crown corporations, as other concerns that are not market related may play important roles in management.

Although much stronger conceptually than profit maximization, even the objective of share-price maximization does have critics. The criticisms fall into two broad categories:

1. Even if one basically accepts the free-enterprise framework, the arguments outlined above hinge on the assumption of rational and well-informed investors with behaviour patterns that are reasonably predictable by management. If we move from this idealized view into real markets with all their complexities and imperfections, share-price maximization may once again embody conceptual ambiguities that could stand in the way of allowing it to become an operational goal for business decisions.
2. More general questions regarding the validity of the free-market framework and its underlying assumptions in today's society.

We first review what may be termed operational difficulties, leaving a discussion of broader concerns regarding free markets for the following section.

OPERATIONAL DIFFICULTIES IN MAXIMIZING SHARE PRICES

The consequences of having shareholders who may not always be well-informed and rational are best illustrated through examples. Most firms can increase reported profits in the short run by curtailing discretionary expenditures such as research and development, advertising, and perhaps even maintenance. Clearly, if such curtailments are drastic, they will jeopardize the firm's competitive position in the longer run. If, however, shareholders misinterpret the sudden increase in profitability, share prices could react positively and actually go up, only to collapse once information regarding the firm's real situation filters through to the investment community. Similarly, it is well known that false or incomplete information regarding exploration results can cause short-term speculative booms in the prices of mining stocks. Also, investor attitudes — like public opinion in other areas — may simply be volatile and subject to irrationalities and mass psychology, without good economic reason.

Clearly, actions that might maximize share prices in the short run but that are not based on substantive economic realities need not serve the best long-term interests of either the firm and its owners or society. On the contrary, they can bring about misallocations of resources by misled investors and thereby promote inefficiencies. To exclude such undesirable effects, it is normally argued that firms should strive to maximize share prices *over the long run.* This implies that short-run fluctuations caused, for example, by investor ignorance or irrationality should not dominate considerations in choosing between alternative financial policies.[11]

Having allowed for the possibility of a lack of information and short-term shareholder irrationality in this fashion still does not remove all obstacles. In order to use share prices as a guide for evaluating decisions, we would need to know what influences share prices and how financial markets react to various financial policies. Given that most financial and economic theories are based on the objective of share price maximization, it is understandable that the issue of valuation — or what determines the value of securities — has received considerable attention, and a great number of statistical studies have been conducted that attempt to relate share prices to other financial

11. The question as to what time span represents "the long run" is a thorny one that is normally side-stepped. Clearly, the time horizon should be of sufficient duration to allow the investment community to absorb fully all relevant information. Even then, one can argue that investors on occasion have sustained speculative booms that had little economic justification, and that they have done so for significant periods of time. In retrospect, and with the hindsight knowledge that such booms subsequently collapsed, it is easy to say that firms should not have been misled by such temporary aberrations. Obviously, it is much more difficult for a manager to decide that he will ignore current signals from the market because he believes that the market is acting irrationally. Unless the manager has inside information, such a disregard would imply that he claims superior judgment. Even if the future should prove him to be right, how long can he afford to be at odds with a market to which he is ultimately responsible?

variables. At the same time, impressive advances have been made on the theoretical front to derive how financial assets ought to be priced if one assumes efficient and perfect markets. The results of these efforts will be reviewed in detail in the appropriate sections of this book. In spite of all the advances, however, the issue of valuation remains controversial and in many ways unresolved. This makes it difficult to judge specific managerial alternatives against the stated objective of share-price maximization. Although empirical research and financial theories can provide guidance, they have to be supplemented by managerial judgment in the many areas where the evidence is less than perfect.

1.5 Limitations of the Free-Market Framework

More general and fundamental criticisms of the free-market framework can be grouped as follows:

1. Given that the assumptions of "perfect markets" — such as perfect competition and no externalities — are not met in practice, a narrow pursuit of wealth maximization by market participants need not lead to the desired result of economic efficiency.
2. A single-minded focus on share-price maximization does not correspond to observed managerial behaviour. Rather, management is viewed as an arbitrator and moderator between sometimes conflicting groups, all of which have a justifiable interest in the operations of the firm: shareholders, unions and employees, customers, governments, and management itself.
3. The objective of economic efficiency is too narrow to represent a justifiable overriding goal for society. It leaves unanswered many of society's important concerns, such as equity in distribution of wealth and income among economic agents, or measurable material wealth versus "quality of life".

We comment briefly on each of these areas of concern.

MARKET IMPERFECTIONS

It is generally recognized that free-market behaviour will not lead to economically optimal results if the assumptions of "perfect markets" are not met. For example, market participants with monopoly powers can exploit their position to the detriment of society. The growing concentration of power — both in business and unions — is of concern in this context. Externalities can cause further distortions. Externalities are costs or benefits that one party imposes on others without paying or receiving compensation. To illustrate, through careless practices a logging firm may jeopardize a salmon run in a particular river. If the logging firm is not forced to bear all of the resultant costs of such action, policies that may be optimal from the logging firm's point of view need not be optimal from the point of view of the overall economy. Similarly, overfishing of a river system may result in increased immediate profits to those participating, but cause potentially irreparable damages to be borne by those who follow. Again, inasmuch as those who overexploit do not have to compensate society for consequential losses, individual wealth maximization may become disfunctional. Real markets are not perfect, and free but imperfect markets need not produce optimal results.

Most people will accept the argument to this point. Disagreement arises when one debates how society, and in particular business, ought to respond to such imperfections. Some argue that, apart from the profit motive, business ought to display social responsibility and ought to consider the overall impact of its actions on social welfare. Others contend that in a truly competitive environment business cannot afford the luxury of objectives that may detract from economic performance.[12] Following this line of thought, it would be the role of governments to set legal constraints that apply uniformly to all market competitors and that control major imperfections deemed to cause social concern. Government intervention with free-market behaviour in a variety of areas can be justified on grounds that it attempts to control market imperfections, thereby re-establishing the assumptions on which the free-market philosophy is founded. For example, legislation on the disclosure of true interest rates on loans, or on fair advertising, is aimed at removing imperfections in the flow of information to market participants; pollution controls attempt to reduce costs that a deteriorating environment may impose on society; and anticombines legislation seeks to ensure workable competition.

Even so, the question arises whether business ought to be guided by the letter or the spirit of the law; whether business ought to break the law when it is cheaper to pay fines rather than to abide by the law; and whether business ought to lobby actively against laws that may be detrimental to one industry but beneficial to society at large. To illustrate, firms active in international markets have come under scrutiny and severe criticism for having resorted to kickbacks and bribes in the process of securing orders. At the time they were made, such bribes were probably perceived as being in the best interest of shareholders who would have benefited from the added business. Similarly, Ford Motor Company was drawn into extensive litigation and sued for having traded off profits against human lives in their decision not to redesign Pinto cars with potentially dangerous fuel-tank mountings.[13]

12. For a detailed treatment of this topic, see R. Farmer and D. Hogue, *Corporate Social Responsibility,* 2nd ed. (Toronto: Lexington Books, 1985).

13. See, for example, "The Arithmetic that Cost 66m," *The Sunday Times,* February 12, 1978.

As in many complex areas of life, reasonable and workable positions are likely to involve compromises. It is our view that business can neither afford to neglect narrow measures of economic efficiency, nor turn a blind eye to major social concerns and problems on which its actions impinge. Evidence suggests that many Canadian firms are sensitive to these issues and are increasingly prepared to issue statements of objectives that incorporate social objectives and responsibilities alongside economic considerations.[14]

MANAGEMENT AS AN ARBITRATOR

The above conclusion immediately gives rise to the view of management's role as an arbitrator and moderator between often-conflicting interest groups and objectives. Critics question whether the criterion of maximizing benefits solely from the standpoint of shareholders is appropriate in a setting comprised of many participating parties, each with a limited role. The parties usually mentioned are management, which is often interested in growth and continuity of operations; customers, interested in quality of products and lower prices; unions and employees, interested in higher compensation, job satisfaction, and security of employment; host communities, interested in tax revenues, and in social and environmental issues; and stockholders, interested in larger dividends and/or price appreciation.

In addition, managers have personalities and objectives of their own, and the objectives of managers need not always coincide with those of shareholders. For example, growth may be appealing to managers whose status and financial rewards may be linked to the size of organization that they manage, even if it does not result in an increase in shareholder wealth. A number of recent takeovers, where one business bought out another — often at a substantial premium over the prevailing market price — have been criticized on these grounds. It has also been argued that, based on the perception of their own reward structure, management may tend to "play it safe", even where more aggressive or enterpreneurial attitudes might be supported by the market.[15] If, for example, a particular investment decision turns bad, resulting in substantial losses, a manager has more than a drop in earnings per share at stake. Both his job and his career may terminate at that point, even if the original decision may have been the best that one could have reached under the circumstances. It is not surprising then that a manager whose personal and professional

14. See, for example, L. Brooks Jr., *Canadian Corporate Social Policy* (Hamilton: The Society of Management Accountants of Canada, 1986), pp. 137-201; also, L. Brooks Jr., "Social Goals for Canadian Business," *Cost and Management* (March-April, 1984), pp. 2-8.

15. This argument derived support from psychological theories that corporate management seeks to "satisfice" rather than maximize. See, for example, H. Simon, "Theories of Decision Making in Economics and Behavioral Science," *American Economic Review* (June, 1959), pp. 253-83.

future is tied to showing at least acceptable performance may be more risk-averse than a shareholder who holds a diversified portfolio of securities and whose investment in the firm may be purely temporary.[16]

The possible discrepancies between management and shareholder objectives have been subject to increasing attention in the literature on agency relationships.[17] Management is employed by shareholders as an agent to act on their behalf. More recent financial theory has recognized that this agency relationship need not work without friction, and that shareholders may incur significant agency costs, including expenses of monitoring and control, and costs of suboptimal actions by managers. Valuation of shares by investors should reflect such anticipated agency costs. The magnitude of agency costs, however, is subject to debate. Some have argued that, if the labour market for managers is efficient, agency costs incurred by shareholders should be minor.[18] The market will identify managers who perform suboptimally, and this will impair such managers' future career prospects. Others are less sanguine about the workings of the market in this context, and recognize that managers may have considerable power to perpetuate their own interests. Management's strategy in the 1981 takeover battle for Conoco is indicative in this context. Conoco's executives felt that an unfriendly takeover could result in a replacement of existing management. At the time, Conoco's management effectively controlled the Board of Directors. To quote from *Time*:

> Top Conoco officers deftly moved to protect at least themselves in the merger game. Conoco's board of directors gave them new employment agreements that guaranteed the payment of their salaries at least through mid-1984. Bailey's (Chairman of Conoco) own arrangement called for annual pay of $637,716 until 1989. Observed one cynical Conoco employee: 'They equipped themselves with golden parachutes'.[19]

We concur with the view that recognizes management's broader role in reconciling the legitimate and possibly conflicting interests of various groups. However, even within a broader range of objectives, it is clear that management's responsibilities to the owners of the business — its shareholders — continue to occupy an important position.

16. For some evidence on this, see R. Swalm, "Utility Theory — Insights into Risk Taking," *Harvard Business Review* (November-December, 1966), pp. 123-36. A very complete study of management's approach to risk is to be found in K. MacCrimmon and D. Wehrung, *Taking Risks* (New York: The Free Press, 1986).
17. See, for example, M. Jensen and W. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics* (October, 1976), pp. 305-60, for the argument that to keep managers acting in the owners' best interests, shareholders must incur agency costs.
18. See E. Fama, "Agency Problems and the Theory of the Firm," *Journal of Political Economy* (April, 1980), pp. 288-307.
19. "History's Biggest Merger," *Time*, July 20, 1981, p. 43.

Although they may not always dominate, shareholders do have means to ensure that their interests are not disregarded: they can elect directors and challenge management's voting control through proxy fights, or they can tender their shares for sale when outsiders attempt to take over the firm in order to replace inefficient management. Furthermore, in an attempt to bridge the gap between managers' and shareholders' interests, executive compensation is often tied, at least partially, to the firm's financial performance. Again, modern agency theory has provided interesting insights into the structuring of employment contracts and compensation packages that maximize shareholder wealth in otherwise imperfect markets. It has also recognized that shareholders may face a trade-off between monitoring costs to ensure reasonable management behaviour and forms of compensation that will provide appropriate self-motivation in this regard.[20]

In recent years, we have witnessed a considerable increase in the ownership of corporate shares by financial institutions such as mutual funds, pension plans, and insurance companies. In most instances, the managers of such investment funds have been relatively passive and have not exercised their voting privileges as shareholders. If they become dissatisfied with management policies, they will simply sell their holdings. However, large blocks of shares are not always easy to dispose of on short notice, particularly in Canadian markets that, compared to those of the United States, are of limited size. Thus, investment funds may become "locked into" their holdings for substantial periods of time. This, in turn, could prompt a more active interest by institutional shareholders in management control, in particular at a time where some institutional investors feel that management may have abused its power. Specific concerns were triggered in the context of recent takeover battles between major firms, and range from employment contracts and generous termination settlements that managers have handed themselves to defensive moves against unwanted takeovers, which on occasion resulted in substantial portfolio losses for investors. Recently, the Council of Institutional Investors in the United States (which jointly control assets of nearly US$200 billion) called a formal meeting to demand greater shareholder rights. Among them, stockholder approval would be required for a significant range of management actions. As *Time* reports, the endorsed resolutions are so far "no more than a talking paper. But the voices belong to some powerful investors."[21] In time, the result may be a stronger, more active, and unified shareholder front, with management becoming more responsive to shareholder interests.

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20. For a more detailed introduction to agency theory, see D. Thornton, "A Look at Agency Theory for the Novice — Part I," *CA Magazine* (November, 1984), pp. 90-97, and "A Look at Agency Theory for the Novice — Part II," *CA Magazine* (January, 1985), pp. 93-100.

21. J. Castro, "And Now, Proxy Power," *Time*, April 21, 1986, p. 76.

At the same time, however, the increasing concentration of power in the hands of financial institutions has not been without concern. To quote William C. Norris, Chairman and Chief Executive Officer of Control Data:

> Like most large publicly owned corporations, a high percentage of our stock is held by financial institutions. For the most part, the managers of these organizations are more interested in current increases in earnings than the long-term potential of the company. This is because their own performance is judged largely on a year-to-year basis. The result is a serious problem for U.S. publicly held companies, for most of them are competing against foreign firms whose shareholders are much less concerned about short-term performance. As a consequence, most U.S. executives are loath to undertake long-term, high-risk innovations. Delays in meeting objectives could depress earnings, in turn reducing bonuses geared to profit performance — or even worse, making the company vulnerable to a hostile takeover.[22]

Resolution of this management-versus-shareholders controversy critically depends on the assumptions of perfect information and economic rationality: are investors myopic and greedy, thus interfering with the true economic purpose of the enterprise, or is management self-centred and inefficient, seeking to shield itself from the pressures of performance that emanate from a competitive financial marketplace? As is often the case, the answer is probably not clear-cut.

Finally, in recognition of the increasing concentration of capital in the hands of financial institutions, labour unions in some countries have pressed for equity participation and employee representation on the firm's board of directors. In some European countries such as Germany, employee participation has now been anchored in law, and the interests that employees have in the firms for which they work have been institutionalized. Clearly, when a substantial portion of the board of directors is comprised of employee representatives, there can no longer be any question regarding a one-sided loyalty by management to shareholders.

