ANALYSIS FOR FINANCIAL MANAGEMENT

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Preface

Analysis for Financial Management is my conception of what today's manager needs to know about financial management. Written with the conviction that finance is too important to be left to specialists, its purpose is to present standard techniques and modern developments in a practical, intuitively accessible way. The book is intended for nonfinancial managers and business students interested in the practice of financial management, and it assumes no prior background beyond a rudimentary and perhaps rusty familiarity with financial statements. Emphasis throughout is on the managerial implications of financial analysis.

Analysis for Financial Management is an attempt to translate into another medium the enjoyment and challenge I have faced the past 15 years teaching executives and college students. From this experience I have come to believe that recent developments in the field, such as market efficiency and β-risk, are important to practitioners, that financial techniques and concepts need not be abstract or obtuse, and that finance has much to say about the broader aspects of company management. At no time in recent memory have the financial shoals been more treacherous for business or have the rewards to creative financial management been higher.

I wish to express my gratitude to Yoshi Tsurumi for originally suggesting this project, to Linda Denton and Debbie Malestky for preparing the manuscript, to George McCain for reading an earlier version of the text, to my children, Sara and Steve, for providing the financial incentive, and most importantly to my many students and colleagues at the University of Washington, The Management Studies Centre, Macquarie University, The Intensive Management Development Institute, and the Pacific Coast Banking School for creating the hothouse in which the ideas expressed here took root.

Introduction

Analysis for Financial Management is a practical introduction to a topic of broad managerial concern. The perspective throughout is on the effective management of company resources, beginning in Part I with the management of existing resources. The focus here is on the assessment of the financial health of a company, its strengths, weaknesses, recent performance, and future prospects. This involves a review of financial statements followed by careful consideration of their use in evaluating financial performance. A recurring theme is that business must be viewed as an integrated whole and that effective financial management is possible only within the context of a company's broader operating characteristics and strategies.

The remainder of the book deals in one way or another with the acquisition and management of new resources. Part II begins with a look at the planning of future performance, including financial forecasting and managing growth. Growth management addresses the problem of keeping company capital requirements within the resource constraints imposed by high interest rates and unsettled financial markets. Part III looks at financing operations. This includes examination of the principal security types, the markets in which they trade, and the proper choice of security type by the issuing firm. The latter topic requires a close look at financial leverage, its impact on the firm, and shareholders. Evaluation of investment opportunities is the topic of Part IV. Included here is the use of discounted cash flow techniques—such as the net present value and the internal rate of return—as figures of investment merit. Also included is a look at the difficult task of incorporating risk analysis into decision making. In order to concentrate more fully on topics of primary significance, tangential material and extensions appear in end-of-chapter appendixes.

A word of warning: *Analysis for Financial Management* emphasizes the application and interpretation of analytic techniques in decision making. These techniques have proved useful for putting financial problems into perspective and for helping managers anticipate the consequences of alternative

actions. But techniques can never substitute for thought. Even with the best techniques it is still necessary to define and prioritize issues, to modify the techniques appropriately for specific circumstances, to strike the proper balance between quantitative analysis and more qualitative concerns, and to evaluate alternatives insightfully and creatively. Mastery of technique is only a necessary first step toward effective management.

Contents

PART I

Assessing the Financial Health of a Firm

1 Interpreting Financial Statements

Financial statements are like fine perfume;
to be sniffed but not swallowed.
Abraham Brilloff

Accounting can usefully be thought of as the scorecard of business. It translates the activities of a company into a set of objective numbers which provide information about the firm's performance, problems, and prospects. Finance involves the interpretation of these accounting numbers for the assessment of performance and the planning of future actions.

The skills of financial analysis are important to a wide range of people, including investors, creditors, and regulators. Nowhere are they more important than within the company. Regardless of functional specialty or company size, managers who possess these skills are able to diagnose their firm's ills, prescribe useful remedies, and anticipate the financial consequences of their actions. Like a ball player who cannot keep score, an operating manager who does not fully understand accounting and finance works under an unnecessary handicap.

This chapter and the two that follow look at the use of accounting information for the assessment of financial health. We begin with an overview of the accounting principles governing financial statements and a discussion of one of the most abused and confused notions in all of finance—cash flow. Chapter 2 looks at measures of financial performance and ratio analysis; and the third chapter examines the added problems inflation creates in assessing financial health.