PHILOSOPHICAL CONCERNS

Finally, there are concerns about the free-market system that become almost philosophical in nature, and that have to be argued on the basis of values and beliefs. For example, do people know what is best for them in the long run, and do they have the foresight and self-discipline to implement it through their actions in the marketplace? Alternately, are people basically short-sighted and greedy, willing to sacrifice long-term welfare and stability for temporary gain? Are individual consumers sovereign agents who act in pursuit of their happiness, driven by

22. W. Norris, "Corporate Responsibility," *Financial Executive* (July, 1985), p. 21.

their own free will, or can their wants be manipulated through advertising to a point where they become pawns in the hands of powerful and self-perpetuating economic interests?

Various areas of generally accepted legislation curtail consumer freedom and can only be justified if one accepts the view that, at least in some areas, people need to be protected from themselves; compulsory seat-belt legislation, laws that make the use or possession of drugs a criminal offence, and legislation that restricts gambling are illustrative. Even legislation that constrains the exploitation of natural resources is rooted in the belief that people, if left alone, will overexploit nature, a strategy that they may only regret once it is too late.

It also has been contended that the objective of economic efficiency, which forms the cornerstone of the arguments supporting free markets, is overly narrow and does not do justice to the complexity of today's society and its aspirations. Even in the economic realm, it says nothing about how economic wealth and income ought to be distributed between market participants. For example, the interference by unions with free labour markets is based on the premise that the market, if left alone, will not produce fair and equitable distributions. If one remembers conditions during the early stages of the Industrial Revolution, this assertion is hard to dispute.

In an international context, concerns such as the protection of domestic jobs, foreign ownership and control, and national independence often inhibit the pursuit of economic advantages that free-world markets may otherwise entail. One might also raise the issue about trade-offs between material wealth and the "quality of life". Is there room for job-enrichment programs, shortened work weeks or flexible working hours, even at the expense of economic efficiency? Are the wealthier people and societies always the best adjusted and happiest ones?

We do not have answers to these and many other important questions that have been raised about human and business objectives. The issue of human aspirations is as complex as humans themselves — and ultimately it is people with all their complexities who make managerial decisions. In order to maintain a proper perspective, students of finance should keep these broader issues in mind when they study more narrowly focussed theories and approaches to financial decision making.

At the same time, it is well to remember that the free-market system has served us well in achieving a remarkable standard of living during the last few decades — a standard that most people would not want to jeopardize and one that may provide the basis for pursuing many of society's broader aspirations. Also, it appears obvious that any alternative systems that have been devised and implemented are fraught with substantial difficulties of their own. Inasmuch as we retain the free-market framework for at least some aspects of our economic endeavours, one of businesses' primary roles will continue to be a striving for efficiency in providing goods and services demanded by the market. Even if we take the sole proprietorship where it is the prerogative of the owner-manager to pursue whatever broad set of objectives are chosen without regard to outside shareholders, one important dimension of these objectives will have to be financial performance: without adequate financial performance, a firm may not survive in a competitive environment. In a corporate context, this implies that managers will not be able to ignore the objective of shareholder wealth, or a long-run maximization of share prices. To quote William Stinson, President of Canadian Pacific Ltd.:

> Obviously, a corporation exists only by public consent. So you have obligations there. You have obligations to your employees, to your customers, and to the communities they operate in. Unfortunately, if you don't satisfy your obligation to your shareholders, you're never in a position to do the rest.[23]

1.6 Business Objectives as Viewed by Firms and Managers

In concluding this chapter, we review briefly what firms and managers consider to be their business objectives. Several studies have been conducted that either report on business goals as officially stated by corporations, or summarize interviews with financial executives as to their perceptions regarding financial objectives.

In a comprehensive survey of large North American corporations, Y. Shetty shows that most firms have multiple objectives that include both economic goals and broader social concerns.[24] Economic goals are most commonly expressed in terms of profitability, growth, and market share. Maximization of share prices is rarely mentioned explicitly, although obviously share prices are related to profitability, growth, and market share. It appears that managers find share prices somewhat elusive, as they are viewed as volatile and influenced by a variety of factors that managers neither control nor fully understand. Profits and growth are deemed to be more tangible, and probably are viewed as rough but operationally more meaningful substitutes for the broader objective of share-price maximization. We have seen the conceptual limitations of profit maximization as an objective; nevertheless, profit continues to be the most frequently cited corporate goal.

The attempt to translate share-price maximization into objectives that have more immediate operational meaning is also evident from responses that J. Mao obtained in interviews with financial executives. Some of the responses given to questions regarding their firms' financial objectives were as follows:

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23. As quoted by the *Financial Post*, April 20, 1986, p. 5.
24. This section draws heavily on Y. Shetty, "A New Look at Corporate Goals," *California Management Review* (Winter, 1979), pp. 71-79; and on J. Mao, "Survey of Capital Budgeting: Theory and Practice," *Journal of Finance* (May, 1970), pp. 349-60.

Our objective is to finance the high growth rate of this company. Because we do not use debt, we have to make sure that we earn enough profit to finance the growth. It may be that share value is maximized as well, but we don't think about that.

We have a goal of earnings per share that we manage astutely every quarter. Because this is a young, growing company, it is important in terms of future financing that we do not disappoint the investing public. The thing that means the most to the stockholder is the value of their stock. In determining the value of stock, the most critical factor is probably the earnings per share, but it also involves the fact that you are not static but moving forward and increasing your earnings per share.

To increase earnings, you have to have sales growth, which is the life-blood of any business.

The goal of the financial manager is to have his company produce a record that will enable it to raise capital at the lowest possible cost. To accomplish this goal, he needs a proper concept of stability and a proper concept of growth. In this company, we try to achieve a growth rate of 15 to 18 percent, compounded annually, in both sales and earnings.[25]

Table 1.2 shows the various goals mentioned by corporations in response to Shetty's questionnaire, together with the percentage of respondents who included each goal in their response. As we can see, at least 60 percent of the respondents explicitly stated some form of social objective, most commonly in the forms of social responsibility, employee welfare, and product quality and service. The number of firms that consider these to be major corporate objectives appears to be increasing, in particular among the large corporations. Some newer goals that were rarely found in earlier surveys include financial stability and consolidation. This probably is a reflection of the changed and turbulent business environment of the last decade, which has resulted in greater corporate vulnerability.

To illustrate the range of issues often reflected in corporate goals, we quote from the statement of corporate objectives for Alcan:[26]

1. To operate at a level of profitability that will ensure the long-term economic viability of the Company by providing a return on shareholder investment that compares favourably with other industries of similar capital intensity and risk and will enable the Company to attract capital adequate to support its growth;
2. To maintain an organization of able and committed individuals in the many countries in which we operate and to provide opportunities for growth and advancement both nationally and internationally;
3. To strive for a level of operating, technical, and marketing excellence that will ensure a strong competitive position in the various markets that we serve;

25. J. Mao, "Survey of Capital Budgeting: Theory and Practice," *Journal of Finance* (May, 1970), p. 352.

26. L. Brooks, "Social Goals for Canadian Business," *Cost and Management* (March-April, 1984), p. 7.

4. To recognize and seek to balance the interests of our shareholders, employees, customers, suppliers, governments, and the public at large, while achieving Alcan's business objectives, taking into account the differing social, economic, and environmental aspirations of the countries and communities in which we operate;
5. To maintain high standards of integrity in the conduct of all phases of our business.

TABLE 1.2
Corporate Goals as Stated by a Sample of 82 Large North American Firms

Goal category	Number of firms	Percent of firms responding *
Profitability	73	89
Growth	67	82
Market share	54	66
Social responsibility	53	65
Employee welfare	51	62
Product quality and service	49	60
Research and development	44	54
Diversification	42	51
Efficiency	41	50
Financial stability	40	49
Resource conservation	32	39
Management development	29	35
Multinational enterprise	24	29
Consolidation	14	17
Miscellaneous other goals	15	18

*Adds to more than 100 percent because most companies have more than one goal.

1.7 Summary

The last decades have witnessed considerable growth in the importance and scope of the finance function. The concentration of assets in large corporations, and the increasing complexity and uncertainty of the operating environment have both contributed to this phenomenon. The finance function is oriented toward the future, with a strong emphasis on forecasting and forward planning. Normally, financial management tends to be centralized, even in otherwise decentralized enterprises, and finance is emerging as the business function that holds the corporation together at the top management level.

Clear and operational financial objectives are important in order to judge what constitutes "good" or "bad" financial practice. Financial objectives are generally developed in the context of the free-market framework. If markets are "perfect" (perfect competition, perfect information, rational market participants, no externalities), economic theory has demonstrated that an efficient allocation of resources will result.

The economic objective of profit maximization is unsatisfactory as it ignores the amount of capital invested to generate a given profit, different patterns of profits across time, and the risks inherent in future profit projections. To overcome these deficiencies, profits have to be viewed in relation to capital invested. Furthermore, different time patterns of profits as well as risks ought to be evaluated according to preferences indicated in financial markets. Market preferences are expressed in prices — share prices in our case. Hence, management ought to pursue financial policies that maximize share prices in the long run. The issue of valuation is concerned with establishing what determines the value of shares in capital markets. In spite of some progress, our imperfect understanding of the valuation process stands in the way of making share-price maximization fully operational as a management objective.

The position that management ought to strive to maximize share prices can be criticized on the grounds that real markets are not perfect, that management also has responsibilities to other groups that have legitimate interests in the firm (notably employees, customers, and various sectors of government), and that the objective of economic efficiency is too narrow. It appears clear that the real world is too complex to be able to support a single-minded preoccupation with share prices. Even in a broader array of concerns and objectives, however, the interests of owners or shareholders will remain important. In a competitive market environment, profitability and good shareholder relations are a prerequisite to the pursuit of many additional concerns, and high share prices will assure the firm's continued access to financial markets for further expansion.

Questions and Problems

QUESTIONS FOR DISCUSSION

1. "The sole corporate objective should be the maximization of share prices as this will lead to the most efficient allocation of resources in our economy." Discuss this statement.

2. What are the operational difficulties in using the maximization of shareholder wealth as a financial objective? Why is the issue of share valuation so complex and still unresolved?

3. In several countries, unions have gained official representation on boards of directors. What do you see as the potential advantages and/or disadvantages of such a development, and how might this affect the objectives of financial management?

4. Consider the objectives that shareholders, management, and employees may have in the operation of a firm. In what areas would you expect the objectives of each of these three groups to coincide, and where would you expect to find conflicts? Provide specific examples of managerial decisions where conflicts may surface. How do you think such conflicts are resolved in practice? How should they be resolved?

5. With regard to pollution, should firms simply abide by the minimum legal requirements or go beyond the statutes in order to be good corporate citizens? Should management lobby against anti-pollution legislation where such lobbying might increase shareholder wealth?

6. Should a financial institution such as a bank voluntarily disclose the effective interest rate on consumer loans? Should lenders as a group lobby against legislation forcing the disclosure of effective interest rates on loans? Discuss.

7. In an unregulated environment, do you believe that an airline would ever compromise on maintenance and safety procedures, for example, to reduce costs? Would you feel comfortable if airline deregulation were extended to cover the areas of maintenance and safety? Discuss in the context of the concepts introduced in this chapter.

8. Provide some examples where society may have to trade off economic growth or efficiency against what one may loosely term "the quality of life". Discuss how you would resolve these conflicts.

9. In most industries that exploit natural resources, governments have interfered in various ways with free market behaviour and have imposed a variety of constraints that regulate such exploitation. Take a specific natural resource-based industry with which you are familiar and list various ways in which governments have interfered with free markets. In each case, discuss the arguments that can be made for and against such interference. Would a completely free market result in an optimal exploitation of the particular resource under consideration? Why or why not?

10. Prepare numerical examples to illustrate the potential weaknesses of the following criteria as objectives to be maximized by a firm: (a) profits after taxes, (b) total sales revenue, (c) earnings per share.

11. (a) Using published financial data, find and plot earnings per share (EPS) and market price per share over a 10-year period for any

company listed on the Toronto Stock Exchange (TSE). What, if any, relationship would you expect to find between these two variables? Discuss your findings.

(b) Using published financial information, determine the price-earnings ratio (market price per share divided by earnings per share) for several firms listed on the TSE. How do you explain that shares of different firms trade at different multiples of earnings, or, that price-earnings ratios vary from one firm to another?

12. (a) List and discuss some of the factors or variables that you think influence the prices at which the shares of a firm will trade. To what extent are share prices a reflection of managerial decisions, and to what extent are they influenced by factors that are outside management's control?

(b) Assume that you wanted to formalize your answer under (a) above and support it through statistical testing. That is, you want to relate share prices (dependent variables) to various explanatory factors (independent variables). How would you proceed, and what, if any, difficulties might you encounter? Provide a detailed step-by-step outline for a statistical testing procedure.

13. Review the published annual reports of several corporations to see whether corporate objectives are spelled out. Discuss your findings.

14. Discuss the appropriateness of economic objectives such as profit maximization or share-price maximization in the area of privately delivered medical care. To focus your discussion, you may take as specific examples (a) firms in the pharmaceutical industry, (b) nursing homes, (c) private hospitals. What, if any, other goals should be used to supplement economic objectives? Why? Prepare a complete statement of objectives that you would deem to be appropriate for such a business. Be as specific as you can and outline how you would resolve potential conflicts and trade-offs between various subgoals.

CASE

Brascan A 3-way tussle and "legal shootout" ended on May 29, 1979 when Brascan Ltd. dropped its $1.13 billion bid to acquire the shares of F.W. Woolworth Co. and capitulated to Edper Equities Ltd.

Edper Equities is a holding company, and 66 percent of its shares are owned by Edward and Peter Bronfman through Edper Investments, another holding company. Patino, a Canadian subsidiary of the

Netherland-based Patino N.V., owns the remaining shares of Edper Equities. The latter company was set up for the single purpose of taking control of Brascan Ltd.

The F.W. Woolworth Co. is a New York-based retailer with major operations in 6 countries and 1978 sales of over US$6 billion. For a number of years the firm had been experiencing problems with its U.S. operations owing to the significant competition that emerged in the variety-stores field. Its stock price was adversely affected as a result. For the fiscal year ended January 31, 1979, however, a 52-percent increase in net income was reported. Although this suggested that Woolworth's reorganized management team may have achieved a turnaround, its stock price had not responded.

Prior to 1979, Brascan could have been described as a widely held Canadian holding company, based in Toronto. It had Canadian investments in brewing, power, and resource developments, and a variety of Brazilian holdings including investments in railways, telephone, gas, and electric utilities.

Peter Newman, writing in the July 9, 1979 issue of *Maclean's* noted that under Jake Moore's chairmanship, "... Brascan became an ungainly agglomeration of assets and liabilities that ranged from Rio's luxurious Hotel Intercontinental to Labatts and the Toronto Blue Jays. ... Brascan's record of earnings has been one of the worst in North America over the past five years. ..." He then went on to state that Moore "... set up trenches of self-defence, moving more inside directors on to the board and rescheduling their elections at three-year intervals ... by 1978, counting directors associated in various ways with the Brascan organizations, 10 of the 19 directors could be considered insiders."

Toward the end of 1978, Brascan announced the sale to the Brazilian government of its principal asset, that country's largest power company. Brascan had been trying for some time to shift more of its resources back to North America where the political environment was felt to be more stable. The sale that was for US$380 million in cash involved net assets valued on the books at over $830 million. In the view of Brascan's management, circumstances precluded obtaining shareholder approval for the sale of its major Brazilian subsidiary.

Resultant inflows of cash from the sale precipitated the chain of events that ended on May 29, 1979. Any firm with such sizable cash balances is perceived as a "piggy bank" and an obvious target for takeover. This is so because an acquiring firm can gain control of a target company's assets through purchase of just over half the outstanding voting shares, and sometimes such purchase requires outlays of less than the acquired firm's cash balances. Brascan had about 26 million voting shares outstanding with a market price of $22.50 and a book value of $26.50. Thus, control of the cash would entail an expenditure of $293 million ($22.50 × 13 million shares) plus whatever premium over market price must be paid to acquire so large a block of the shares.

Given these circumstances, the threat of takeover by an outside organization became a major concern for Brascan's management. This concern was confirmed when a "very confidential" internal communication, later called the "Simon memorandum" was made public at subsequent court proceedings. That particular communication from Brascan's taxation director R.P. Simon to the firm's financial vice-president was dated November 10, 1978 and noted that there was ". . . increasing concern on Brascan's vulnerability to a takeover, and I for one, believe more and more that such concern is extremely realistic. . . ." The memo then went on to state that "The collective reaction in Brascan has been an increasingly feverish thrashing about for quick and large investments, so as to shovel out . . . cash as fast as it comes in, thereby reducing vulnerability . . . ."

Brascan's management naturally had a personal stake in blocking any possible takeover as acquiring firms frequently seek the target company's assets but not its management.

It was not long before Brascan's fears were confirmed. In December 1978, Edper Investments began buying Brascan shares, and by March 1979, with the assistance of Patino, just over 5 percent of Brascan's stock was put into newly formed Edper Equities. The joint venture between Edper and Patino for the purpose of acquiring another 45 percent of Brascan shares was underway. On April 5, in a room at Toronto's Royal York Hotel, Edper's legal counsel outlined his client's plans to Brascan's chairman. At that time a friendly takeover was proposed that would — at least over the short term — preserve Brascan's existing management structure. Moore's response according to one observer was the equivalent of a verbal shrug.

The following day, at a stormy Brascan board meeting, Edper's partial takeover bid was rejected whereas an intended $35 per share bid for the multinational retailer F.W. Woolworth Co. was approved. This was to be the first public indication that Brascan's directors were willing to consider acquisitions in unrelated fields as a way of reducing excess cash balances. The decision was a material shift in corporate policy and at odds with what many shareholders believed would occur. The expectations were that there might be some reinvestment in Canadian resource ventures and even that a special dividend might be declared. It is also significant that documentation was not provided nor was mention of the Woolworth offer made to outside directors or directors not on the board's executive committee. Only executive committee members were briefed.

On April 9, Edper Equities announced its plan to bid for 45 percent of Brascan's shares through a tender offer on condition that Brascan took no action that could materially affect the company. The offer, made at $28 per share, provided an attractive premium over the book value and prevailing market price of Brascan shares. Within hours, Brascan announced its $1.13 billion bid for Woolworth at $35 per share. Woolworth's shares traded in the $24 to $25 range before the offer and had a book value of about $38.

Woolworth's management resisted the bid from Brascan by initiating a series of legal actions, through appeal to its shareholders, and by seeking public support. Woolworth subsequently launched a suit against the Canadian Imperial Bank of Commerce (CIBC). Brascan proposed to borrow $700 million from CIBC to help finance its offer. In its suit, Woolworth charged the bank — which also provided banking services to Woolworth — with supplying Brascan with confidential information prior to Brascan's tender-offer announcement and being in a conflict of interest position with the loan. The bank denied the allegations, contending that it neither used nor revealed any customer confidences.

Immediately following the Brascan takeover announcement, Edper withdrew its offer to purchase Brascan shares, stating that the move on Woolworth constituted a material change in Brascan. Instead, Edper started to develop shareholder opposition to Brascan's bid for Woolworth. With support from holders of 10 percent of Brascan's stock, Edper could be in a position to request a special meeting of shareholders that would have to be called within 90 days.

Shortly thereafter, an editorial in *The Financial Post* reflected on the rights of Brascan shareholders as the battle heated up and shifted into the courts. To quote from the editorial: "At the end of 1978, the Toronto-based holding company suddenly announced that it was selling its principal asset, a utility operation in Brazil. The company said it had insufficient time to consult stockholders on the deal, and that anyway it was not obliged to seek ratification from them. . . ." Then referring to Brascan's bid for Woolworth, the editorial went on to state that:[27]

> The effect of the offer has been to frustrate those Brascan stockholders who might have wished to consider a bid made almost simultaneously for Brascan by Edper Equities Ltd.
>
> Yet not only has Brascan no plans to discuss this material change with its stockholders, it apparently is considering deferring next month's annual meeting on the grounds that U.S. regulations prohibit public comment on the Woolworth offer. It is difficult to believe that in the circumstances a Canadian company could not ask for at least a general vote of confidence from its stockholders — or would want to avoid doing so.
>
> Certainly any dissident shareholder attempts to force a meeting would be justified.
>
> Brascan had divested itself of a major asset; it now wants to reinvest the proceeds in a substantially new kind of business (earlier, it indicated it would look to the natural resources side); its shareholders have had no opportunity to voice their approval or disapproval of these new directions and objectives.

27. Editorial "Shareholders Ignored," *The Financial Post*, April 21, 1979. Reprinted by permission.

> Whether Brascan's management was legally obliged to provide this opportunity or not, it's a state of affairs that shows little regard for the principles underlying shareholder rights. Attitudes toward those principles, it needs reminding, are the very heart of the integrity of our securities markets.

In a surprise move on April 30, Edper purchased 11.9 percent of Brascan's shares on the American Stock Exchange, mostly in large blocks. This turned out to be the largest transaction in the Exchange's history. On May 1, a further 14.1 percent of Brascan stock was picked up for US$22.75 per share, which combined with existing holdings gave Edper about 31 percent of Brascan's 26 million outstanding shares.

Peter Bronfman, Chairman of Edper, subsequently indicated that although the company was comfortable with its 31-percent ownership position and now "out of the market", it intended to demand a special Brascan shareholders' meeting to force dropping of the Woolworth bid. Brascan countered by obtaining a temporary restraining order through the U.S. courts stopping Edper from voting its stock or soliciting proxies. Brascan obtained the injunction by contending that Edper's purchase of the shares on the American Stock Exchange constituted a secret or undeclared takeover bid that violated securities laws. The court had to decide whether the buying was preplanned and in reality a takeover bid by share solicitation or simply an ordinary market purchase.

After 3 days of tense proceedings, the restraining court order was lifted on May 25. Brascan directors subsequently abandoned the quest for Woolworth and recommended that shareholders accept a new bid by Edper Equities Ltd. that would give Edper controlling interest in Brascan. That bid, made on June 14, provided Edper with a 50.1-percent interest in Brascan.

Brascan's chairman Jake Moore was subsequently relieved of his duties. Again, according to Peter Newman's account, a separation settlement of a year's salary and an annual pension of $100,000 over the lifetime of himself and his wife was awarded to Moore.

Questions for Discussion

1. What caused the apparent conflict of interests between Brascan's management and its shareholders?
2. What strategies can management pursue to perpetuate its own interests?
3. What remedies do shareholders have in pursuing their rights as legal owners of the business?

Appendix

POSITION DESCRIPTION OF THE CHIEF FINANCIAL OFFICER FOR A MAJOR CANADIAN CORPORATION

Number	E.	Title	Vice-President — Finance
Department	Finance	Division	Head Office
Accountable to	President	Date	January 1, 1981

SUMMARY

Under the general administrative direction of the President, the Vice-President — Finance is responsible for formulating financial policies, planning and executing financial programs, supplying financial services, appraising and reporting on the financial results of the operation, and recommending action to be taken. The Vice-President — Finance is responsible for the supervision of all financial functions of the company including accounting, auditing, banking, budgetary control, cash receipts and disbursements, credit and collections, accounting methods and statistics, financing, insurance, and payrolls.

DUTIES AND RESPONSIBILITIES

Organization Planning

Develops and directs his supporting organization; establishes the duties and responsibilities for positions reporting to him.

Initiates, develops, and establishes changes in the Financial Division organization when necessary due to changing conditions or new objectives.

Financial Planning

Develops, recommends, and supervises operation of an adequate system of forecasting the company requirements for working capital.

Investigates, develops, and formulates financial plans to ensure provision of adequate funds to meet the long- and short-term requirements of the company on the most economical and practical bases consistent with sound financial practices.

Assesses alternatives and recommends the most profitable utilization of company funds.

Policies

Formulates or causes to be formulated all company policies, practices, and procedures covering accounting, auditing, banking, budgetary control, cash receipts and disbursements, credit and collections, accounting methods and statistics, financing, payroll procedures, and insurance; makes provision for the rendering of assistance and guidance to the operating divisions in these matters when needed.

Management Reports

Issues appropriate reports on the financial affairs of the company; interprets financial results, developments, and conditions of the company for the President and the Board of Directors.

Establishes the management report structure that best meets the planning and control needs of the company.

Appraisal of Financial Results

Consults with the President as required on general policy matters; keeps him informed of the overall performance and results of the company's financial activities and matters of particular interest and importance.

Assists other executives in appraising their activities in terms of financial results, pointing out significant trends in operations as indicated by analysis of reports; assists other executives in determining future policies based on applying sound business judgment to the conclusions deduced from such facts.

Co-ordination

Co-ordinates Financial Division activities for effective, efficient internal operation; co-operates with other executives of the company in co-ordinating Financial Division activities with other operations as required to provide effective service to them and to facilitate reaching overall company objectives.

Administration and Control

Directs, co-ordinates, and controls the work, delegates responsibilities and commensurate authority to the following personnel:

Comptroller	Property Manager
Insurance Manager	Analyst
Secretary	Internal Auditor

Prepares and recommends a program of expense for the Financial Division; manages its operations efficiently within cost limitations; selects and assigns subordinates; guides and assists them in their work; reviews performance and keeps them fully informed of company policies affecting their responsibilities.

Personnel Administration

Selects, trains, transfers and promotes, adjusts compensation, measures effectiveness of effort, maintains discipline and control, takes appropriate corrective action according to established company policies and procedures; co-operates with the Vice-President and Secretary in securing all assistance in administering these personnel responsibilities.

Keeping Informed

Keeps informed on overall policies and procedures of the company to the extent that is necessary to administer the Finance Division activities; interprets such policies and procedures to subordinates and associates to help them to determine proper courses of action.

Keeps currently informed of business and economic conditions in all areas affecting the company; appraises the financial implications of such conditions upon the company.

Keeps informed on current practices in financial, accounting, and operating control fields through professional and related association activities, technical and business publications, etc.

Accounting

Sees that accounting methods and procedures adequate to control and appraise the financial needs of the enterprise are established and maintained.

Capital Expenditures

Establishes procedures and criteria for assessment of capital expenditure proposals; directs the review and appraisal of requests and the preparation of a consolidated capital expenditure request for consideration and approval of the President and Board of Directors.

Credit and Collection

Directs the establishment criteria and their application in the authorization of credit and collections of money due.

Insurance

Directs the establishment and control of an adequate program of insurance for the company.

Security of Assets

Establishes and administers such control standards as may be required to ensure the conservation, effective utilization, and control of the company's assets and capital structure.

Inventory Control

Consults with and advises divisional Vice-Presidents and other company personnel on inventory policy; assists in making most effective use of funds invested in inventories.

Tax Management

Directs the determination of tax liabilities and filing of proper tax returns.

Employee Welfare Plans
Directs the financial operation of the company's employee welfare programs.

Internal Audit
Directs a program of internal audit designed to strengthen and improve security and control over assets, adherence to standard policies and procedures, and staff training.

Investment of Surplus Funds
Invests surplus cash funds in accordance with general policies established by the President.

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The Legal Setting

2.1 Introduction

The financial manager needs to be aware of certain basic aspects of business law, as the environment within which financial decisions are made is molded by such regulation. In this chapter, we discuss various legal forms of business organization, such as the sole proprietorship, the partnership, and the corporation, and we briefly review legislation that is relevant for bankruptcies and compositions.

2.2 Legal Forms of Business Organization

Business activity in Canada is conducted largely by organizations that take one of three legal forms. The three most widely used legal forms of business organization are the *sole proprietorship*, the *partnership*, and the *corporation*. Their relative importance in particular areas of endeavour is reflected in tables 2.1 and 2.2. In manufacturing, for example, where larger amounts of capital are required to establish viable operations, the corporate form of organization dominates; in retailing, which includes many small businesses, the number of sole proprietorships is significant. Even here, however, corporations dominate in terms of market power, as evidenced by sales volume. Table 2.3 clearly shows that the proportion of incorporated businesses increases with the scale of operations, and that other forms of organization typically are restricted to smaller firms. Overall, the dominant form of business in our economy is the limited company, or corporation. Much of its appeal stems from comparative advantages in the areas of income tax, legal liability, fund-raising, and the attribute of permanency. The implications of each of these considerations will be explored in detail below.

TABLE 2.1
Percentage Distribution of Establishments in Manufacturing Industries, by Type of Organization

Year	Sole proprietorships	Partnerships	Corporations	Co-operatives	Total
1964	31.1%	8.1%	58.7%	2.1%	100.0%
1969	24.2	6.1	68.1	1.6	100.0
1974	19.2	5.1	74.5	1.2	100.0
1979	12.0	3.7	83.4	0.9	100.0
1983	8.4	2.3	88.5	0.8	100.0

Source: Statistics Canada: *Manufacturing Industries of Canada*, various issues.

TABLE 2.2
Retail Trade by Form of Organization, 1983

Type of organization	Number of establishments	Percentage	Annual sales (000s)	Percentage
Unincorporated businesses[a]	104,922	58.4	$ 14,106,874	12.9
Incorporated businesses[b]	74,835	41.6	95,377,974	87.1
Totals	179,757	100.0	$109,484,848	100.0

a. Sole proprietorships and partnerships
b. Includes co-operatives (non-significant amounts)

Source: Correspondence with Statistics Canada, Retail Trade Division, May 1986.

TABLE 2.3
Percentage Distribution of Value of Shipments of Own Manufacture, by Type of Organization, 1983

	Total value of shipments per firm			
Type of organization	Under $25,000	$25,000-99,999	$100,000-499,999	$500,000 and over
Sole proprietorships	42.5%	32.2%	8.8%	0.5%
Partnerships	7.1	6.8	3.1	0.5
Corporations	50.2	60.9	88.0	97.7
Co-operatives	0.2	0.1	0.1	1.3
	100.0%	100.0%	100.0%	100.0%

Source: Correspondence with Statistics Canada, Manufacturing and Primary Industry Division, May 1986.

THE SOLE PROPRIETORSHIP

There is no legislation that pertains to the sole proprietorship as such, and a discussion of the legal consequences of this form of business is little more than a discussion of the rights and duties of an individual in society.

The sole proprietorship is the oldest form of business organization, the simplest one to establish, and the one most often used by small businesses that comprise much of the service industries. The individual need only acquire the necessary licences and he can legally begin to operate. The owner, if aware of his responsibility to creditors, can avoid collective decision making. He is not subject to public reporting requirements, enjoys maximum flexibility in operating the business, and can lay claim to all residual profits.

The sole proprietorship is also subject to significant weaknesses, however. The most serious of these is likely to be the risk of *unlimited liability*, as creditors may look to the owner's business, to his personal assets, or to both for satisfaction of their claims. A second negative aspect is the *lack of permanence*, as the life of the business is limited to that of its owner. Only the net assets remain to be passed on to heirs, and valuable contracts and other business arrangements may not be transferable.

Finally, organizing as a sole proprietorship has important tax consequences. Profits of a sole proprietorship are fully taxed at the owner's individual income tax rates. On the other hand, there are no further levies to be faced should funds subsequently be transferred from the business to its owner. This is in contrast to a corporate setting where corporate levies are paid on business profits, but the owners face additional personal taxes if they withdraw funds from the business through dividends. Whether a sole proprietorship is advantageous or disadvantageous from a tax point of view is a complex question that cannot be answered in a general way. It depends on a variety of factors, including individual and corporate tax rates and the amount and timing of cash withdrawals from the business. The issue of taxation will be reviewed in greater detail in Chapter 3.