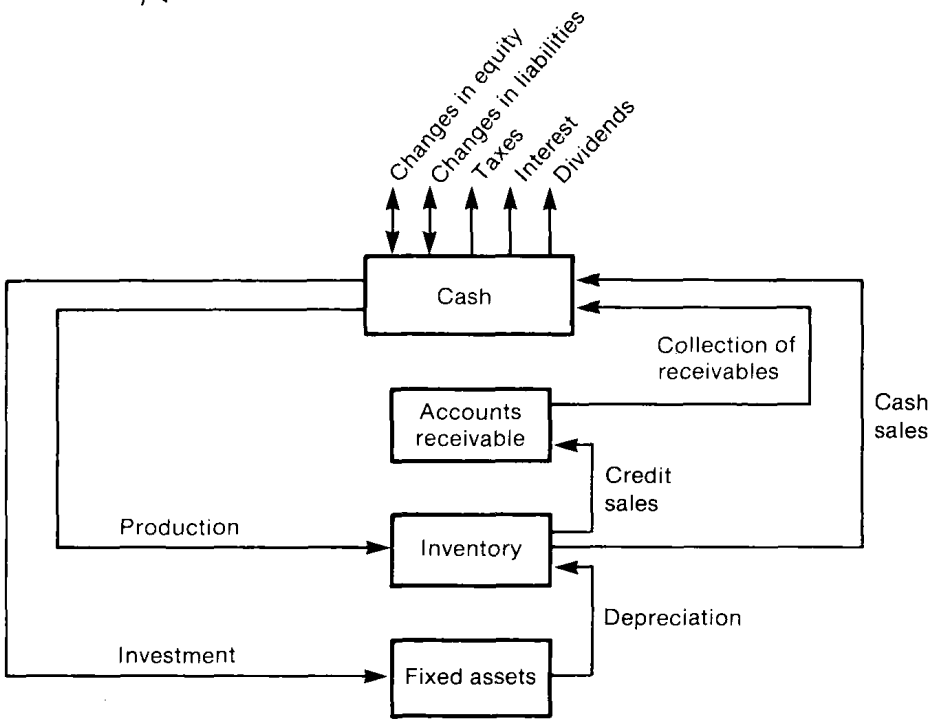
The Cash Flow Cycle

Finance can seem arcane and complex to the uninitiated. There are, however, a comparatively few basic principles which should guide your think-

ing. One is that *a company's finances and its operations are integrally connected.* A company's activities, method of manufacture, and competitive strategy all fundamentally shape its financial structure. The reverse is also true. Decisions which appear primarily financial in nature can significantly affect company operations. For example, the way a company finances its assets can affect the nature of the investments it is able to undertake.

The cash flow–production cycle appearing in Figure 1–1 illustrates the

Figure 1–1. The Cash Flow–Production Cycle



close interplay between company operations and finances. For simplicity, suppose the company shown is a new one which has raised money from owners and creditors, has purchased productive assets, and is now ready to begin operations. To do so the company uses cash to purchase raw materials and hire laborers; they make the product and store it temporarily in inventory. What began as cash is now physical inventory. When the company sells an item, the physical inventory changes once again into cash. If the sale is for cash, this occurs immediately; otherwise cash is not realized until some time later when the account receivable is collected.

This simple movement of cash to inventory, to accounts receivable, and back to cash is the firm's *working capital cycle.* Another ongoing activity represented in Figure 1–1 is investment. Over time the company's fixed assets are consumed, or worn out, in the manufacture of products. It is as if every item passing through the factory takes with it a small portion of the value of fixed assets. The accountant recognizes this process by continually reducing the accounting value of fixed assets and increasing the value of merchandise flowing into inventory by an amount known as depreciation. To maintain productive capacity, the company must invest part of its newly received cash in new fixed assets. The object of the exercise, of course, is to assure that the cash returning from the working capital cycle and the investment cycle exceeds the amount that started the journey.

We could complicate Figure 1–1 further by including accounts payable and by expanding on the use of debt and equity to generate cash, but the figure already demonstrates two basic principles. First, as already noted, a company's operating policies, production techniques, and inventory and credit-control systems fundamentally determine its financial profile. If, for example, a company requires prompter payment on credit sales, its financial statements will reveal a reduced investment in accounts receivable and possibly a change in its revenues and profits. This linkage between a company's operations and its finances is our rationale for studying financial statements. We seek to understand company operations and to predict the financial consequences of changing operations.

The second principle illustrated in Figure 1–1 is that *profits do not equal cash flow.* Cash, and the timely conversion of cash into inventories, accounts receivable, and back to cash, is the lifeblood of any company. If this cash flow is severed or significantly interrupted, insolvency can occur. Yet the fact that a company is profitable and perhaps growing is no assurance that its cash flow will be sufficient to maintain solvency. To illustrate, suppose a company is losing control of its accounts receivable by allowing customers an increasingly long time to pay, or suppose the company consistently makes more merchandise than it sells. Then even though the company is selling merchandise at a profit in the eyes of an accountant, its sales may not be producing enough cash inflows to replenish the cash outflows required for production and investment. When a company has insufficient cash to pay its maturing obligations, it is insolvent. As another example, suppose the company is managing its inventory and receivables carefully, but that rapid sales growth is forcing an ever-larger investment in these assets. Then as before, despite the fact that the company is profitable, it may have too little cash to meet its obligations. The company will literally be "growing broke." These brief examples illustrate why a manager must be concerned at least as much with cash flows as with profits.