As the sole proprietorship is typically built around one individual, most managerial responsibilities tend to fall entirely on the sole proprietor. When he finds the burden of such functions and/or the effort of maintaining adequate finances too great, he may consider a joint undertaking. Recognition of the benefits to be gained by such a pooling of resources may result in the formation of a partnership.

THE PARTNERSHIP

The partnership is similar to the sole proprietorship in many ways. For example, the partners, or at least one of them in the case of a limited partnership, face unlimited liability; the partnership's lifetime is limited to the life of any partner, or by agreement; and earnings are taxed at personal income tax rates in the hands of the partners. The formation of a partnership, however, also has consequences that differ from those of a proprietorship. Unlike the sole proprietorship, the partnership is given statutory recognition in all provinces. These statutes typically define a partnership as the relation that exists between persons carrying on business in common with a view of profit.[1]

1. *Partnership Act*, R.S.B.C. 1979, c. 312, s. 2.

The partnership is entered into in one of two ways. First, a partnership may be established under statute, and persons associated in partnership are required to make a written declaration to that effect. Second, a partnership may be held by law to exist if two or more persons act in such a way as to cause other people to believe that they are partners. This "implied" partnership results in all the legal consequences that flow from a "declared" partnership. Whether or not an implied partnership is found to exist depends on a number of factors. Although joint ownership or the sharing of profits or returns from jointly owned property does not necessarily create a partnership, it may serve as a strong indication that a partnership, in fact, exists.

The relationship of partners *inter se* (among or between themselves) adds significantly to the legal consequences that may emerge from this form of business organization. To begin with, any partner is the agent of all other partners, and his acts, while within the scope of the partnership's business, bind the other partners personally.[2] This agency relationship may be restricted by agreement between the partners, but only if a third party knows or can reasonably be expected to know of such restraints are the other co-owners protected. For most acts of one partner, such as incurring debts, the other partners are *jointly* liable. This means that if the partnership is sued for the debt, each member must contribute toward its repayment, and, if some are unable to do so, the other partners will have to pay larger amounts.

For more serious acts by one of the partners, the others are held both *jointly* and *severally* liable. If, for example, a partner misappropriates the funds of one of the partnership's customers, the customer may sue that individual. Were the partners only jointly liable, the customer could not later sue the other owners to recover what the first partner did not repay. However, when the partners are jointly and severally liable the client can sue one partner, and if not satisfied, can bring an action against any of the other partners for his claim. The liability of a partner, like that of the sole proprietor, extends beyond partnership property to his personal assets. To face unlimited liability under the circumstances just described obviously requires that the partners have a great deal of confidence and respect for one another.

Apart from liability for partnership acts, there are other legal consequences that flow from the relationship of partners *inter se*. Unless agreement is reached to the contrary between the partners, their relationships will be determined by the legislation in the partnership's jurisdiction. The following rather typical statutory provisions are illustrative:

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2. Whatever is necessary for the usual conduct of the firm's business is held to be in the scope of the partnership's business. It would, for example, include buying the usual or necessary goods, selling the goods or chattels of the firm, receiving payments and giving receipts, and hiring and firing of employees.

1. Property acquired for the partnership shall be used exclusively for the partnership and not for the private purposes of individual partners.
2. All partners are to share equally in the capital and profits of the business, and must contribute equally toward the firm's losses.
3. A partner shall be indemnified by the other partners for any liability incurred on behalf of the partnership.
4. Each partner may take part in the management of the business.
5. No remuneration shall be given for partnership activity in the business.
6. No new member may be admitted to the partnership without the consent of all partners.
7. No majority may expel any partner.

Within broad constraints, partners can draft agreements that are tailored to their particular needs and preferences, with the general statutory provisions only applying on items that have not been otherwise agreed to.

Unlike the corporation, a partnership is not for most purposes a separate legal entity. This is evident from our earlier comments about the personal liability of partners for acts of the partnership. In some ways, however, a partnership does hold a separate identity. It can, for example, sue and be sued in its own name without each partner being named as a plaintiff or defendant. It also issues its own financial statements.

The many legal consequences of forming a partnership as detailed above may make this form of business quite risky for the individuals involved. One way of reducing this risk is to become a special partner in a *limited partnership*. The limited partnership requires two classes of partners. In addition to the *special,* or *limited,* partners with limited personal liability, there must be at least one *general* partner who is personally liable for unlimited amounts. The liability of the special partners is held to the amount contributed by them as capital. Certain conduct by special partners, including an active role in the management of the firm, can result in them being deemed general partners.

Partnerships are particularly prevalent in certain lines of business that have been precluded by law from incorporating, and where the pooling of resources from various individuals enhances the ability of the business to compete. Thus, professionals such as lawyers, doctors, and accountants have been refused the right to incorporate. The reasoning behind such legislation is complex, but includes the fact that one may not want to grant limited liability to such professionals.

THE CORPORATION

The corporation, or limited company, is today's most important form of business organization as judged by its contributions to the economy. The main characteristics of a corporation are that it is a separate and independent legal entity and that its owners are financially liable only for the amount of share capital that they have contributed. Unlike a sole proprietorship or a partnership, in which the proprietor or the partners are the "business", a corporation is a distinct legal entity separate from the people who set it up, own it, and manage it.[3] Its feature of limited liability stems from this fact.

Example

The landmark case in company law illustrating this aspect is *Salomon v. Salomon & Co. Ltd.*[4] In this instance, Salomon formed a company and sold assets to it, taking both shares and secured debt in exchange. In fact, Salomon was the owner of all outstanding shares. Subsequently, the company became insolvent. When Salomon tried to enforce his rights as a secured creditor, the general creditors sued him for recovery of what was owed to them by the firm. They argued that as he owned all the shares, managed the company, and was its sole employee — he was, in fact, the company. The House of Lords, deciding in favour of Salomon, rejected the creditors' arguments and held that there was a company distinct from the shareholders and management, and that the money was owed by the company.

A company may be incorporated either *provincially* or *federally*. The choice is influenced by the scope of the proposed business activity. When a firm plans to carry on business across Canada, it should probably be incorporated federally. If, on the other hand, a company intends to function in just one or two provinces, it may be advantageous to incorporate provincially, mainly because of the savings in costs and effort. A provincial corporation may trade throughout Canada by registering as an *extraprovincial* company in other provinces.

Incorporation procedures vary from province to province, and again for federally incorporated firms. Basically, however, persons seeking to form a corporation must file an application for a corporate charter. Such applications include information on the corporate name, objectives of the company, the firm's initial capitalization, and the initial share subscribers. Some procedures also call for submission of the company's bylaws or articles, which are a set of rules for internal

3. A recent study has shown that for large, widely held companies a limited liability regime is generally the most efficient in economic terms. See P. Halpern, et al. "An Economic Analysis of Limited Liability in Corporation Law," *University of Toronto Law Journal* (1980), pp. 117-50.

4. [1897] A.C. 22 (H.L.).

management procedures. Once the application is granted, a new corporate entity is created.

The consequences of a corporation's separate legal existence can be demonstrated most clearly by contrasting it with our previous discussion of the partnership or sole proprietorship. First, because a company is a legal entity able to act in its own name, any losses or debts incurred, or wrongful acts committed, remain those of the corporation, and creditors or other persons who in some way have a claim against the company must sue it and not its owners. Consequently, a shareholder's total loss is limited to the amount paid for the purchase of company stock.[5] Obviously, lenders are aware of the limited liability implied in the corporate form of organization, and may be reluctant to provide funds for the business unless they obtain adequate security, which may include a personal guarantee by one or more of the major shareholders. Thus, such shareholders may lose the benefits of limited liability that are otherwise derived from incorporation. This is most likely to be the case in a small-business setting.

Second, incorporation allows for easy transfer of ownership, as a shareholder wishing to take his money out of a business may simply sell his shares. He is also free to bequeath shares in a will, and neither act will affect the life of the corporation. A partner trying to take her investment out of a partnership, however, either has to dissolve the partnership or sell her interest to someone the other partners are willing to accept.

Third, a shareholder is not necessarily the agent of the company or of its other shareholders. This means that neither the corporation nor its other shareholders are liable for acts by individual owners, and investors may feel safe buying shares in a company without knowing the other shareholders.

A fourth consequence of the separate corporate identity is that the corporation pays its own taxes, quite apart from any taxation of its owners. It follows that there will be double taxation of the same income stream should the firm's shareholders earn a salary from the company, receive a dividend from it, or realize a capital gain from the sale of its shares, as tax is first levied on corporate and then on individual income. On the other hand, no personal taxes are imposed on any earnings that are retained in the business. We saw that the partnership and sole proprietorship enjoy no such relief, with all income from the business taxed at personal rates, regardless of whether it is reinvested or withdrawn. These tax aspects are discussed more fully in Chapter 3.

The salient features of the three major business organizations that were reviewed above are summarized in Table 2.4.

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5. Provided that the shares are fully paid for and non-assessable. This will be detailed in Chapter 12 dealing with common shares.

TABLE 2.4
Salient Features of Various Business Organizations

Sole proprietorship	Partnership	Corporation
Easy to establish	Allows pooling of managerial and financial resources	Separate legal entity, provides permanency
Minimal reporting requirements	Limited reporting requirements	Extensive reporting requirements
Profits taxed at personal rates	Profits taxed at partners' personal rates	Corporation is taxed, distributed income also subject to tax
Unlimited liability	Partners' liability unlimited	Owner's liability limited
Business not easy to dispose of	Business interests difficult to dispose of	Shareholders' interest easily disposed of

2.3 Management of the Corporation

Although shareholders are the legal owners of a corporation, they normally elect directors who in turn appoint the firm's executive officers and oversee management. These directors act as trustees for the shareholders and make up the company's board of directors. It is the board of directors that sets corporate policy and approves important decisions. For federally incorporated firms,[6] a majority of the board must comprise resident Canadians.[7] In situations where the board is large, it is usual to find a management committee of the board dealing with many of the more routine matters.

DUTIES OF DIRECTORS

When a large number of shareholders vest the management of the corporation in the hands of a few directors, there must be safeguards to protect the owners and to prevent directors from abusing their positions of trust. By case law precedent and, to a lesser degree, by statute, it has been established that directors have to meet two broad categories of obligations. First, a director has the duty to exercise care and skill in carrying out his functions. Under the *Canada Business Corporations Act*,[8] directors who do not attend meetings or delegate their authority cannot thereby avoid liability if the persons who did act failed to exercise care and skill.

6. Other than holding companies.
7. A resident Canadian is defined as either a Canadian citizen or a landed immigrant who has been resident in Canada for less than six years.
8. S.C. 1974-75-76, c. 33.

Second, directors are subject to a number of obligations termed *fiduciary duties.*[9] The first is to act honestly and in the best interests of the firm. Second, all acts of directors must be for the furtherance of the objectives of the company, not their own. Third, a director must act on her own initiative in making decisions; and last, she must not place herself in a position where there is a possibility that her duty will conflict with her personal interests. This bars directors from gains through contracts with the company, or profits generated because of relationships with the company and knowledge gained as a result.

There is evidence to suggest that shareholders are becoming less passive about directors who fail to meet their responsibilities. Today, shareholders are seen in court much more frequently, challenging the inadequate performance of directors.[10]

RIGHTS OF SHAREHOLDERS

In addition to the protection afforded owners by the responsibilities imposed on directors, shareholders are aided by statutory requirements regarding financial disclosure. Thus, all corporations must file annual income statements and balance sheets, and make documents, such as the minutes of meetings, available to their shareholders. Widely held companies must release additional information including, for example, reports on share transactions taking place on behalf of insiders. Insiders include directors, senior officers of the company, and individuals holding controlling blocks of shares. Furthermore, most provinces provide for an investigator to look into the affairs of a company if a sufficient number of shareholders approach the court to have one appointed.

Statutes also provide that shareholders are to be invited to attend shareholders' meetings at least once every year. Under certain circumstances, the shareholders may also require management to call special meetings. At any of the meetings, questions may be asked and criticisms voiced of the company's officers. Additionally, most common shares allow the holder to vote on issues raised at shareholders' meetings and to vote in the election of the directors. It is through such voting that a shareholder can express approval or disappointment with the way management is performing.

A shareholder has a right to dividends if and when declared by the board of directors. He also has the right to share in the residual assets if the corporation is wound up or liquidated. Any other rights that may attach to shares — additional votes, for example — can be established by contract between the shareholder and the issuing company.

9. Fiduciary duties refer to relationships between persons where one acting as a trustee for the other incurs particular obligations.
10. See, for example, T. Jones, "What's Bothering Those Shareholder-Plaintiffs?" *California Management Review* (Summer, 1980), pp. 5-19.

Although all shareholders enjoy these rights, some, because they are in a position of controlling the corporation, are governed by particular rules and have certain obligations. Majority shareholders, for example, must not vote so as to discriminate intentionally against a minority shareholder. Statutory court orders may afford some protection to minority owners in situations where a controlling block of shares is voted in an oppressive way. The order could require an involuntary winding up of the company to allow the minority shareholders to get their money out, or prescribe some other action that the court holds to be just and equitable. Unlike directors, however, shareholders may, in all other circumstances, vote any way they wish, even if they vote for their own best interests and against what may be best for the corporation.

The Ontario Securities Commission has enforced a set of rules to handle "squeeze-outs" — the actions of a majority shareholder or shareholder group aimed at forcing minority shareholders to sell out at bargain prices. Squeeze-outs arise because majority shareholders are able to make important corporate decisions such as selling corporate assets, undertaking mergers, reducing dividends, and altering the capital structure without the consent of minority shareholders. At most, only a two-thirds vote in favour of such actions is required, and frequently a simple majority is sufficient. The rules provide for a *majority of the minority test,* which requires that any actions that may be aimed at squeezing out minority shareholders should not be carried out unless approved by a majority of the minority shareholders affected.

2.4 Corporate Financing

A further feature of incorporation is the broad choice of ways in which the firm can raise funds externally. Whereas partnerships and sole proprietorships are restricted to a limited range of borrowing alternatives, a corporation enjoys considerably more flexibility in its financing, and can resort to debt or equity financing in a variety of forms.

As will be detailed in later chapters, the distinction between debt and equity financing is fundamental. Debt involves a loan to the company, and can take the form of bank loans, or bond or debenture issues, with the lender becoming a creditor of the corporation. Under normal circumstances, such creditors have no voice in the company's affairs. On the other hand, equity financing through the sale of new shares implies the sale of additional ownership certificates in the company.

From the investor's standpoint, the consequences of holding different financial instruments are significant. If the investor is a creditor, he has a right to agreed-upon interest payments and to repayment of principal when the obligation comes due. A shareholder enjoys no such claim against the corporation and is only entitled to dividends if and when declared by the board of directors. Furthermore, creditors have a prior claim to assets if the company fails or is wound up, whereas the shareholder's position is residual. The several types of securities used to finance the corporation will be looked at individually in subsequent chapters to ascertain in more detail the rights and features attaching to each of them.

For the protection of investors, there are restrictions on the way in which a corporation may seek financing from the general public. Securities legislation is a provincial responsibility, and provides for the licensing of those in the securities business, establishes who may solicit public financing, and sets out the procedures to be followed. In part, protection of investors is achieved by requiring firms that seek public financing to issue a *prospectus* — a document containing extensive information about the securities being offered and about the corporation issuing the securities.[11] The prospectus is to contain full, true, and plain disclosure of all material facts relating to the proposed public offering. Several essential parts contained in a prospectus are:

1. A set of financial statements, including the auditor's statements;
2. Additional information likely to be of interest to investors, such as full details on securities to be issued, disclosures of interests in the corporation received or to be received by any experts or directors referred to in the prospectus, and the remuneration of directors and senior executives, including stock options;
3. The estimated amount to be raised and how the proceeds are to be used by the issuer;
4. A letter over the company president's signature giving salient but broad facts about the company; and
5. Approval of the contents by the corporation's directors and appropriate certification by other experts where their statements or reports appear in the prospectus.

It is worth noting that, within a time constraint, a purchaser may have an agreement to buy securities rescinded if he did not receive a prospectus before placing the order. Rescission may also occur where false statements appear in the prospectus. Shareholders may, in addition, have a right of action against directors and promoters for damages in case of deliberate misrepresentation.

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11. Federally incorporated companies are also regulated by the prospectus provisions of the *Canada Business Corporations Act.*

2.5 The Holding Company

A corporation as a separate legal entity can in turn own shares of other corporations. Where a corporation owns a substantial number of the outstanding voting shares of other corporations, it is termed a holding company.[12] Though the device of a holding company may be used for a variety of purposes, one of its important applications is to extend control over other corporations with a reduced commitment of funds.

Example

Consider investors Smith, Jones, and Brown owning 26, 15, and 10 percent respectively of the voting shares of Alpha Corporation. They form a new corporation, Beta, transferring to it their shares in Alpha to comprise the new firm's only assets. The shares of Beta are distributed to the three investors in proportion to assets contributed. Hence, Smith will obtain just over 50 percent of these shares (26/51), giving him control over Beta and hence over Alpha. Next, if Beta were to raise additional funds through issuance of debt and use the proceeds to buy a block of shares in a third corporation, the expansionary process could be extended further.

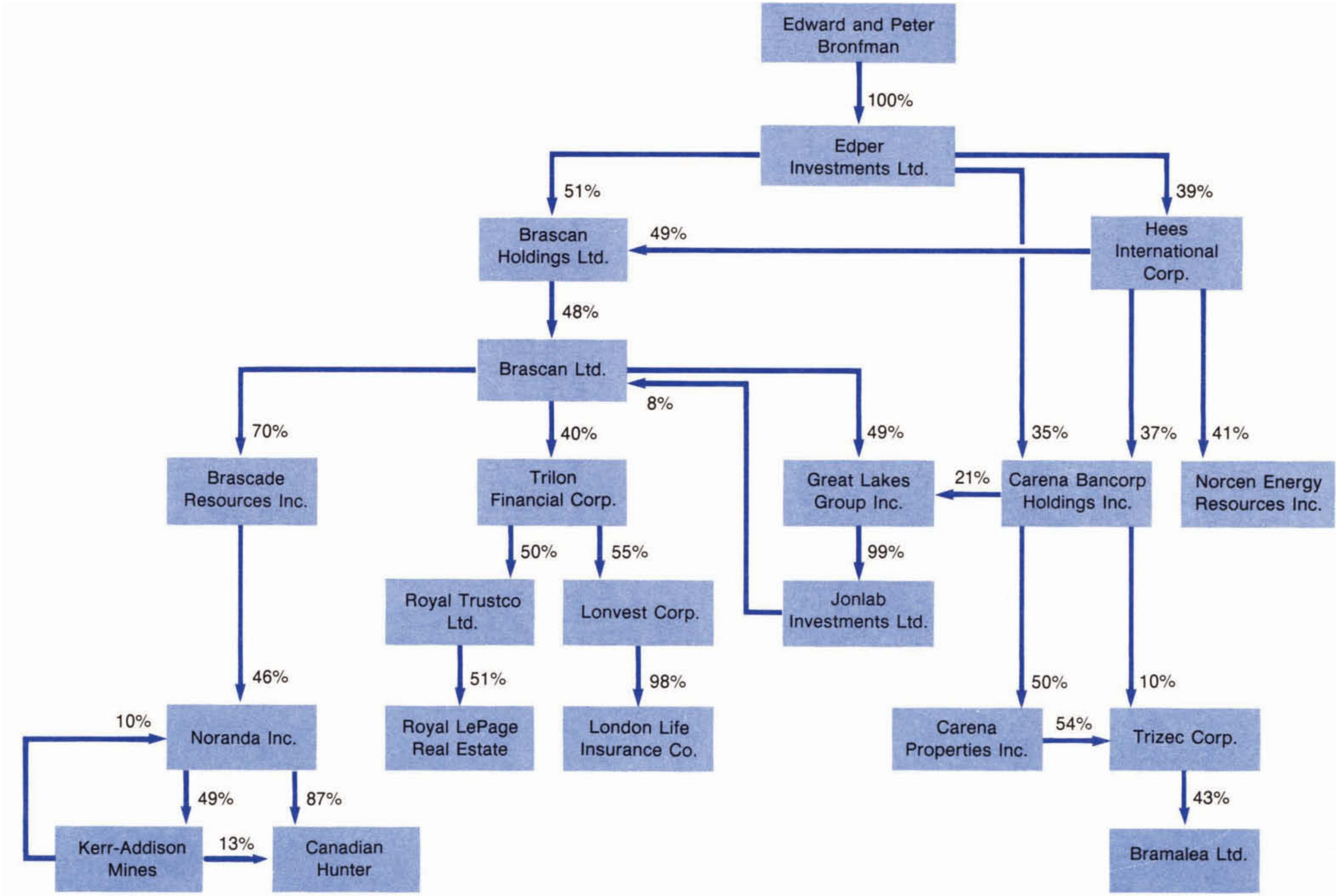
Such "pyramiding" and concentration of power through interlocking corporate ownership is becoming much more common in Canadian business and has not escaped criticism.[13] An example of one of the major Canadian holding-company complexes is provided in Figure 2.1. The holding company is also a commonly used device for firms that operate in a multinational setting. In fact, many multinational corporations consist of a parent company that essentially functions as a holding company, and a variety of wholly owned or partly owned subsidiaries that are incorporated in different host countries. Through partly owned subsidiaries, the parent firm can often reduce risk and accommodate pressures for local equity participation without giving up control.

The issue of dealings between various subsidiaries belonging to the same overall corporate structure gains particular significance in this context. Thus, where one subsidiary purchases goods and/or services from another subsidiary, profits can be shifted from one subsidiary to another through an appropriate setting of prices for such transactions. For example, a subsidiary operating in a country with relatively modest tax rates could purchase goods from a subsidiary operating in another country subject to higher tax rates. By setting a low price for such

12. A parent company need not own 50 percent plus one share of a second firm in order to control it, because the ability to control the board of directors may be achieved with far fewer voting shares, provided that all other shares are widely distributed.

13. See, for example, a brief submitted by the Cadillac Fairview Corporation relating to the Green Paper on the regulation of Canadian financial institutions. This brief was presented to the House Standing Committee on Finance, Trade and Economic Affairs on September 23, 1985.

Figure 2.1
The Hees-Brascan Corporate Complex (major holdings only)*, as at approximately April 1986.



*A more extensive diagram would include substantial holdings in MacMillan Bloedel, John Labatt Ltd., Placer Development, Continental Bank of Canada, and more than twenty-five other operating companies.

goods, profits of the buying subsidiary can be increased at the expense of profits of the selling subsidiary, and an overall reduction of taxes may be achieved. Also, where a host country has imposed restrictions on the payment of dividends to non-residents, similar techniques may be used in an attempt to transfer earnings out of that particular country. Naturally, governments are quite concerned about these possibilities of shifting profits, as such practices could severely reduce national tax revenues. Hence, dealings between related companies and the transfer prices charged on such transactions are typically subject to close surveillance by the relevant taxation authorities. Prices that cannot be justified in terms of fair market value may be challenged, and appropriate adjustments to reported profits and consequent tax liabilities may be imposed.

2.6 Bankruptcy and Composition

Just as a partnership may be dissolved or a sole proprietor may die, a corporation may cease to exist. It may be wound up voluntarily by agreement of the required number of shareholders, or wound up involuntarily by court order because of bankruptcy or abuse of minority shareholders. Because few areas of corporation law are as complex as those touching upon corporate reorganization and the winding up of companies, we limit the discussion in this section to a brief review of bankruptcy legislation.

A business that cannot meet its debts when they come due is said to be insolvent and, in such circumstances, remedies are needed for both the debtor and his creditors. The debtor will likely find it difficult to satisfy any obligations while under pressure from various sources, and may need to be released, at least partially, from his predicament so as to attempt a fresh start. The creditors of an insolvent debtor will also require remedies. They will, in most cases, be more interested in quickly salvaging what they can, rather than waiting for the possibility of full payment in the distant future. It is for the benefit of both interests that bankruptcy legislation exists. We discuss briefly to whom the *Bankruptcy Act*[14] applies, the procedures involved in filing for bankruptcy, and how it affects the various parties concerned.

Either creditors or the debtor may petition for a bankruptcy order.[15] The order may be granted if it is shown that the debtor has committed an act of bankruptcy within the last six months. Such acts include:

1. Failure to meet liabilities when they become due;

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14. R.S.C. 1970, c. B-3.
15. The *Act* does not apply where the debtor is a bank, insurance company, trust or loan company, or railway company; nor does it apply to farmers, fishermen, or employees earning less than $2,500 a year.

2. A fraudulent conveyance, gift, delivery, or transfer of property;
3. A departure from Canada with intent to defraud creditors; and
4. Removal, secretion, or disposal of property with intent to defraud creditors.

Once a court order is issued, a licensed trustee is appointed to take possession of all the assets of the bankrupt debtor including any relevant books and documents, and generally to handle affairs in the best interests of the creditors. Inspectors will be appointed by the creditors to help ensure that their interests are adequately protected.

When all the assets and liabilities of the debtor have been ascertained, the trustee will attempt to settle the claims against the debtor. First, the creditors whose loans were secured through some collateral may have their securities realized. Once secured claims have been settled, the remaining assets become available to preferred creditors whose claims would include trustee's fees, legal fees, taxes, wages payable, rent, and claims of the Crown. Any residual is then released to the unsecured creditors.

An insolvent debtor who is not forced into bankruptcy by his creditors and who does not voluntarily assign his assets to a trustee in a bankruptcy may seek relief under the *Bankruptcy Act* in another way. He can make a proposal to his creditors, through a trustee, whereby he agrees to pay a certain number of cents on each dollar owed. If creditors representing over three quarters of the sum owing agree to the scheme, the trustee may submit the proposal to the court for approval. Such a settlement is called a *composition.*

Voluntary settlements with creditors may also take the form of a *financial reorganization.* Under such schemes, debt claims may be exchanged for equity participation, with creditors becoming shareholders. Financial reorganizations are popular where the financial difficulties of the firm are viewed as temporary, and the long-run business prospects are good. The firm is relieved from the immediate burden of cash payments to service its outstanding debt, and the creditors would participate in any gains that result from turning the business around. Massey-Ferguson opted for such a reorganization in attempting to cope with its financial problems in 1980-81. Additional conversions of debt to equity followed in later years.

Whether through involuntary bankruptcy, voluntary assignment or proposal to creditors, the debtor may apply for discharge after the trustee's work is completed. Such a discharge can only be granted by court order, and its effect is to cancel any remaining debts. If the bankrupt is a company, it will then be dissolved. If it is an individual, he or she will be free to start afresh without being subject to claims and harassment from old creditors. A discharge is not always given, however. For example, if the assets have not yielded at least fifty cents on each dollar's worth of debt, a discharge may be denied. Other reasons for refusal include misconduct of the debtor ranging from extravagant living to intentionally committing acts of bankruptcy.[16]

2.7 Summary

This chapter provides an introduction to the legal setting within which business must function, with emphasis on those features of the law that are relevant to financial management.

The legal form of organization that a business selects has important implications. The main forms of business organization are the sole proprietorship, the partnership, and the corporation. In terms of economic power, the corporation has become the dominant form of organization in the Western industrialized countries. It is a prerequisite for being able to raise the significant amounts of capital that are required to finance large-scale projects.

Incorporation in Canada is governed by legislation that differs by jurisdiction. Firms may be incorporated provincially or federally.

The shareholders of a corporation are its legal owners. They elect directors to manage the firm on their behalf. Directors are required to exercise due care and skill in carrying out their functions and to act in the best interests of the firm. Apart from the election of directors, shareholders have the right to vote at shareholders' meetings, to receive dividends if and when declared by the board of directors, and to be supplied with relevant information such as the firm's annual financial statements. In addition, minority shareholders enjoy a degree of protection from oppressive acts of a controlling majority.

One of the major strengths of the corporate form of business organization is its ability to raise funds in financial markets. The two major categories of funds are debt (such as bonds and debentures) and equity (common shares). Issuance of debt entails contractual obligations for the firm to pay interest and to repay principal in accordance with the provisions of the particular debt issue. Failure to comply can result in legal action by creditors, and potential bankruptcy. Equity owners, on the other hand, have no such legal rights. To protect the investing public, extensive disclosure of information regarding the firm and the securities to be issued has to precede any public offering of securities.

A corporation can own shares of other corporations, and a holding company is a corporation that owns substantial proportions of other firms. It can be used for a variety of purposes such as extending control over other corporations, and it is also common where firms engage in multinational operations. Given various corporations that are related

16. For an interesting review of bankruptcies, see L. Kryzanowski, and J. Holland, "Bankruptcies and Commercial Arrangements in Canada: Some Empirical Evidence," *Cost and Management* (September-October, 1982), pp. 4-11.

through shareholdings, the transfer prices charged for goods and services between subsidiaries can become contentious, as such internal transactions afford the potential for a shifting of profits with a view to reducing taxes.

A corporation can terminate its existence either voluntarily or by court order as, for example, in the case of bankruptcy. Bankruptcy legislation is intended to afford protection to both creditors and the debtor, and establishes orderly procedures to be followed where a firm faces insolvency. Voluntary agreements between an insolvent firm and its creditors can take the form of a composition or a financial reorganization. Composition entails a proportionate scaling down of the firm's outstanding debt, whereas in a reorganization some debt claims are exchanged for equity participation.

Questions and Problems

QUESTIONS FOR DISCUSSION

1. What are the distinct characteristics that make the corporation different from the partnership or sole proprietorship?
2. Can you think of possible abuses of the corporate limited liability feature? Provide specific examples.
3. (a) Discuss the social benefits and the social costs of providing limited liability to businesses through the corporate form of organization.
   (b) Do you agree with the position that certain professionals such as doctors should not be allowed to incorporate? Discuss.
   (c) Which, if any, other types of business should not be allowed to limit their liability through incorporation?
4. Some people have argued that corporations should not be allowed to own shares of other corporations. What do you see as the advantages and disadvantages of interlocking corporate ownership through holding companies? Discuss.
5. It has been suggested that the sole purpose of bankruptcy legislation should be the protection of creditors and that the law should allow creditors to recover on their claims to the fullest possible extent. Do you agree? If not, what other objectives should we bear in mind? Try to illustrate your points through specific examples.

RESEARCH QUESTION

1. Using the *Financial Post's Survey of Industrials,* identify a major holding company. Draw a diagram similar to Figure 2.1 illustrating the overall corporate structure.

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The Tax Environment

June 1987 White Paper on Tax Reform

At the time that this book was being printed, the federal Minister of Finance introduced his 1987 White Paper on tax reform. It follows an earlier initiative in the United States that, among others, aimed to reduce tax rates while broadening the tax base. The material presented in this chapter summarizes the tax environment prior to these tax reform proposals. Most of the new initiatives are scheduled to become effective in 1988, and they may alter a variety of specific provisions in this chapter. Although the Minister's initiatives may well be revised before they are enacted, we briefly summarize the general nature of the most relevant provisions. The overall concepts outlined in the chapter will still apply, but the reader should bear in mind likely changes in the following specific areas:

1. The general federal tax rate on corporate income, the rate on manufacturing and processing income, and the tax rate on income eligible for the small-business deduction are to be reduced.
2. For assets acquired after 1987, some capital cost allowance rates are to be lowered, and allowances are to be claimable starting not in the year of acquisition, but only in the year in which the asset is actually put to use.
3. Costs of issuing securities are to be amortized over various periods rather than being immediately expensed.
4. Dividends on some preferred shares are to be subject to a distribution tax.
5. The number of personal tax brackets is to be reduced, and the top rate is to be lowered.
6. The gross-up on the dividend tax credit is to be reduced from $33^1/_3$ to 25 percent.
7. The proportion of capital gains that is taxable is to rise in stages from 50 to 75 percent by 1990.
8. The lifetime capital gains exemption will be limited to $100,000, although some exceptions are provided, notably for small businesses.
9. The $1,000 tax exempt amount of interest and dividend income is to be eliminated.
10. Personal exemptions that were used to reduce taxable income are to be converted into tax credits that are subtracted directly from taxes payable.