We will return to these themes repeatedly in later chapters and will con-

sider cash flow analysis in some detail in a few pages. But first it is necessary to review the basics of financial statements.

The Balance Sheet

The most important source of information for evaluating the financial health of a company is its financial statements, consisting of a balance sheet, an income statement, and a statement of changes in financial position. The statement of changes in financial position is largely a forgotten stepsister of the other two, and we can safely ignore it.

A balance sheet is a financial snapshot, taken at a point in time, of all the assets owned by the company and all the liabilities and equity claims against these assets. The balance sheet formula is:

Total money invested in company	=	Money supplied by creditors	+	Money supplied by owners
Assets	=	Liabilities	+	Shareholders' equity

The term *shareholders' equity* is also known as net worth or frequently just equity.

To illustrate the techniques and concepts presented throughout this book, I will refer whenever possible to Tektronix, Inc. (TEK), a large, rapidly growing manufacturer of sophisticated electronic test equipment located in Oregon. Tables 1–1 and 1–2 present TEK's fiscal year 1978 and 1979 financial statements. The asset and liability categories shown in Table 1–1 should be self-explanatory except possibly current assets and current liabilities.

Table 1–1
TEKTRONIX, INC.
Balance Sheets
Fiscal Years 1978, 1979
($ millions)

Assets	*1978*	*1979*	*Change in Account*
Current assets:			
Cash and securities	$ 66	$ 42	−24
Accounts receivable	115	153	38
Inventories	163	215	52
Prepaid expenses	13	19	6
Total current assets	357	429	
Plant and equipment	198	287	
Accumulated depreciation	85	101	
Net plant and equipment	113	186	73
Land	7	8	1
Other long-term assets	14	20	6
Total assets	$491	$643	

Table 1-1 *(concluded)*

Liabilities and Shareholder's Equity	*1978*	*1979*	*Change in Account*
Current liabilities:			
Short-term debt	$ 11	$ 29	18
Accounts payable	33	42	9
Income taxes due	18	20	2
Incentives and retirement	23	32	9
Payroll due	23	30	7
Total current liabilities	108	153	
Long-term debt	37	62	25
Deferred tax liability	16	19	3
Other long-term liabilities	4	6	2
Total liabilities	165	240	
Shareholders' equity:			
Common shares	24	32	8
Retained earnings	302	371	69
Total shareholders' equity	326	403	
Total liabilities and shareholders' equity	$491	$643	

Table 1-2
TEKTRONIX, INC.
Income Statements
Fiscal Years 1978, 1979
($ millions)

	1978	*1979*
Net sales	$599	$787
Cost of sales	266	360
Gross profit	333	427
Operating expenses:		
Engineering expense	50	61
Selling expense	87	113
Administrative expense	53	68
Profit sharing	49	64
Operating income	94	121
Nonoperating income	6	12
	100	133
Interest expense	4	6
Income before tax	96	127
Income tax	39	50
Earnings	$ 57	$ 77
Dividends	11	8
Additions to retained earnings	46	69
Common shares outstanding	17.8	18.0
Earnings per share	$3.20	$4.28

The accountant defines any asset or liability which will be converted into cash within one year as current; all other assets or liabilities are long term. Inventory is a current asset because it is reasonable to assume it will be sold and will generate cash within the year. Accounts payable is a short-term liability because it must be paid within the year. Note that even though TEK is a manufacturing firm, over two thirds of its assets are current. We will have more to say about this in the next chapter.

One common source of confusion is the many accounts appearing in the shareholders' equity portion of the balance sheet. TEK has two: common shares and reinvested earnings. Other frequently used accounts include paid-in capital and retained earnings. My advice is to forget these distinctions. They keep lawyers and accountants employed, but seldom make any practical difference. Just add up everything that is not a liability and call it shareholders' equity.

A Word to the Unwary

Nothing puts a damper on a good financial discussion (if such exists) faster than the suggestion that if a company is short of cash, it can always spend some of its shareholders' equity. Shareholders' equity is on the liabilities side of the balance sheet not the asset side. It represents money already spent.

The Income Statement

The income statement measures a company's sales, expenses, and earnings over a specified time period, usually one year. The income statement formula is:

$$\text{Earnings} = \text{Net sales} - \text{Cost of goods sold} - \text{Other expenses} - \text{Taxes}$$

To complicate matters, earnings are also commonly referred to as profits or income and sales are frequently called revenues. I have never found a meaningful distinction between these alternatives.

Measuring Earnings

This is not the place for a detailed discussion of accounting. However, because earnings, or lack of same, are a critical indicator of financial health, several technical aspects of earnings measurement deserve mention.

The measurement of accounting earnings involves two steps: the identification of revenues for the period and the matching of corresponding costs to revenues. Looking at the first step, it is important to note that revenue is not