The above represent Phase I proposals. Phase II proposals that have not yet been formulated will relate essentially to sales taxes.

In appropriate parts of the book, we will remind the reader to bear these likely changes to the tax environment in mind.

3.1 Introduction

Taxes at both the corporate and individual levels affect almost all financial decisions. They are usually not "neutral", meaning that choices that appear best on a before-tax basis are often not optimal when taxes are taken into account. Because both firms and investors are ultimately interested in what they retain on an after-tax basis, a basic appreciation of the tax environment is essential for the study of finance.

The areas of tax that are particularly pertinent to financial decision making include:

1. The taxation of corporate income;
2. Expenses and other deductions allowed in determining taxable income;
3. The taxation of individual income, including dividends and interest received; and
4. The taxation of capital gains.

We discuss each area in turn.

In Canada, both the federal and provincial governments levy taxes on individuals and corporations, with provincial tax rates varying by province. Both levies have to be considered, for it is the combined tax bill that is relevant in deriving after-tax cash flows.

The subject of taxation is too complex to be treated here in any detail. What follows is a concise overview designed to provide a general understanding of the Canadian tax system. Specific rules are considered only to illustrate key concepts. Although these same rules will be carried forward into subsequent chapters, the reader should appreciate that particular details may change from time to time.

3.2 Taxation of Corporate Income

Because the *Income Tax Act*[1] stipulates different treatments for public, private, and Canadian-controlled private corporations, we need to clarify the basic distinctions among these categories. Basically, a *public corporation* is one resident in Canada, with at least one class of its shares

1. R.S.C. 1952, c. 148.

publicly traded in Canada.[2] A *private corporation* is a corporation resident in Canada that is neither a public corporation nor controlled by one. Lastly, a *Canadian-controlled private corporation* is a private corporation that meets the following requirements:

1. It was at one time a resident corporation and was either incorporated in Canada or resident here after June 18, 1971; and
2. It is not controlled directly or indirectly by non-resident persons (corporate or natural) or by one or more public corporations or by any combination of non-residents and public corporations.

The need for such distinctions essentially relates to a range of tax incentives that is available to Canadian-controlled private corporations.

TAX RATES

In most industrialized countries of the Western world, the tax rate on corporate income has been close to 50 percent. This uniformity is explained, in part, by the international mobility of capital: capital could move to countries with lower tax rates if significant discrepancies appeared.[3]

In Canada, the combined federal and provincial tax levied on corporate income follows this pattern and generally is under 50 percent. Several variations can be noted, however, and any general figure applied indiscriminately can prove misleading. For example, provincial tax rates on corporate income vary significantly, and a number of abatements or special deductions exist. These deductions are particularly important in the taxation of small-business income, income derived from manufacturing and processing operations in Canada, and income from the production of minerals, oil, and gas. Because details of such incentives are altered in some way by almost every new budget, no attempt is made here to provide specifics.

Temporary surtaxes aside, the general rate that the federal government applied as a basis for the computation of corporate tax in Canada as of 1986 was 46 percent.[4] The federal government then grants a

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2. By general rule of law, a corporation is resident in the country where its central management and control is located. Additionally, however, the *Act* provides that a company incorporated in Canada after April 26, 1965, is deemed to be resident in Canada as a simple consequence of such incorporation and regardless of any other factors. In the case of earlier incorporations, Canadian residence is established either through the general rule of law or by carrying on business here. The Minister of National Revenue may himself, however, designate a company to be a public corporation.
3. Recent major tax reforms in the United States have enlarged the base to be taxed but significantly reduced corporate tax rates. This, no doubt, will affect plans for tax reform in Canada, and in time corporate tax rates are likely to decrease in order to achieve an approximate parity across North America.
4. In his 1987 White Paper, the Federal Finance Minister proposed to reduce the general corporate rate by 8 percent. This was to put our rates in line with proposed rates in the United States and Britain.

reduction of 10 percentage points to accommodate varying taxes imposed by each province. Thus, the combined federal and provincial tax is computed as follows:

Total tax payable = general tax rate of 46 percent on taxable income

minus: 10 percent of the corporation's taxable income earned in each province

plus: provincial taxes, with various rates applied against taxable income earned in particular provinces

Because provincial tax rates on corporate income vary, ranging upward from 10 percent, the actual tax rate paid as of 1986 was generally somewhat above 46 percent and will depend on the particular province in which income is earned.[5]

Example

Consider two corporations, one with all its activities conducted in a Maritime province where the provincial tax rate is assumed to be 10 percent, and another operating in a western province where the rate is taken as 14 percent. Assuming identical taxable incomes of $10,000,000, taxes to be paid and effective rates of taxation are computed as follows:

	Maritime province	Western province
Taxable income	$10,000,000	$10,000,000
Tax (46%)	4,600,000	4,600,000
Deduction for provincial tax (10%)	1,000,000	1,000,000
Net federal tax	$ 3,600,000	$ 3,600,000
Provincial tax	1,000,000	1,400,000
Total corporate tax	$ 4,600,000	$ 5,000,000
Total tax as % of taxable income	46%	50%

The consequences of such domestic rate differentials are important, as they may affect decisions on business location. They could also influence decisions regarding transfer prices for goods and services between various operating subsidiaries located in different provinces in order to shift income to provinces with the lowest tax rates.

5. Several provinces have reduced rates for special situations, such as manufacturing and processing operations in Alberta.

SMALL-BUSINESS DEDUCTIONS

As an incentive to smaller Canadian-controlled private corporations, there is provision for a reduced rate of taxation as long as annual income does not exceed a specified limit. Reduced rates on such small-business income are available both on federal and provincial taxes in most provinces.

Example

Based on figures in effect in 1986, the net federal tax rate on eligible small-business income was 25 percent. Consider a province with an 11-percent general corporate tax rate that is reduced to 5 percent for qualifying small-business income. A Canadian-controlled private corporation operating in that province would pay the following tax rate on its first $200,000 (eligible limit) of income.

General federal tax rate (1)	Small-business deduction (2)	Net federal tax (3)=(1)−(2)	Deduction for prov. tax (4)	Reduced prov. tax rate (5)	Total tax rate (6)=(3)−(4)+(5)
46%	21%	25%	10%	5%	20%

It should be stressed that the resultant tax saving is available neither to foreign-controlled corporations nor to public corporations.

3.3 Business Expenses and Deductions

Taxes are computed by applying tax rates to taxable income. In this section, we are concerned with factors that influence the calculation of taxable income, and in particular with some of the more important expenses and deductions that can be claimed against gross income, thereby reducing a firm's taxable income.

FINANCING CHARGES

Interest on debt is considered to be a business expense, and hence is generally deductible in arriving at taxable business income.[6] Similarly, rent and lease payments are treated as deductible business expenses. On the other hand, repayments of principal on a loan, and dividends on both common and preferred shares, are not deductible and must be paid out of after-tax earnings.

6. Interest payments on Small Business Bonds, for example, are not deductible by the borrower for income tax purposes; but, unlike the usual case, they are received free of tax by the lender. As small businesses generally face a much lower tax rate than lending institutions, this measure effectively amounts to a tax subsidy on borrowing by certain small businesses that is available to be shared among the contracting parties.

Example

A firm has taxable income of \$10,000,000. Assume that the provincial tax rate is 12 percent, so that the combined federal and provincial tax becomes 48 percent. It follows that the firm pays taxes of \$4,800,000, leaving a net income of \$5,200,000. The firm considers a \$1,000,000 modernization program. The funds required to finance this program could be raised by:

1. Issuing preferred shares that call for annual dividend payments at a rate of 9 percent, or \$90,000; or
2. Incurring debt at an annual interest rate of 14 percent.

Assume that income from operations for the coming year will again be \$10,000,000, as the effects of the modernization program on income will not be felt for another 2 years.

Financing with preferred shares normally has no impact on the firm's tax payments, and the dividends of \$90,000 will have to be paid from the after-tax earnings of \$5,200,000. On the other hand, interest payments under the debt alternative are tax deductible. We obtain:

	Original income	\$10,000,000
less:	Interest on new debt financing	140,000
	Taxable income	\$ 9,860,000
less:	Tax payable (48%)	4,732,800
	After-tax income	\$ 5,127,200

The interest expense of \$140,000 results in tax savings of $4{,}800{,}000 - 4{,}732{,}800 = .48 \times 140{,}000 = \$67{,}200$. Hence, the reduction in after-tax income that results from interest payments of \$140,000 is only $5{,}200{,}000 - 5{,}127{,}200 = 140{,}000 - (.48 \times 140{,}000) = \$72{,}800$. This reduction is smaller than the \$90,000 in dividends that would be paid to preferred shareholders out of after-tax income.

Generalizing from the example above, assume that interest payments on debt are denoted by I, and that the firm's overall tax rate is T. We have:

Before-tax interest payments	$= I$
Tax savings or tax shield that results from interest payments	$= TI$
After-tax interest payments	$= (1 - T)I$

BUSINESS LOSSES

Ordinary business losses incurred in a particular year can generally be carried back and applied as a deduction against income of the preceding three years (through the filing of amended returns) or carried forward and deducted from income of the next seven years starting with the earliest possible year. Thus, a loss in 1987 may be deducted from the income of 1984 to 1986 and 1988 to 1994 inclusive, in that order. The *Income Tax Act* provides for detailed definition of a deductible loss. In addition, where there has been a change in the control of a corporation, utilization of business losses carried forward is severely restricted.

CAPITAL COST ALLOWANCES

In arriving at taxable income, businesses (both corporations and individuals) may deduct *capital cost allowances* (*CCA*) on depreciable assets. Through capital cost allowances, provision is made for an investor to recover, over some time frame, the original amount invested without having to pay tax on that portion of his proceeds.

Example

A business purchases machinery that costs $100,000. Over the years, this investment generates cash returns, while the economic value of the machine gradually declines. Clearly, it would be unfair to tax all cash returns as income. Over the life of the investment, the firm should be allowed to recover the $100,000 originally contributed without being taxed on that amount. Only cash inflows in excess of the original contribution represent a true economic gain. Capital cost allowances are the vehicle that provides for such a tax-free return of capital originally invested and subsequently consumed in the business.

Ideally, the cost of an asset with an economic life of twenty years should be charged against income over that same span of time. In practice, however, not only is the useful life of most assets difficult to anticipate, but taxpayers and tax collectors are unlikely to arrive at common estimates. Understandably, tax regulations leave little room for debate, and set out detailed and specific rules for the recovery of invested capital over time.

The term depreciation is sometimes used to denote the economic deterioration of an asset as a consequence of its productive use. Capital cost allowances are more narrowly defined as the depreciation claimed for tax purposes. As we will see below, these two concepts can differ substantially. In everyday usage, however, both terms are often used interchangeably. We will follow this common practice through the remainder of the book, drawing a distinction only in those few places where it is required.

Asset Classes

As a general rule, depreciable assets fall into one of over thirty asset classes that are defined for tax purposes. Capital cost allowances and book values are not computed for individual assets but for the aggregate of all assets that comprise an asset class. Maximum capital cost allowance rates, ranging from 4 to 100 percent per year, are prescribed for each class. As will be detailed below, these rates generally are applied against declining asset balances in each class. If a new investment is made, the purchase price of the new asset is added to the total undepreciated capital cost (or book value) of the asset class. The treatment of disposition of assets is somewhat more complex and requires the following distinctions:

1. If the selling price of the asset exceeds the asset's original cost, only the original cost is deducted from the undepreciated capital cost of the asset class. The excess becomes subject to capital-gains tax, which will be discussed in section 3.5.
2. If, as is normally the case, the selling price is lower than the asset's original cost, the undepreciated capital cost of the asset class is simply reduced by the proceeds from the sale.

Example

Investments in general machinery are combined in asset class 8. A firm currently has an undepreciated capital cost of $100,000 in this class. The firm replaces an old machine with a new model costing $30,000. The old machine, purchased several years ago for $10,000, is sold for $5,000. The resulting change in the asset class is as follows:

	Undepreciated capital cost of asset class	$100,000
plus:	Purchase price of new machine	30,000
minus:	Selling price of old machine	5,000
	New book value of asset class	$125,000

The net effect has been a $25,000 increase in the asset class, which, in turn, will increase the amount of capital cost allowances that can be claimed in subsequent periods.

If the old machine could have been sold for $15,000, the effects would be as follows:

	Undepreciated capital cost of asset class	$100,000
plus:	Purchase price of new machine	30,000
minus:	Selling price of old machine	10,000
	New book value of asset class	$120,000

In addition, a capital gain of $5,000 would have been realized on the sale of the old machine.

Exceptions to this treatment of sales arise only if all assets in a class are sold and a balance still remains in the asset class, or if sales of assets and the consequent adjustment to the undepreciated capital cost of the class result in a negative value for the asset class. In general terms, the legislation states that:

1. If all assets in a class are sold and a positive balance remains in the class, or in other words, if on disposal of such assets the amount realized is less than the undepreciated capital cost of the particular class, the difference may be viewed as a terminal loss and deducted from taxable income.
2. If the sale of any part or all of the assets would render the balance remaining in the class negative, that is, if proceeds on a disposition exceed the undepreciated capital cost in the class, the excess to the extent of capital cost already taken is treated as taxable income. Any part of the sale price not absorbed by past and undepreciated capital costs is held to be a capital gain.

A numerical illustration of these provisions is given in problem 5 with solution at the end of the chapter. Selected examples of assets, the classes to which they are normally assigned, and the maximum rates of annual capital cost allowances that applied in 1987 are provided in Table 3.1. It should be noted that not all assets are depreciable. For example, land is deemed to have an indefinite economic life and does not deteriorate with use. Hence, no provisions are made for a gradual reduction of its book value and corresponding deductions for tax purposes.

TABLE 3.1
Selected Asset Classes

Asset	Class	Maximum rate
Chinaware, cutlery, and tableware	12	100%
Mining equipment	10	30
General machinery	8	20
Brick buildings	3	5
Culverts	1	4

Declining Balance Capital Cost Allowances

The mechanics of applying a specified maximum rate of capital cost allowance against declining balances in the asset class are best explained through a numerical illustration. Assume that $C = \$100,000$ of general machinery is included in Class 8, where the maximum rate of annual capital cost allowances is $d = 20\%$. As shown in Table 3.2, the maximum capital cost allowance that can be claimed each year is the undepreciated capital cost at the beginning of the year multiplied by the specified rate of 20 percent. For the first year following acquisition, however, the claim is generally limited to one half of the amount otherwise allowable.[7] The rationale is that investments are undertaken throughout the year, and that it would be unnecessarily generous to allow a full claim for the first year for an asset that was acquired near year-end. This provision complicates the otherwise straightforward formulas for declining balance capital cost allowances.

To simplify our exposition, we assume for all formulations and illustrations that follow that asset acquisitions are made at the beginning of the year, and that *CCA* is claimed at year-end.

TABLE 3.2
Illustration of Maximum Capital Cost Allowances

Taxation year (1)	Undepreciated capital at start of year (2)	Maximum rate (%) (3)	Maximum capital cost allowance (4)=(2)×(3)	Undepreciated capital at end of year (5)=(2)−(4)
1	\$100,000	20/2	\$10,000	\$90,000
2	90,000	20	18,000	72,000
3	72,000	20	14,400	57,600
•	•	•	•	•
•	•	•	•	•
•	•	•	•	•

or in notation:

Taxation year (1)	Undepreciated capital at start of year (2)	Maximum rate (%) (3)	Maximum capital cost allowance (4)=(2)×(3)	Undepreciated capital at end of year (5)=(2)−(4)
1	C	$d/2$	$C(d/2)$	$C(1-d/2)$
2	$C(1-d/2)$	d	$Cd(1-d/2)$	$C(1-d/2)(1-d)$
3	$C(1-d/2)(1-d)$	d	$Cd(1-d/2)(1-d)$	$C(1-d/2)(1-d)^2$
n	$C(1-d/2)(1-d)^{n-2}$	d	$Cd(1-d/2)(1-d)^{n-2}$	$C(1-d/2)(1-d)^{n-1}$

where:

C = beginning undepreciated capital cost
d = maximum rate for *CCA*

7. Strictly speaking, the limit in the first year is applicable when acquisitions exceed dispositions and a net increase in the asset class is experienced for the period. Problem 4 with solution illustrates this point.

The capital cost allowances claimed give rise to a *tax shield*, or reduction in taxes. Based on column 4 in Table 3.2, tax deductible expenses of \$10,000, \$18,000, and \$14,400 are available in each of the next three years to reduce taxable income. Assuming a corporate tax rate of $T = 46\%$, actual taxes to be paid would be reduced by the tax rate times the deduction, or \$4,600, \$8,280, and \$6,624 in the respective years. Generally, we have:

$$\text{Tax savings in year } n \text{ from claiming maximum capital cost allowances} = CdT(1-d/2)(1-d)^{n-2} \qquad \textbf{(3.1)}$$

Example

Using the formulas developed above, and pursuing the numbers provided in Table 3.2, the maximum claim for capital cost allowance in year 6 becomes:

$$\begin{aligned}\text{Maximum claim for capital cost allowance} &= Cd(1-d/2)(1-d)^{n-2} \\ &= 100{,}000 \times .2 \times .9 \times (.8)^4 \\ &= \$7{,}372.80\end{aligned}$$

With a tax rate of $T = 46\%$, the tax savings in that year become:

$$\begin{aligned}\text{Tax savings from capital cost allowance} &= CdT(1-d/2)(1-d)^{n-2} \\ &= .46 \times 7{,}372.80 \\ &= \$3{,}391.49\end{aligned}$$

To illustrate further, assume that a firm has taxable income of \$20,000 before claiming capital cost allowances. Hence, it would pay taxes of $.46 \times 20{,}000 = \$9{,}200$ leaving net income of \$10,800. With capital cost allowances, the tax liability in year 6 is reduced as follows:

Income before *CCA*	\$20,000.00
Capital cost allowances	7,372.80
Taxable income	\$12,627.20
Tax payable (46%)	5,808.51
After-tax income	\$ 6,818.69

We confirm that the capital cost allowance of \$7,372.80 results in a reduction of taxes of $9{,}200 - 5{,}808.51 = \$3{,}391.49$, and a corresponding increase in cash flows available to the firm (where cash flows equal capital cost allowances plus after-tax income).

The cumulative tax shield that accrues over the next several years is given as:

$$\text{Cumulative tax savings during the first } n \text{ years} = \frac{CdT}{2} + CdT(1-d/2) + CdT(1-d/2)(1-d) + \ldots + CdT(1-d/2)(1-d)^{n-2}$$

$$= \frac{CdT}{2} + CdT(1-d/2)[1 + (1-d) + (1-d)^2 + \ldots + (1-d)^{n-2}]$$

Using the well-known formula for a geometric series,[8] this equation can be simplified and rewritten as:

$$\text{Cumulative tax savings during the first } n \text{ years} = \frac{CdT}{2} + CT\,[1-d/2][1-(1-d)^{n-1}] \qquad \textbf{(3.2)}$$

Example

The total tax savings for the first 3 years in the example set out in Table 3.2 were computed as 4,600 + 8,280 + 6,624 = $19,504. Using equation 3.2, we obtain this same result directly as:

$$\frac{CdT}{2} + CT\,[1-d/2][1-(1-d)^{n-1}] = \frac{100{,}000 \times .2 \times .46}{2} + 100{,}000 \times .46[1-\frac{.2}{2}][1-(1-.2)^2]$$

$$= \$19{,}504$$

We saw earlier that acquisitions and dispositions of assets affect the undepreciated capital cost of the asset class and, hence, the amount on which capital cost allowances are based. Any addition of assets will increase subsequent capital cost allowances and, hence, tax savings, whereas dispositions will have the opposite effect.

Under normal circumstances, it is in the best interest of a firm to claim the maximum allowable amount of capital cost allowances as calculated above, as this will provide the largest possible reduction in tax payments. However, total capital cost allowances should not exceed earnings from operations. Hence, a firm that faces disappointing earnings in a particular year may find that it cannot use all the capital cost allowances it is allowed to claim.

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8. The formula for a finite and decreasing geometric series specifies $1 + x + x^2 + \ldots + x^{n-1} = (1-x^n)/(1-x)$. Setting $x = (1-d)$, the above result is obtained.

The significance of the time pattern of tax shields created in applying capital cost allowances will be discussed in Chapter 8. We recognize, however, that accelerating capital cost allowances, which increases the size of earlier tax savings, is an important element of government policy designed to stimulate business investments. Periodically, tax incentives that permit particularly fast write-offs of selected assets are set out in federal budgets.

Example

Consider a special tax incentive that provides for selected pieces of new machinery to be written off on a straight-line basis over 2 years, rather than on a declining balance at 20 percent. Under straight-line, or linear, depreciation, capital cost allowance is taken in equal annual amounts over the life of the asset or over a specified number of years. Thus, in this illustration, an investment of $100,000 would result in capital cost allowances of $50,000 in each of the next 2 years. With a tax rate of 40 percent, the difference in tax savings between the 2 methods appears as follows:

	Declining balance at 20%		Straight-line over 2 years	
Year	Capital cost allowance	Tax shield	Capital cost allowance	Tax shield
1	$10,000	$4,000	$50,000	$20,000
2	18,000	7,200	50,000	20,000
3	14,400	5,760	0	0
4	11,520	4,608	0	0

The larger tax savings that result from accelerated capital cost allowances in the early years give rise to larger accumulations of funds within the firm that can be used for early reinvestment.

Investment Tax Credits

Investment tax credits are a tax incentive to stimulate capital investment. However, they are available in Canada only on a very limited basis. The credits vary in amount and are restricted to particular types of investments and to prescribed regions of the country that are economically depressed. The investment tax credit can be deducted from federal taxes otherwise payable, and unused credits may be applied against specified past and future taxes. The credit, when available, is deducted from the value of the acquired asset for capital cost allowance purposes. Thus, for example, if an asset is purchased for $100,000 and a $10,000 investment tax credit is available, capital cost allowances may only be based on $90,000.

Deferred Taxes

The amount of capital cost allowances deducted from income for tax purposes may be different from the depreciation that a firm shows on its own books. To reduce taxes, maximum capital cost allowances may be claimed on the firm's tax returns, whereas the depreciation deducted in computing income that is reported to shareholders may be based on economic or accounting concepts of income measurement. For example, an unusually large deduction available through an accelerated write-off provision could reduce the firm's taxable income to abnormally low levels that bear little resemblance to the true economic performance of the firm as seen by management.

Example

Consider a firm that just purchased $100,000 worth of new machinery qualifying for accelerated capital cost allowances of 50 percent per year over 2 years. Income from operations next year is expected to be $50,000. Management feels that the economic loss due to depreciation of the equipment is only 20 percent during the first year. The firm's tax rate is 40 percent.

For tax purposes, the firm would file the following statement:

	Income from operations	$50,000
less:	Capital cost allowances	50,000
	Income before tax	0
less:	Tax payable	0
	Income after tax	$ 0

The firm faces no tax liability and retains the entire operating profit of $50,000.

In its report to shareholders, however, management may want to reflect a more positive earnings performance as follows:

	Income from operations	$50,000
less:	Depreciation	20,000
	Income before tax	$30,000
less:	Tax payable	12,000
	Income after tax	$18,000

This latter statement reflects a tax liability of $12,000. However, because of the accelerated capital cost allowances claimed on the tax return, no taxes were actually paid. Hence, the firm has $12,000 more cash than it should have according to its own income statement. As a correcting entry for this cash that was not paid in taxes, the firm will show a matching liability of $12,000 on the liability side of the balance sheet under the heading *deferred taxes.* That is, the following two entries are required in the firm's balance sheet:

Assets		Liabilities	
Cash	+12,000	Deferred taxes	+12,000

Clearly, if in one year the firm's books show a *lower* depreciation than the capital cost allowances claimed on its tax return, some subsequent year's results will have to compensate for this discrepancy, and the depreciation shown on the firm's books will *exceed* the capital cost allowance claimed. Pursuing the above example, the fast write-off of the asset for tax purposes would have been completed at the end of year 2. However, if internally the firm takes depreciation at 20 percent on a declining balance, this internal depreciation would continue beyond year 2. Although the firm builds up its cash and deferred taxes during the first two years, both of these accounts will be drawn down in subsequent years. Hence, the deferred tax account is a reminder that sometime in the future the firm will have to pay taxes that exceed the taxes computed on its internal financial statements.

Example

We pursue the previous example for the first 5 years after the acquisition of the machinery. Assuming that income from operations remains constant at $50,000 per year, we obtain the results given in the table below.

Column 4 reflects the difference between the tax payable according to the firm's internal statements and the tax actually paid. The deferred tax account represents the sum of all these discrepancies from previous years. It increases as long as the capital cost allowances claimed for tax purposes exceed the depreciation taken on the internal statements, and vice versa. Unless new investments are undertaken, the deferred tax account gradually reverts back to zero.

Year (1)	Accelerated *CCA* (2)	Internal Depreciation (3)	Difference in tax payable (4)=.4[(2)–(3)]	Deferred tax account (5)
1	$50,000	$20,000	$12,000	$12,000
2	50,000	16,000	13,600	25,600
3	0	12,800	–5,120	20,480
4	0	10,240	–4,096	16,384
5	0	8,192	–3,277	13,107

For many firms, particularly those in industries where investments subject to accelerated write-off provisions are common, deferred taxes can represent substantial sums. As long as a firm grows and increases its investments, its deferred tax account may continue to grow, reflecting the continued tax savings from accelerated capital cost allowances.

Capital Cost Allowances and Inflation

As we saw above, one of the purposes of capital cost allowances is to allow a firm to recover, free of tax, earlier investments that are used up in the process of producing income. Ideally, the firm should be able to set aside sufficient funds to replace assets that wear out, thereby maintaining its asset base and, hence, its future earning power. In this context, however, the combination of inflation and historical cost accounting introduces significant distortions. Capital cost allowances are based on book values that reflect the historical costs of the assets at the time of their acquisition. Given inflation, current replacement costs may bear little resemblance to such historical costs. Hence, amounts claimed as capital cost allowances or set aside as depreciation may be insufficient to maintain the firm's asset base and, as a consequence, the firm's earnings may be overstated.

Example

A firm acquired transportation equipment 5 years ago at a cost of \$70,000. Assume that during the current year, 10 percent of this original amount is taken as depreciation, and that 10 percent of the equipment needs replacing. Assume further that, because of inflation over the past 5 years, the price of this type of equipment has doubled. Thus, replacement of 10 percent of the original equipment at today's prices would cost \$14,000. We see that depreciation based on historical costs will only cover half the costs of replacement, and that the shortfall of \$7,000 will have to be financed from the firm's after-tax earnings.

3.4 Taxation of Individual Incomes

Personal taxes are payable on individual income. Although there is no general statutory definition of income, examples of the many items that individuals must normally declare as income for tax purposes include wages, salaries, interest, dividends, rental income, and the income derived from proprietorships and partnerships net of allowable business deductions. As will be detailed below, different tax provisions may apply depending on the particular source of income.

Various deductions from income are available to individual taxpayers in arriving at their taxable income. Personal exemptions, medical expenses, and charitable donations are examples. (As noted, the 1987 White Paper proposes to convert most such deductions into tax credits that are directly deducted from taxes payable.) To cushion the effect of price-level changes, personal exemptions are adjusted for inflation in excess of 3 percent as measured by the Consumer Price Index (CPI).

For a variety of social and political reasons, the tax payments faced by individuals in Canada are *progressive* rather than *proportional*. In other words, successive increments to incomes are taxed at increasingly higher rates. This is consistent with the tax systems of most other industrialized countries. Once again, however, to partially offset the impact of inflation, an indexing plan is provided that could raise tax brackets over time. Without such indexing, individuals whose incomes increase with inflation would be pushed automatically into higher tax brackets over time, and would face an increasing tax burden, even if their real incomes had remained unchanged.

In addition to federal tax, each province imposes its own levy on individual income earned within the province. In all cases except Quebec, the provincial tax rate is expressed as a percentage of the basic federal tax. In 1986, for example, this percentage ranged between 43 and 60 percent.

Example

Consider a resident of New Brunswick facing a marginal federal tax rate of 30 percent, with the provincial tax being 58 percent of the federal tax. This individual's combined (federal and provincial) tax rate then becomes 30%(1+.58) = 47.4%.

TAXATION OF DIVIDENDS

Where some portion of after-tax corporate income is distributed to shareholders in the form of dividends, these distributions may once again be taxed in the hands of individual recipients. We face double taxation of the same income: once on earnings at the corporate level, and then again when these earnings are distributed and received by the individual investor in the form of dividends.

The individual tax rate on dividends from Canadian corporations is calculated according to a somewhat complex formula. Given the rates applicable in 1987, we have:

$$\text{Individual tax rate on dividend income} = \frac{4}{3}\left(T_F - \frac{1}{6}\right)(1 + T_P) \qquad \textbf{(3.3)}$$

where:

T_F = the individual's marginal federal tax rate
T_P = the applicable provincial tax rate, expressed as a percentage of the federal tax rate

As we will see, this way of computing tax rates for dividends provides some relief from double taxation, and the reduction is labelled the *federal dividend tax credit.* Its workings, including commonly used terminology, are best illustrated through an example.

Example

Consider an investor facing a marginal federal tax rate of 34 percent who is resident in a province where the provincial tax rate on personal income is 40 percent of the basic federal tax. He receives $1,000 in dividends from shares of a Canadian corporation, the full amount of which is taxable in his hands. In the absence of any relief through the dividend tax credit, the applicable tax rate would be:

$$\text{Combined tax rate} = T_F(1 + T_P) = .34 \times 1.4 = 47.6\%$$

allowing the investor to retain $524 on an after-tax basis.

Given the dividend tax credit, the investor computes his tax payments and net retention as follows:

Dividend		$1,000.00
add: 33⅓% Gross-up[9]		333.33
Taxable dividends		$1,333.33
Federal tax before credit (34% of $1,333.33)	$453.33	
less: 16⅔% of the grossed-up dividend (16⅔% of $1,333.33)	222.22	
Federal tax payable		231.11
Provincial tax (40% of federal tax)		92.44
Combined tax		$ 323.55
Before-tax dividends received		$1,000.00
Net amount retained		$ 676.45

Using equation 3.3, we would have determined the tax directly as follows:

$$\text{Combined tax} = \$1,000 \times \frac{4}{3}(.34 - .167)(1 + .4) = \$323.55$$

The dividend tax credit decreases the investor's taxes by $152.45 (from $476.00 without the tax credit to $323.55 with it), and the effective net tax rate on the dividends is reduced to around 32 percent.

The effect of the dividend tax credit depends on the marginal federal tax rate that is applicable, with the greatest net reduction in taxes payable available to investors in the lower tax brackets.

9. The term "gross-up" reflects the requirement that an individual receiving a taxable dividend must take into his income 100 percent *plus* an additional 33⅓ percent of such dividends. Assuming that the gross-up is changed to 25 percent as proposed in the 1987 White Paper on tax reforms, equation 3.3 would be changed to:

$$\text{individual tax rate on dividend income} = \frac{5}{4}\left(T_F - \frac{2}{15}\right)(1 + T_P).$$

Given the tax provisions that were in effect in 1987, in extreme cases (where T_F is smaller than 1/6, or 16.7 percent), the dividend tax credit exceeds the federal tax on taxable dividends, and the effective tax rate becomes negative (see Table 3.3). The excess credit (or the negative tax computed) may be used to reduce the shareholder's tax payable on other income. Because of the dividend tax credit, income in the form of dividends is preferred from a tax point of view over the same amount of income from interest. With interest fully taxed at the rate $T_F(1 + T_P)$, it is easy to show that the effective tax rate on dividends is lower than the rate on interest as long as T_F is below 66.7 percent[10], a rate that exceeds levies on the highest income-class bracket in Canada. As we will see in subsequent chapters, this has important implications for corporate financing in that it influences, for example, the returns that firms have to provide on various types of securities to make them attractive to investors.

TABLE 3.3

After-Tax Amounts Retained from $100 Received as Interest, Dividends or Capital Gains for Varying Marginal Tax Rates (Provincial Tax is Assumed to be 40 percent of Federal Tax)

Marginal federal tax rate	16.0%	25.0%	34.0%
Combined federal and provincial tax	22.4%	35.0%	47.6%
After-tax retentions for			
Interest	$ 77.60	$65.00	$52.40
Dividends	101.24*	84.44	67.64
Capital gains	88.80	82.50	76.20

* The net retention exceeds the dividend received because additional tax savings result from being able to apply the unused dividend tax credit against other taxable income.

As of 1987, the *Income Tax Act* also provides that the first $1,000 received from Canadian sources such as interest or grossed-up amounts of taxable dividends, or some combination of these, may be exempted from taxation altogether, although at the time of this writing it was proposed to eliminate this provision. This exemption, which is an attempt to encourage individual savings, protects the investor against the eroding effects of inflation, and at the same time encourages the purchase of Canadian securities. The exemption does not reduce the dividend tax credit available to be claimed.[11]

10. At breakeven, $\frac{4}{3}(T_F - \frac{1}{6})(1 + T_P) = T_F(1 + T_F)$, or $T_F = \frac{2}{3}$

11. There are other authorized methods for reducing taxable income, although many of the so-called tax shelters have been eliminated in recent budgets. Flow-through shares issued by mining and energy companies are one possibility. Basically, such corporations pass on unused tax benefits associated with exploration and development costs to investors. The investor can then apply the

In most instances, dividends received by a public corporation from another Canadian corporation are exempt from tax, and the dividend tax credit does not apply.

3.5 Taxation of Capital Gains

As of 1972, the taxation of capital gains became part of the Canadian tax system. A capital gain may arise when an asset is sold for a price that exceeds the original purchase price. At the time of writing, one-half of realized capital gains must be included in the taxpayer's income to be taxed at the applicable personal or corporate rate, but proposals to increase the taxable proportion of capital gains were under consideration. There is some relief, however. A cumulative lifetime exemption of capital gains for individuals is currently set at $100,000, with capital losses to be applied against the gains.[12]

Example

An investor who has used up her capital gains exemption purchases 100 shares at $15 per share and subsequently sells these shares to net $20 a share. A capital gain of $5 per share, or $5 \times 100 = \$500$, would be realized. One half of this amount, or $250, becomes the taxable capital gain that must be added to the individual's taxable income in the year of disposal.

Clearly, both the lifetime exemption and the fact that only a portion of capital gains are included in income provides some incentive for investors, particularly those in higher tax brackets, to seek opportunities that may give rise to capital gains. Coupled with the dividend tax credit, this favourable treatment of capital gains encourages equity investments in Canadian businesses over, for example, interest-bearing savings.

Corporations may apply one half of any capital losses against taxable capital gains. They may not apply a capital loss against other income, but can carry capital losses back three years and then forward until absorbed by taxable capital gains.

We note that capital losses on depreciable assets are generally not recognized for tax purposes. The tax effects of the purchase and sale of depreciable assets were outlined in section 3.3, and are further

transferred deductions against other income, enabling the issuing firm to sell the shares at a premium, netting more funds than would be possible with an identical number of conventional shares.

12. Under the 1987 White Paper proposals, the proportion of an individual's capital gain that is taxable is to rise in stages from 50 percent in 1987 to 75 percent by 1990.

elaborated on in problems 2 and 4 with solutions at the end of this chapter.

The rationale for the capital gains tax in Canada may be summarized by the following statement from the Report of the Royal Commission on Taxation:

> Taxation at progressive rates of increments in economic power represents the fairest measure of ability to pay, and is the only means of achieving an equitable and neutral tax system. Gains realized on dispositions of property come within this concept naturally and logically. Such gains increase the taxpayer's economic power and thus enhance his ability to pay.[13]

At the same time, we have to recognize the distortions created by taxes on capital gains in an inflationary environment. If the values of particular assets keep pace with inflation, capital gains will result from investments even if their real values remain unchanged. Under such circumstances, taxation of inflationary capital gains amounts to little more than a sales tax. The cumulative lifetime capital gains exemption is a significant measure designed to prevent such distortions.

3.6 Taxes and Forms of Business Organization

The business income of a proprietorship and each partner's share of partnership income is treated as personal income. Such income is subject to taxation at the proprietor's or partners' individual rates regardless of whether it is drawn out or retained in the business. Whether incorporation of the business will result in overall tax savings is a complicated issue. Under incorporation, the owner or owners may become employees of the corporation and be paid a salary. Such salaries become a tax-deductible expense for the corporation, and taxable income in the hands of the recipients. Additional withdrawals can be made in the form of dividend payments. It is easy to see that an assessment of the tax effects of incorporation requires detailed calculations that depend not only on applicable corporate and personal tax rates, but also on the tax status of the firm (for example, applicability of small-business deductions), and on the anticipated earnings and withdrawals over time. Furthermore, as we saw in Chapter 2, tax considerations are but one of many factors that influence the selection of an appropriate form of organization.

13. Canada, *Report of Royal Commission on Taxation,* Volume 3 (Ottawa: Queen's Printer, 1966), p. 337.

3.7 General

Table 3.4 provides an appreciation of the relative importance of the several forms of taxes levied by governments. We see that direct corporate taxes do not provide nearly as significant a portion of total revenues as the political attention that they sometimes receive would suggest. Personal income tax and various indirect taxes represent by far the largest source of government revenues.

TABLE 3.4
Sources of Tax Revenues in Selected Years, by Level of Government (in 000,000s)

Form of tax	1965	1975	1985
Direct taxes — persons			
federal	$ 2,715	$15,246	$ 43,484
provincial	1,197	6,862	29,688
pension plan contributions[a]	—	1,906	6,272
Total	$ 3,912	$24,014	$ 79,444
Direct taxes — corporations			
federal[b]	1,623	5,062	12,372
provincial	541	2,108	3,664
Total	$ 2,164	$ 7,170	$ 16,036
Indirect taxes[c]			
federal	3,247	7,883	17,840
provincial	4,235[d]	7,671	24,582
municipal	—	5,832	17,248
Total	$ 7,482	$21,386	$ 59,670
Withholding taxes on non-residents — federal	168	465	1,012
Total tax revenues	$13,726	$53,035	$156,162

a. Canada and Quebec pension plans
b. Excludes refundable tax on corporate profits
c. Includes excise and other taxes, such as sales tax, tariffs, etc.
d. Includes both provincial and municipal indirect taxes

Source: Statistics Canada: *Canadian Statistical Review*, various issues.

3.8 Summary

This chapter provides a basic introduction to the Canadian tax environment, with specific provisions and rates that were in effect at the time of writing (1987) used as illustrations. Concepts relevant to financial management that were reviewed include the taxation of corporate income; the treatment of expenses that are applicable in deriving taxable business income; the taxation of individual income, including dividends; and the tax treatment of capital gains and losses.

Corporate income taxes in Canada, composed of both a federal and a provincial tax, amount to somewhat below 50 percent of taxable income. However, a variety of special deductions are available, for example, to smaller Canadian-controlled private corporations. Individual income tax rates are progressive and also represent a combination of federal and provincial taxes. Different forms of income may be taxed at different rates. Although interest earned is usually taxed as ordinary income, the dividend tax credit provides at least partial relief from double taxation of dividend income. Capital gains beyond an allowable lifetime exemption are taxable, with only a portion of any gains realized from the sale of assets included in taxable income in the year of disposition, and provisions for corresponding deductions of capital losses.

In arriving at taxable income, various expenses and deductions are permitted. The more important ones are the deduction of interest on most debt, and of capital cost allowances on depreciable assets. In Canada, assets are grouped into asset classes, with capital cost allowances computed on the aggregate values in each class. In most cases, capital cost allowances are calculated on a declining balance, with applicable rates specified for each asset class. Capital cost allowances serve to reduce taxable income and, hence, provide a tax shield or saving in tax payments. Where different depreciation methods are applied in a firm's tax returns and in its internal reports, adjustments in the form of deferred taxes will appear on the firm's financial statements.

Questions and Problems

QUESTIONS FOR DISCUSSION

1. Why is the corporate tax rate similar in most industrial countries whereas personal rates tend to vary more significantly? As a province or country, is it sensible to provide tax reductions in order to attract new businesses? What forms could such incentives take, and what are the trade-offs?

2. The owner of a sole proprietorship considers incorporation. From a tax point of view what are the main considerations?

3. Discuss some of the potential inequities and distortions that may be introduced into a tax system through inflation. How might legislation relating to corporate and individual taxation be altered to take account of inflation? What practical difficulties may one face in amending the tax laws, focussing especially on inflationary distortions relating to capital cost allowances and capital gains?

4. How will the different tax treatment of interest, dividends, and capital gains influence the behaviour of investors? What do you see

as the advantages and disadvantages of treating these various forms of income differently?

5. In computing business income, assume that you were given a choice of treating a given cash outlay as an expense in the year in which it was incurred, or capitalizing it and claiming capital cost allowances in subsequent years. Which would you prefer, and why?

PROBLEMS WITH SOLUTIONS

Problem 1

Given: $C = \$100{,}000$, $d = 20\%$, and $T = 40\%$, find:
(a) Capital cost allowance in year 5
(b) Tax shield from *CCA* in year 5
(c) Book value, or undepreciated capital, at end of year 5
(d) Sum of capital cost allowances for years 1 through 5

Solution 1

(a) $Cd(1 - d/2)(1 - d)^{n-2} = 100{,}000(.2)(1 - .2/2)(1 - .2)^{5\text{-}2} = \$9{,}216$

(b) $CdT(1 - d/2)(1 - d)^{n-2} = 9{,}216(.4) = \$3{,}686$

(c) $C(1 - d/2)(1 - d)^{n-1} = 100{,}000(1 - .2/2)(1 - .2)^{5-1} = \$36{,}864$

(d) $C - BV_5 = 100{,}000 - 36{,}864 = \$63{,}136$

Problem 2

(a) A firm faces a combined federal and provincial tax rate of 48 percent. It acquires new equipment for \$100,000. The equipment belongs to asset class 10 with a maximum rate for capital cost allowances of 30 percent. As a consequence of this modernization, some older machines are sold for \$20,000. These older machines had been purchased 4 years ago at a price of \$75,000. What incremental tax shield from capital cost allowances would be available in each of the first 4 years as a consequence of these transactions?

(b) For the situation described in (a), assume that a new federal budget had just introduced tax incentives in the form of accelerated depreciation, and the new equipment may now be written off over 2 years on a straight-line basis. What is the incremental tax shield from such legislation over each of the first 4 years?

Solution 2

(a) At the time of the transaction, the following changes take place in the undepreciated capital cost of the asset class:

Addition of purchase price	\$100,000
Subtraction of sales	20,000
Net change in asset class	\$ 80,000

Note that the only effect of the sale is the reduction of the asset class by \$20,000. A capital gain does not arise because the original purchase price (\$75,000) exceeds the selling price. Capital losses on depreciable assets generally are not recognized. The book values of the old machines at the time of the disposition are irrelevant and, in any case, under the asset class system, are not identified separately. The resulting incremental tax savings are:

Year	Tax savings		
1	$CdT/2$	=	\$5,760
2	$CdT(1 - d/2)(1 - d)^{n-2}$	=	9,792
3			6,854
4			4,798

(b) The tax shield on the new equipment for each of the first 2 years becomes:

Tax shield from \$100,000 acquisition $= \$50{,}000 \times .48 = \$24{,}000$

The tax shield lost during each of the first 4 years from the sale of the old machines is:

Year	Tax savings lost		
1	$CdT/2$	=	\$1,440
2	$CdT(1 - d/2)(1 - d)^{n-2}$	=	2,448
3			1,714
4			1,200

The total tax savings become:

Year	Accelerated *CCA* on new machine as under (b)	Normal *CCA* as under (a)	Difference in tax shields (b)–(a)
1	24,000 – 1,440 = 22,560	5,760	16,800
2	24,000 – 2,448 = 21,552	9,792	11,760
3	–1,714	6,854	–8,568
4	–1,200	4,798	–5,998

We see that accelerated capital cost allowances provide greater tax savings in early years, but correspondingly reduced tax savings in subsequent years. Their main incentive is to provide firms with an opportunity to reinvest the initial tax savings. This point will be expanded upon in subsequent chapters.

Problem 3

An individual faces a marginal federal tax rate of 34 percent and a provincial tax rate of 38.5 percent of basic federal tax. On an investment of $50,000, he receives $3,300 of dividends, all of which is eligible for the dividend tax credit. Considering after-tax returns only, would he be better off to invest in a debt instrument paying 11 percent interest? Ignore the $1,000 exemption on investment income, which is assumed to have been exhausted.

Solution 3

Interest alternative			Dividend alternative		
Interest		$5,500	Dividend		$3,300
Federal tax			Gross-up ($33\frac{1}{3}$%)		1,100
(34% × $5,500)	$1,870		Taxable dividend		$4,400
Provincial tax			Federal tax		
(38.5% × $1,870)	720		before credit		
Total tax		$2,590	(34% × $4,400)	$1,496	
Amount retained		$2,910	less: $16\frac{2}{3}$% of the		
			grossed-up dividend		
			($16\frac{2}{3}$% × $4,400)	733	
			Federal tax		$ 763
			Provincial tax		
			(38.5% × $763)		294
			Total tax		$1,057
			Amount retained		$2,243

Based on the above figures, the investor would be better off earning 11-percent interest on debt.

Problem 4

(a) A firm purchases $15,000 in new equipment, and at the same time disposes of old machinery for $5,000. Both the new equipment and the old machine belong to the same asset class, which shows an undepreciated capital cost attributable to various other assets. *CCA* can be taken at a rate of 20 percent, and the firm's tax rate is 40 percent. What are the incremental *CCA* and the tax savings from *CCA* that accrue *each* of the first 2 years following these transactions?

(b) Assume the same information as provided in (a) except that the new equipment now costs only $5,000, and the old machinery is sold for $15,000 (which is still below its original purchase price). Again, compute the change in *CCA* and tax shield attributable to these transactions in each of the first 2 years.

Solution 4

(a) The consequence of both transactions is a net increase in the asset class of +15,000 − 5,000 = $10,000. Applying the formulas given in the chapter to this net increase, we obtain: