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FIN 423

FIN 423: Selected Darden Cases

Kamal Haddad

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Introduction

Welcome to the case method. To analyze a case successfully, you must do two things—put yourself in the position of the manager making the decision, and make the decision.

Within each case you must assume the role of the manager whose job it is to analyze alternatives for the company. In most instances it will be an easy task to determine who is the decision maker, since that person will be identified by name in the case and his or her position and role will be described. In the few instances where the decision maker is not identified by name, your point of view will be that of the company's top management.

Once you have identified the person or group of persons whose role you will assume, you need to gather the information that you, as the manager described in the case, would naturally have. Managers, even young analysts, have considerable knowledge about their company, the industry in which it competes, and the economic environment in which it operates. Since, as a manager, you would have that information, as the case analyst assuming the manager's role, you must acquire it.

Once you have the background necessary for your role, your task is the same as the manager in the situation would have—to identify, understand, and analyze the problems the company faces. As would the manager, you will define the problems and the available courses of action, and you will gather the information needed to determine the appropriate course. The steps you will take in assuming the manager's role and in confronting and solving problems are listed below.

I. *Assume the manager's role*
   1. Understand the environment in which the company operates:
      The worldwide socioeconomic and political environment
      The domestic environment
      The industry situation
   2. Know the company's history, current condition, and future prospects

II. *Solve the problem facing the company*
   1. Identify the problem
   2. Define the alternatives
   3. Gather information about the alternatives
   4. Analyze the risks and returns of the options
   5. Make a decision and develop a plan of action

Assume the Manager's Role

As you develop as a case analyst, you will refine your own approach and develop a sense of the depth and breadth of analysis appropriate for the particular situation described in a case. Depending upon the situation, one or more of the areas discussed below could receive more attention than the others.

Understand the Environment in Which the Company Operates. Perhaps the best way to begin to understand the milieu in which the company operates is to investigate the general economic environment. Frequently the case analyst looks only at the domestic environment; however, with the increased integration of the world's economy, the *worldwide environment* cannot be ignored. Certainly some decisions described in this book are less affected than others by worldwide socioeconomic and political events. However, the isolation of countries and industries from events in the rest of the world has greatly diminished, and, as U.S. managers found after the oil price rises in the 1970s and early 1980s, to ignore events outside the local economy can be dangerous. Since most of the cases in this book are set in periods when events profoundly changed the nature of the environment in which all countries, industries, and companies operated—worldwide considerations are particularly relevant.

Because different factors are important at different times and to different companies, the manager, and thus you as the case analyst, should be aware of the relative robustness of the worldwide economy at the time of a particular case, and should sense what concerns for and predictions about the future might have prevailed at that time.

In cases where the company or the decision is, or can be, directly affected by worldwide events, the cases will provide information that you as the manager would have had. Because of the necessary brevity of the cases, however, some of the data you might like to have, or believe the manager would have had, may not be included. You must decide on the basis of the information you have. Some basic data about international events are contained in the last section of "The Business Environment: A Retrospective, 1929–1993."

The strength and nature of the *domestic economy* are certainly of more obvious concern, and this is an area in which managers often have more personal and professional experience. Although certain factors and events in the economy will affect some companies more than others, nevertheless there are universal touchstones of concern. The analyst should consider such things as (1) the robustness of the economy and its expansion or contraction because it can affect the company's sales, profits, and cost and availability of funds; (2) the level of unemployment because it affects the potential for strikes as well as the sales of certain products; (3)

cyclical upturns because they can increase the sales of products such as consumer durables while increasing the potential for strikes and prices of other resources; and (4) cyclical downturns because they can decrease the need for productive capacity and the likelihood of protracted strikes in many industries, can decrease resource costs, and because they hurt firms whose sales depend upon the level of consumers' disposable income.

Most cases contain a brief description of the environment in which the firm operates. For more information about the U.S. environment—the setting for the majority of the cases in this book—a background note, "The Business Environment: A Retrospective, 1929–1993," is presented in the last section of this book. The information in this note can be used in analyzing many of the cases.

While the analyst will want to understand the current state of the domestic economy and the future directions it might take, of particular interest is the effect changes in the economy have had and will have on the particular industry and company featured in the case. Just as some economies are more sensitive than others to worldwide events, some industries and companies are influenced more than others by domestic events.

Many industries seem relatively immune to ongoing economic changes, while others are so sensitive that managers spend much of their time and effort developing ways to forecast and insulate their firms from probable changes. The relationship of companies to suppliers, customers, and other companies in the industry, as well as the nature of the industry's products, seems to influence how strong an impact outside economic events have on a given industry. The sources of return and the factors that affect the predictability of that return are quite different in each industry.

Know the Company's History, Current Condition, and Future Prospects. Interestingly, most of the tools and techniques of financial analysis concentrate on the company—its past, present, and future. Moreover, this is the form of analysis with which most students of finance have some experience, and with which many case analysts start and finish their work. Clearly, it is very important; the history and current situation of the firm are of considerable interest to the practicing manager as well as the case analyst. These subjects will occupy the greatest part of the case analyst's time and skill. Keeping in mind the possible effects of changes in the environment, both domestic and worldwide, the analyst will want to review the success of the firm's past investment and financing strategies by analyzing financial statements, market share and competitive product market information, and stock and bond market results.

Typically, the analyst will look first to the way the company has managed its assets, and is likely to be able to manage them, by asking such questions as:

1. Is the company capital-intensive? Does its productive capacity come from plant and equipment, people, and/or a franchise in the market bought with product reputation and/or advertising? How expensive is it to add capacity or enhance a product's reputation? What is the lead time needed to increase or modify any factor of production? If the company is capital-intensive, how old is the equipment, and for how long will it continue to be useful? If it is not capital-intensive, what is the source of the company's productivity, and how readily available are additional resources?
2. To what degree are company assets subject to obsolescence or migration? In a capital-intensive business, do technological innovations change processes slowly or rapidly? If it is not capital-intensive, how firm a grip does the company have on its source of productive capacity? For example, genetic engineering companies with large investments in the expertise of their research staffs can suffer if those research staffs are likely to move from firm to firm.
3. How much of the firm's assets are long term and difficult to redeploy, and how much can be changed rapidly? Firms with significant investments in short-term assets often have much more flexibility in dealing with rapid changes in the economic environment and/or the industry. How well has the firm coped with changes in the recent past—has it managed to maintain control of its assets in both good and bad times—and how likely is it to be able to maintain control in the foreseeable future?
4. What opportunities for new products and processes are on the horizon? Is the company in a position to identify and take advantage of these opportunities?

Second, the analyst will consider where and how the firm has financed itself and how it will be able to finance itself in the future by asking such questions as:

1. How much of the firm's investments have been financed from profits, and how stable are its profits (do they fluctuate widely from year to year, or are they relatively steady)? Companies that have relatively stable profitablility are better insulated from the vagaries of the capital markets.
2. Do the shareholders have a call on some portion of the current profits? How important is the dividend level to the stock price, how close is the firm's current dividend policy to what is common in the industry, and how secure are dividends from fluctuations in profits (does the company raise funds to maintain its capital investment program and/or dividend payments)?

3. How much of the funds used, and those likely to be used, have been and will be raised from outside sources?
4. Are the firm's liabilities short or long term? How secure are the sources of capital? Do lenders place any restrictions on the firm by virtue of their position? Are the restrictions by custom or by contract? Is the firm able to deal easily with the restrictions and the costs of its debt?
5. Is the company's equity capital closely held or is the stock publicly traded in the capital markets? If the stock is closely held, what are the objectives and needs of the owners? If it is publicly held, are any large blocks held by individuals or groups, and what is their interest in the firm? What is the degree of institutional interest in the stock? What is the stock price, the relative level of the stock market, and the interest in trading equities in general, both in this industry and in this company? How easy would it be to sell new equity and at what price could it be sold?

Finally, the analyst will want to determine the company's unique strengths and weaknesses.

The above questions are not meant to be exhaustive, nor would the case analyst seek to answer each question or set of questions in depth for every case. They are meant solely as an indication of the form analysis may take, and as a guide to the areas in which the analyst should have an interest and in which he or she should acquire at least cursory information.

Once the company's history, current situation, strength in the industry, and current corporate goals and strategies are coupled with an analysis of the industry and the economy, the case analyst is ready to assume the role of the decision maker—the manager.

Solve the Problem Facing the Company

Identify the Problem. Obviously, the first task is to understand the situation and to identify the problem or problems facing the manager. Many cases present more than one problem, and some of the problems will be more important than others. As with any real situation, there are times when real problems are obfuscated by concerns of the company or manager that are not critical to the firm and its success. It is up to the analyst to sort through the issues described in the case and to determine which are actually important.

The decisions managers face fall into one or both of two categories. The problem may require (1) investing assets to replace old products or processes, to increase sales, or to decrease costs, and/or (2) securing funds to support the growth of the firm or to replace old processes and products.

For funding the firm, the manager has only four choices. Funds can be raised by (1) increasing the liabilities of the firm—with either short-term obligations such as accounts payable or one of a variety of long-term debt instruments; (2) increasing the equity in the firm by increasing the amount of common stock or retained earnings; (3) increasing the firm's profits or decreasing the dividends paid to its shareholders; or (4) establishing relationships with other companies. On the basis of the traditional accounting definition of the firm, the following diagram shows where decisions that change the firm can be made.

$$\text{Assets} = \text{Liabilities} + \text{Equity}$$

$$\Uparrow$$

$$\text{Equity} = \text{Common Stock} + \text{Retained Earnings}$$

$$\Uparrow$$

$$\text{Retained Earnings} = \text{Profits} - \text{Dividends}$$

Another way to look at the same problem is to use the sustainable growth rate framework.

$$\text{Sustainable Growth Rate} = \text{Return on Sales} \times \text{Total Asset Turnover} \times \text{Leverage} \times \text{Profit Retention}$$

$$= \frac{\text{Profit}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}} \times \left(1 - \frac{\text{Dividends}}{\text{Net Income}} \right)$$

If changes are made in one factor, changes need to be made in at least one other factor to keep the formula in balance. Thus, for example, the firm cannot increase its assets without augmenting its profits to sustain the increase or acquiring additional outside funds.

Identifying the most important problems is often easier if the analyst has determined the objectives and goals of the corporation (or division or subsidiary, if that is the level at which the decision is being made) and of the manager. There are instances where the personal position and goals of the manager may conflict with the objectives held by the firm on behalf of its owners. The importance attached to the problems and the decisions that will be made often reflect the goals of the strongest participant rather than those of the owners. Since these conflicts arise in almost every situation, the analyst must recognize them and make decisions on the basis of that recognition.

Define the Alternatives. Once the problems have been identified, the next task the vicarious manager must undertake is to define the options—the

alternative courses of action for dealing with the problem. Many of the cases in this book define some or all of the options or describe the situation so that the alternatives can be identified. In some instances the analyst may want to identify options that are not available in the particular case—options that would have been available to other managers and companies or at different times. These options, alternatives for which there is little or no information, are hard to evaluate. These courses of action often have to be relegated to the realm of "strategies that should be explored" as the case analyst proceeds with consideration of the options that *are* available for analysis.

Developing options is often the most important step in the process of making the decision about the problem the manager and company face. Untried and unidentified options often turn out, in retrospect, to have been the plans that might have spelled success. Industry and corporate custom can constrain the creativity of managers in determining possible solutions and, as a result, can limit the company's potential for success. Analysis and understanding of the current situation and future direction of the economic and industry environments can open avenues that were never available when traditional paths were followed almost without thought. Unlike textbook problems where there are few alternatives, the real world provides many alternatives, and so do case decriptions of it.

Gather Information about the Alternatives. Here the case analyst has an advantage over the manager described in the case. The case usually provides a summary of the information the manager and his or her staff gathered to analyze their options. Much of that data is summarized in the exhibits at the end of each case. One of a manager's frustrations, and one that case analysts feel as well, is the lack of certain information that would be useful in deciding on the appropriate plan. Rarely would that information be omitted from the case unless it was unavailable when the manager sought it or was deemed unnecessary by the manager in making the decision. In either case, the manager, and thus you as the vicarious manager, would have to make the decision based on the information available.

Analyze the Risks and Returns of the Options. This is the heart of the problem facing the case analyst and manager. All the information about the economic environment, the industry, the company, and the problem has to be utilized to estimate the potential risks and returns of alternative solutions to the problem. The task is to find the strategy that will create the most value for the firm's owners over the long term.

Value depends upon three things: (1) the *size* of the returns expected, (2) the *time* it takes before the returns are expected to be received, and (3) the *risk* taken to obtain the expected returns. We know that investors, and thus corporate owners and managers, prefer larger returns received sooner

and with less risk. The question is what trade-offs must be made in the size, timing, and riskiness of the expected returns for each alternative course of action. Those trade-offs are presented graphically on the following page.

Value is created when the returns from a given strategy more than offset the risk being taken, that is, when the net present value of the option is positive. Value-creating investments and strategies are difficult to find. When real economic value is available (for instance, when a company has a new product, process, or product source), competitors usually follow rather rapidly and drive out excess profits—unless the firm has some franchise or barrier that keeps competitors at bay. Managers forecast unusual and sustained excess profits (unusual returns) for one of three reasons: the returns really are likely to occur because of some special circumstance, the manager has ignored competitive realities, or the manager's forecasts are simply overly optimistic. As the manager, the case analyst should examine any forecasts to make sure that when value is expected to be created, it is not because of unwarranted optimism.

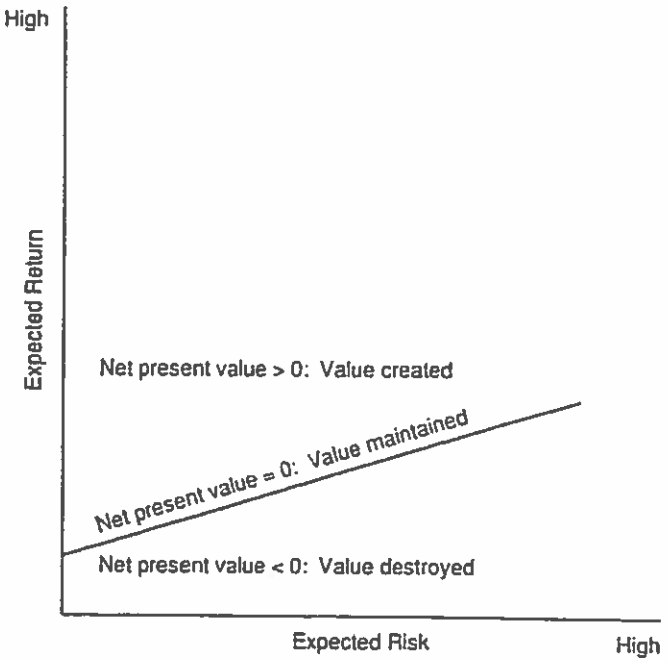
Value is maintained (the net present value is zero) when the expected returns are just sufficient to compensate the investor for taking the risk inherent in the project. Typically, most investment and financing strategies provide the prospect of a fair return—a return with which the shareholder would be satisfied—that would keep the stock at its current price.

Value is destroyed when the company pays too much, gets too little, or takes too much risk relative to the returns. These are the things that the manager would like to avoid at all cost—they are investments or financing schemes for which the net present value is negative.

As hard as value-creating options are to find, suffice it to say that most managers think they can be found; they do not believe that the product markets (and perhaps capital markets) are fully efficient. Thus managers usually believe they can find real sources of value for the firm's shareholders—investment and financing plans that will increase the price of the common stock.

Make a Decision and Develop a Plan of Action. Just as the manager must weigh all the information available and come to a decision, so must a case analyst. While it is often difficult to decide among alternative courses of action, the analyst, taking the information developed from the analysis or provided in the case, must weigh the evidence before reaching a conclusion. It is helpful if the analyst has developed the assumptions upon which the analysis rested and detailed the conditions under which each decision would be appropriate. The consistency and reality of the assumptions are critical to making a good decision.

After the decision has been made, the analyst should follow with a plan of action to implement it. The plan is usually sequential in nature and describes what must be done, by whom, and when.



Note: For those using internal-rate-of-return methodology, the value is created when the IRR exceeds the hurdle rate, maintained when the IRR equals the hurdle rate, and destroyed when it falls short of the hurdle rate

The goals, concepts, and theories of finance will help you, in the manager's role, to guide and focus the analysis. Using the framework of value creation to appraise the options presented in the cases in this book will help you to decide which is the appropriate course of action, given the firm, its strengths and weaknesses, its industry, and the environment in which it is likely to operate.

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BRIEF CASES

4230
AUGUST 20, 2010

WILLIAM E. FRUHAN
CRAIG STEPHENSON

Flash Memory, Inc.

In May of 2010, Hathaway Browne, the CFO of Flash Memory, Inc., was preparing the company's investing and financing plans for the next three years. As a small firm operating in the computer and electronic device memory market, Flash competed in product markets that reflected fast growth, continuous technological change, short product life cycles, changing customer wants and needs, a large number of competitors, and a high level of rivalry within the industry. These factors combined to produce low profit margins and a continual need for additional working capital, which adversely impacted Flash's financial position and its ability to finance important investment opportunities.

Background

Flash was founded in San Jose, California, by four electrical engineers during the high tech boom of the late 1990s. The common stock of the company was originally owned 100% by the founders, and additional shares were subsequently sold to two engineers who joined the company as both employees and owners. In 2010 these six individuals held the top management positions, comprised the board of directors, and still owned the entire equity in the firm.

The company had enjoyed considerable success since its creation. As computers and other electronic devices became increasingly complex and powerful, the demand for high performance components, particularly memory, increased rapidly. From its founding, Flash had focused on solid state drives (SSDs), which comprised the fastest growing segment in the overall memory industry. Industry data showed the SSD market grew from approximately $400 million in 2007 to $1.1 billion in 2009, and was further projected to grow to $2.8 billion in 2011 and $5.3 billion in 2013. SSDs were particularly well suited for use in smart phones, laptop computers, and net books, and sales of these products were expected to drive this robust growth.

Flash was just one of many companies in the industry. Giants like Intel and Samsung, as well as smaller specialized firms like Micron Technology, SanDisk Corporation, and STEC, Inc., all saw the industry's potential and competed for market share. This resulted in intense competition between product offerings, high rivalry, and low profit margins as a percent of sales.

HBS Professor William E. Fruhan, Jr., and Babson College Professor Craig Stephenson prepared this case solely as a basis for class discussion and not as an endorsement, a source of primary data, or an illustration of effective or ineffective management. This case, though based on real events, is fictionalized, and any resemblance to actual persons or entities is coincidental. There are occasional references to actual companies in the narration.

In the spring of 2010, Flash specialized in the design and manufacture of SSDs and memory modules that were sold to original equipment manufacturers (OEMs), distributors, and retailers and ended up in computers, computing systems, and other electronic devices. Flash's memory components, which constituted 80% of company revenue, utilized flash memory technology—a non-volatile memory that is faster, uses less power, is more resistant to failure when compared with traditional hard disk drives, and continues to store information even after an electronic device is turned off. The remaining 20% of Flash's sales came from other high performance electronic components sold through the same channels, for the same end products.

Due to changes in technology, Flash's memory and other products experienced short product life cycles. The company's new products typically realized 70% of their maximum sales level in their first year, and maximum sales were reached and maintained in the second and third years. Years four and beyond saw rapidly decaying sales, and by year six the products were obsolete. This normal sales life cycle for the company's products, however, could be significantly shortened by technologically superior new products released by competitors. In a few instances Flash's products quickly became worthless, forcing significant inventory write-downs and reductions in profit.

Flash responded to the risk of technological changes in the industry by aggressive spending on research and development to improve its existing product lines and add new ones. The company had successfully recruited and retained a highly skilled group of research engineers and scientists, and the activities of this group had been supported by substantial budgetary allocations. This combination of ample funding of an exceptional staff had resulted in high quality products which were well-respected by customers and competitors alike. Top management believed the reputation of Flash's products was one of its key competitive advantages, and they were determined to maintain this reputation through continued research and development expenditures.

The success of Flash's memory components had resulted in compounded average annual sales growth of 7.6% per year since 2007 (**Exhibit 1**), and its investment in current assets had grown even faster, at a 12.2% compounded average annual rate over the same period (**Exhibit 2**). Flash had used notes payable obtained from the company's commercial bank, and secured by the pledge of accounts receivable, to fund this growth of working capital. Although these notes payable were technically short-term loans, in actuality they represented permanent financing, as the company continually relied on these loans to finance both existing operations and new investments. The bank was willing to lend up to 70% of the face value of receivables, and this funding arrangement had been satisfactory until recently, when the company's bank note payable balances had reached this 70% limit. The bank loan officer had made it clear to Browne that Flash had reached the limit of the bank's ability to extend credit under the terms of the current loan agreement.

As general economic conditions improved in the first few months of 2010, Flash's sales increased rapidly, and the company continued to generate profits in approximately the same percentage of sales as in 2009. Unfortunately this rapid sales growth had also required a large increase in working capital, and internal cash flow had not been sufficient to fund this increase in receivables and inventories. The bank's position on extending additional financing remained the same, and when approached in May about extending additional credit to the company, the loan officer had been unwilling to do so.

The loan officer did, however, discuss the factoring division of the bank with Browne, which serviced higher-risk customers with more aggressive accounts receivable financing. The factoring group would lend up to 90% of a company's existing accounts receivable balances, but this group would also monitor Flash's credit extension policies and accounts receivable collection activities more rigorously than the commercial loan department that currently managed the company's loan agreement. Because of the additional risk and greater cost associated with closer monitoring of the

loan, the interest rate charged by the bank would increase from prime + 4% to prime plus 6% on the total outstanding loan balance to Flash, based off the May 2010 prime rate of 3.25%. In its forecasting process, Flash calculated interest expense as the beginning of year debt balance multiplied by the appropriate interest rate. Although this would not produce a precise number for forecasted notes payable and interest expense, Browne preferred to start with a simpler calculation, and this produced a reasonable first estimate.

Growth Projections

Based on the overall economic recovery and recent reports of robust sales of smart phones and net books, in early May the company was forecasting full-year 2010 sales of $120 million, with a corresponding cost of goods sold number of $97.32 million. Flash's projected year-end 2010 current asset investment necessary to support this level of sales and cost of goods sold was also prepared to assess the company's immediate financing needs.

Cash	$ 3,960,000
Accounts receivable	19,726,000
Inventory	13,865,000
Prepaid expenses	480,000
Total current assets	$38,031,000

These forecasts of working capital requirements were based on sales in recent months, projected demand from OEMs, distributors, and retailers during the remainder of the year, and expected relationships between the income statement and these working capital accounts. Cash had been estimated at 3.3% of sales, accounts receivable were calculated based on an estimated 60 days sales outstanding, and the inventory forecast assumed the company would improve its inventory turnover, holding only 52 days of cost of goods sold in inventory.

Beyond 2010, the marketing manager had estimated that sales of the company's existing products would reach $144 million in 2011. It was expected that sales would be maintained at that level in 2012, but after that sales would decline to $128 million in 2013 and $105 million in 2014. In spite of the expected growth in the overall industry, Flash's product line would be less competitive absent new products which were significant improvements over previous offerings.

In addition to these income statement and working capital forecasts, there were other important items which would impact the company's forecasts and financing requirements. Purchases typically made up 60% of cost of goods sold, and the year-end 2009 accounts payable balance represented 33 days of purchases. This wasn't much greater than the 30-day payment period that Flash tried to maintain, but in 2010 and beyond the company was committed to achieve and maintain this number. The second of these items was research and development, which was planned to increase in 2010 to drive new product innovation. Research and development expenditures had been approximately 5% of sales in recent years, and in 2010 and beyond management was committed to maintaining expenditures at this percent of sales. Selling, general and administrative expenses were driven by sales volume and were expected to maintain their 2009 relationship with sales. Capital expenditures necessary to support existing product lines and sales growth were projected at $900,000 per year in 2010 through 2012. The final item was yearly depreciation expense, which was calculated as 7.5% of the beginning of year balance of property, plant & equipment at cost. A summary of these important forecast assumptions is included (Exhibit 3).

Investment Opportunity

One of Hathaway Browne's primary responsibilities as CFO was to finance both the growth of Flash's existing product lines and all new investments that were approved by the board of directors. Investment proposals were prepared by the company's design, manufacturing, and marketing managers, thoroughly analyzed by Browne and the finance group, and then sent to the board for discussion, evaluation, and finally acceptance or rejection.

Browne had recently been given a proposal for a major new product line, which was expected to have a significant impact on the company's sales, profits, and cash flows. This new product line had been in development for the past nine months, and $400,000 had already been spent taking the product from the concept stage to the point where working prototypes had been built and were currently being tested. Flash's design and marketing people were very excited about this new product line, believing its combination of speed, size, density, reliability, and power consumption, would make it a winner in the fastest growing segment of the memory industry.

Customer acceptance and competitor reaction to the new product line was uncertain, but the project's sponsors were confident it would generate sales of at least $21.6 million in 2011 and $28 million in 2012 and 2013, before falling off to $11 million in 2014 and $5 million in 2015. The product was also believed to be superior to existing memory products, and would therefore command gross margins of 21% throughout its life.

Implementing this new product line would also require large investments and expenditures by the company. New plant and equipment costing $2.2 million must be purchased, and this specific equipment would be depreciated straight-line to zero salvage value over its five-year life. This depreciation expense all flowed to cost of goods sold expense, and was already included in the estimate that cost of goods sold would be 79% of sales. Flash also expected net working capital would be 26.15% of sales. This initial investment in equipment and net working capital would occur in 2010, and in subsequent years the net working capital would increase and then decrease, as sales of the new product line rose and then fell. SG&A expenses were expected to be the same percent of sales as the company experienced in 2009, but in addition the marketing manager also planned a one-time $300,000 advertising and promotion campaign simultaneous with the launch of the product in 2011.

Financing Alternatives

Although the loan officer of Flash's commercial bank had stated the company could obtain additional financing through their factoring group, a private sale of common stock was another financing alternative. Investment bankers had indicated to Browne that the company could issue up to 300,000 shares of new common stock to a large institutional investor at a price of $25.00 per share. After deducting the investment bankers' fee and other expenses associated with negotiating and closing this private transaction, the company could expect to receive about $23.00 per share. Browne needed to analyze this proposed equity offering in comparison to the publicly traded common stock of a select group of competitors (Exhibit 4), and in comparison to Flash's forecasted results with and without a new equity offering.

In early May of 2010, current yields to maturity on debt securities of different credit quality were:

Issue	Bond Rating	Yield to Maturity
91-day Treasury bills		0.17%
10-year Treasury bonds		3.70%
10-year Corporate bonds	AA	4.40%
10-year Corporate bonds	A	4.72%
10-year Corporate bonds	BBB	6.24%

CFO Browne also believed the spread between the yield to maturity on long-term U.S. Treasury bonds versus the expected return of the overall stock market was about 6%, and he used this number as the market risk premium when calculating Flash's cost of equity capital.

One other alternative to the external financing options was to rely solely on the reinvestment of Flash's earnings to fund growth. Since the company's profit margins were relatively low, this would not provide sufficient funding to support forecasted sales of $120 million in 2010 and subsequent increases; Flash would be forced to slow its rate of growth. Browne thought the favorable outlook for growth and profitability made this alternative unattractive, but he was uncertain about which financing alternative to recommend to management and the board of directors. In addition, the board of directors had expressed concern that Flash's notes payable balances continually approached the existing loan agreement's 70% of accounts receivable limit. They felt this indicated the use of debt finance was greater than the company's target debt-to-capital ratio of 18%, which the board of directors believed was appropriate for Flash Memory, Inc.

Exhibit 1 Income Statements, 2007–2009 ($000s except earnings per share)

	2007	2008	2009
Net sales	$77,131	$80,953	$89,250
Cost of goods sold	$62,519	$68,382	$72,424
Gross margin	$14,612	$12,571	$16,826
Research and development	$3,726	$4,133	$4,416
Selling, general and administrative	$6,594	$7,536	$7,458
Operating income	$4,292	$902	$4,952
Interest expense	$480	$652	$735
Other income (expenses)	-$39	-$27	-$35
Income before income taxes	$3,773	$223	$4,182
Income taxes[a]	$1,509	$89	$1,673
Net income	$2,264	$134	$2,509
Earnings per share	$1.52	$0.09	$1.68

[a] In years 2007 and after, Flash's effective combined federal and state income tax rate was 40%.

Exhibit 2 Balance Sheets, 2007–2009 ($000s except number of shares outstanding)

	December 31,		
	2007	2008	2009
Cash	$ 2,536	$ 2,218	$ 2,934
Accounts receivable	$ 10,988	$ 12,864	$ 14,671
Inventories	$ 9,592	$ 11,072	$ 11,509
Prepaid expenses	$ 309	$ 324	$ 357
Total current assets	$ 23,425	$ 26,478	$ 29,471
Property, plant & equipment at cost	$ 5,306	$ 6,116	$ 7,282
Less: Accumulated depreciation	$ 792	$ 1,174	$ 1,633
Net property, plant & equipment	$ 4,514	$ 4,942	$ 5,649
Total assets	$ 27,939	$ 31,420	$ 35,120
Accounts payable	$ 3,084	$ 4,268	$ 3,929
Notes payable (a)	$ 6,620	$ 8,873	$ 10,132
Accrued expenses	$ 563	$ 591	$ 652
Income taxes payable (b)	$ 151	$ 9	$ 167
Other current liabilities	$ 478	$ 502	$ 554
Total current liabilities	$ 10,896	$ 14,243	$ 15,434
Common stock at par value	$ 15	$ 15	$ 15
Paid in capital in excess of par value	$ 7,980	$ 7,980	$ 7,980
Retained earnings	$ 9,048	$ 9,182	$ 11,691
Total shareholders' equity	$ 17,043	$ 17,177	$ 19,686
Total liabilities & shareholders' equity	$ 27,939	$ 31,420	$ 35,120
Number of shares outstanding	1,491,662	1,491,662	1,491,662

[a] Secured by accounts receivable.

[b] To avoid a penalty for underpayment of income taxes, Flash made equal estimated tax payments quarterly on the 15th of April, June, September, and December of each year. The total of these four quarterly payments was required to equal at least the lesser of (a) 90% of the taxes that would actually be incurred in the same year, or (b) 100% of the taxes due on income of the prior year.

Exhibit 3 Key Forecasting Assumptions and Relationships for 2010 Through 2012

Line Item	Assumption or Ratio
Cost of goods sold	81.10% of sales
Research and development	5.0% of sales
Selling, general and administrative	8.36% of sales
Interest expense	Beginning of year debt balance × interest rate
Other income (expenses)	$50,000 of expense each year
Cash	3.3% of sales
Accounts receivable	60 days sales outstanding
Inventories	52 days of cost of good sold
Prepaid expenses	0.4% of sales
Property, plant & equipment at cost	Beginning PP&E at cost + capital expenditures
Accumulated depreciation	Beginning A/D + 7.5% of beginning PP&E at cost
Accounts payable	30 days of purchases
Purchases	60% of cost of goods sold
Accrued expenses	0.73% of sales
Income taxes payable	10% of income taxes expense
Other current liabilities	0.62% of sales

ıibit 4 Selected Financial Information for Flash Memory, Inc., and Selected Competitors, 2007 through 2009

	Flash Memory, Inc.				Micron Technology			
	2007	2008	2009	30-Apr-10[a]	2007	2008	2009	30-Apr-10[a]
les ($ millions)	77	81	89		5,688	5,841	4,803	
'S ($)	1.52	0.09	1.68		-0.42	-2.10	-2.29	1.46
vidend per share ($)	–	–	–		–	–	–	
osing stock price ($)	n/a	n/a	n/a		7.25	2.64	10.56	9.35
ares outstanding (millions)	1.492	1.492	1.492		769.1	772.5	800.7	847.6
ok Value per share ($)	11.43	11.52	13.20		10.08	8.00	5.81	6.61
)E	13.28%	0.78%	12.75%		-4.13%	-26.21%	-39.43%	21.00%
ıpitalization (book value)								
Debt	28%	34%	34%		24%	31%	40%	33%
Equity	72%	66%	66%		76%	69%	60%	67%
ta coefficient			n/a					1.25
	SanDisk Corporation				STEC, Inc.			
les ($ millions)	3,986	3,351	3,567		189	227	354	
'S ($)	0.84	-8.82	1.83	3.71	0.20	0.09	1.47	1.29
vidend per share ($)	–	–	–		–	–	–	
osing stock price ($)	33.17	9.60	28.99	39.84	8.74	4.26	16.34	13.90
ares outstanding (millions)	227.7	225.3	227.4	229.3	49.8	50.0	49.4	50.3
ok Value per share ($)	22.64	15.27	17.18	18.13	3.72	3.63	5.65	5.48
)E	3.70%	-57.74%	10.63%	17.87%	5.40%	2.36%	26.06%	18.90%
pitalization (book value)								
Debt	15%	22%	21%	19%	0%	0%	0%	0%
Equity	85%	78%	79%	81%	100%	100%	100%	100%
ta coefficient				1.36				1.00

urity analyst estimates for year-end EPS $ and Return on Equity; actual data on April 30, 2010, for all other items.

Star Appliance Company (A)

Arthur Foster, the financial vice president of Star Appliance Company, thought that the opportunity had finally presented itself. Since joining the company in early 1978, he had been concerned about the discount rate (also called the hurdle rate) used in the capital-allocation process. He had not wanted to create a controversy immediately after accepting his position, but now in early October 1979, with the company considering a move into new products, he thought that the time had come for discussing the company's required rate of return on investment (frequently referred to as the cost of capital).

History of Star Appliance Company

Star Appliance had been founded in 1922 by Ken McDonald to manufacture electric stoves and ovens. During the prosperous 1920s, the demand for electric stoves and ovens as replacements for wood- and coal-burning stoves increased, and Star became a respected brand name and the market leader. Capitalizing on this success and the burgeoning equity market during the 1920s, Mr. McDonald financed the rapid growth of the company through the sale of common stock. This move proved to be farsighted. The company was able to enter the Depression with a debt-free balance sheet. Many firms, plagued with dwindling sales and poor or nonexistent profits, had defaulted on their debts and were forced into bankruptcy and eventually out of business. Star suffered severely during the Depression, but was able to survive by significantly reducing its operations and concentrating its sales efforts on the least affected part of the market, the premium end. As a result, Star remained alive and viable, emerging at the end of World War II with a smaller base of operations, a strong balance sheet, and a well-established reputation in the marketplace.

In the ensuing three decades, the company grew and prospered. Star continued to concentrate on the premium market and over the years

expanded its product line. Continuing its focus on kitchen appliances, Star first added gas ranges to its products, followed by a line of refrigerators. Microwave ovens were the company's newest product. The company's marketing program emphasized the sale of new appliances as replacements for older models, rather than targeting the market for installations in newly constructed dwellings. This strategy provided some protection from the vicissitudes of the highly cyclical housing industry.

As for financing, Mr. McDonald believed he had learned a valuable lesson from the Depression and had continued to keep debt financing to a minimum. Although he retired from active management in 1963, his philosophy concerning the capital structure had become well ingrained. Through its period of growth, the company had relied solely on equity to finance itself. In fact, Star's premium image had allowed it to price its products to command a higher margin than could its competition; as a result, all of Star's equity financing had come from its profits—additions to retained earnings.

Furthermore, Star maintained a liquidity reserve of cash and marketable securities. During seasonal and cyclical slumps, the company had been able to draw on this reserve, eliminating the need to borrow. In part because of this solvency, Star had been able to maintain a stable work force, which management believed contributed to its superior labor productivity. On the few occasions when the growth of the company had been limited by the lack of internal funds, Star had temporarily reduced its liquid reserve to provide the necessary financing. Only three times since the end of World War II had this reserve not been large enough, and Star had sold new equity. These marketing and financial strategies had created a strong company whose stock in 1978 was widely held by the investing public. The most recent financial statements for Star are shown in Exhibits 1 and 2.

Despite Star's previous growth, management believed that growth in the current product lines had slowed. Exhibit 3 provides 5-year forecasts for Star's earnings, assuming no significant changes in the current product lines. However, Star's president, Chris Weeks, who had originally joined the company in 1955 as a sales representative, believed real growth would come only with the addition of new products. Mr. Weeks believed that, in order for Star to capitalize on its market reputation and brand-name recognition, any new products should be kitchen oriented.

Evaluating Product Expansion

The desire to expand the product line was also a response to a general industry slump. Despite Star's continued growth in sales and profits during a period when its competitors' sales and margins declined, Star's stock price had fallen. Management believed the company's stock price had been adversely affected by the industry's problems. It was thought that the

introduction of new products might provide an impetus to the stock market, thus increasing the company's price/earnings (P/E) ratio back to its normal levels.

Three new product lines had been proposed—a dishwasher, a food disposer to be installed in kitchen sinks, and a trash compactor. The marketing department believed that each of these products had good sales potential and would fit with the company image of high-quality, premium-priced kitchen products.

Each of the three projects had been analyzed following the requirements of Star's capital-allocation process. Like most projects at Star, these had originated in either the marketing or manufacturing departments. For each, the costs, benefits, expected lives, and terminal values had been determined. The results of the analysis for each project are shown in Exhibit 4. Using Star's marginal tax rate, the after-tax cash flows were used to calculate the internal rate of return (IRR) for each project. Following Star's usual procedures, the IRR would then be compared with the company's 10-percent discount rate. Star's management would accept projects whose IRR exceeded the discount rate as long as funds were available. In years when capital was short, projects with the highest IRRs were implemented, and lower return projects were postponed until funds became available.

Several parts of this process troubled Mr. Foster. First, he was concerned about the appropriateness of the 10-percent required rate of return. When he joined the company, he had asked about the source of the rate, but no one seemed to be able to give a precise reason for it. The best he could determine was that the return on equity seemed to have been about 10 percent during the period when the capital-budgeting system was being established, and since that time, the 10-percent rate had been used.

Mr. Foster was convinced that the discount rate was too low. The interest rate on various U.S. Treasury securities is shown in Exhibit 5. Treasury bills had recently exceeded 13 percent, and one study[1] showed that common stock historically had a return of about 8.5 percent above the average return on Treasury bills and 6 percent above longer term Treasury securities. He was certain that Star's projects were more risky than Treasury bills, and thus the projects should have a higher expected return if they were to be accepted. On the other hand, Mr. Foster did not believe that Star's stock was as risky as the average common stock. This suggested to him that the full market risk premium would not be expected by investors in Star's common stock.

At the manufacturing company where Mr. Foster had worked before joining Star, a dividend-growth model had been used in calculating the

[1] Roger G. Ibbotson and Rex A. Sinquefield, *Stocks, Bonds, Bills and Inflation: Historical Returns (1926–1978)* (Charlottesville, Va.: The Financial Analysts Research Foundation, 1979).

cost of equity. This model ($D_1/P_0 + g = K_e$) described the return expected by the shareholders (K_e) from investing in the company's common stock as a combination of the next dividend (D_1), current market price (P_0) [the dividend yield (D_1/P_0)], and the forecasted long-term growth in dividends (g). Star's current stock price was $22.50, and the company's management and board of directors intended to continue its policy of maintaining or slightly increasing dividends. Information about Star's historic dividends, along with other information about Star's stock and the stock market, can be found in Exhibit 6.

Because Star had only short-term debt, Mr. Foster did not believe he should consider the cost of debt in calculating the return required by Star's capital providers. However, there was one thing that perplexed him. If an all-equity-financed firm was less risky in economic downturns, why would its required cost of capital be higher? It was obvious that debt cost less than equity (especially after taking taxes into account) and that the use of debt would reduce a company's overall average required rate of return.

In his review of the discount rate and capital providers' required rate of return, several other questions occurred to Mr. Foster. First, was inflation adequately accounted for in Star's present system? Mr. Foster believed that the rates on U.S. Treasury securities (Exhibits 5 and 6) included a return to offset expected inflation, but was that enough?

Second, Mr. Foster wondered whether Star management should accept projects that just met the required rate of return, or only those that exceeded it by a margin of safety. Some of the forecasts had, in the past, exceeded the results. Perhaps the required rate should be raised to compensate for poor forecasts. Furthermore, Star, like other U.S. companies, had increased its investment in safety and environmental projects to satisfy the U.S. government's increased requirements. Like most companies, Star categorized these as nonproductive investments, investments with no return. The discount rate, Mr. Foster believed, should certainly be increased to cover those investments, for failing to do so would guarantee that Star would earn less than its required rate, and shareholders would be hurt.

Finally, the staff making the forecasts for the three projects believed that two of the projects were riskier than the other one, because they required new plant and equipment that would add appreciably to fixed costs. In downturns, or if the projects proved unsuccessful, they could cost Star more. Some of the staff thought that the rate required should be increased to compensate for risk. Others argued that the more risky projects should be evaluated on the basis of their strategic importance and that the rate used was irrelevant: the company should accept the sound strategy. One young analyst contended that, if different rates were used for different projects, the company would be mixing the financing and investment decisions—something that should not be done.

Conclusion

As Mr. Foster began to investigate Star's capital providers' required rate of return in developing a new discount rate, one contingency troubled him. Although Star had recently built up its liquid reserves in the expectation of launching some new products, whether all three of the products could be financed internally was questionable. He expected that depreciation would need to be reinvested to maintain Star's current production facilities. According to the marketing department's sales projections, he would have about $12 million from operations in 1979. In addition, he thought he could get from $15 to $20 million by reducing cash and marketable securities. If all three projects were approved, he could need as much as $40 million in external financing. Even if management decided to approve only the new dishwasher project, Star would require $3 million in new funds. Because of the strong financial position of the company, Mr. Foster was certain that he would be able to sell a reasonable amount of new equity, to net, after issue costs, about 95 percent of the current market price. He was not certain how or whether the issue costs should be included in his evaluation of the company's required rate of return.

Star Appliance Company (A)

EXHIBIT 1 • Statements of Consolidated Income
(thousands of dollars, except per-share data)

	Year Ended December 31, 1977	*Year Ended December 31, 1978*
Net sales	$248,505	$269,787
Interest	2,065	3,126
Miscellaneous	242	265
Total income	250,812	273,178
Cost of products sold	(160,021)	(173,338)
Selling, administrative, and general expenses	(36,533)	(41,079)
Total costs and expenses	(196,554)	(214,417)
Income before income taxes	54,258	58,761
Federal and state income taxes	(25,655)	(28,303)
Net income	$28,603	$30,458
Net income per share of common stock	$2.13	$2.27
Dividends per share of common stock	$1.45	$1.52

Star Appliance Company (A)

EXHIBIT 2 • Statements of Consolidated Financial Condition (in thousands)

	December 31, 1977	*December 31, 1978*
Assets		
Cash	$ 2,122	$ 2,430
Marketable securities, including certificates of deposit—at cost (approximately market)	27,209	37,759
Trade accounts receivable, less allowance ($100,000)	15,577	17,333
Inventories		
Finished appliances	11,323	11,302
Work in process	13,527	13,100
Materials and supplies	8,309	6,930
Total inventories	33,159	31,332
Deferred federal taxes on income	1,536	1,747
Total current assets	79,603	90,601
Other assets	495	818
Property, plant, and equipment		
Land	713	713
Buildings and improvements	36,024	36,185
Machinery and equipment	76,879	79,411
Construction in progress	1,372	5,430
Less allowances for depreciation	(58,699)	(62,610)
Net property, plant, and equipment	56,289	59,129
Total assets	$136,387	$150,548
Liabilities and Shareowners' Equity		
Trade accounts payable	$ 2,860	$ 3,287
Compensation to employees	4,040	4,473
Miscellaneous accounts payable	2,122	1,778
Accrued local taxes	1,515	1,699
Accrued liabilities	2,742	2,961
Federal and state taxes on income	5,634	7,117
Total current liabilities	18,913	21,315
Deferred federal taxes on income	4,349	5,666
Shareowners' equity		
Common stock (13,414,268 shares issued, including shares in treasury)	27,835	27,835
Retained earnings	86,343	96,298
Less cost of shares of common stock in treasury	(1,053)	(566)
Total equity	113,125	123,567
Total liabilities and shareowners' equity	$136,387	$150,548

Star Appliance Company (A)

EXHIBIT 3 • Forecast of Earnings, Sales, and Dividends from Continuing Operations (in thousands, except per share)

	Sales	*Profit after Tax*	*Dividends per Share*
1979	$297,734	$34,375	$1.64
1980	307,000	35,500	1.70
1981	317,000	36,500	1.75
1982	326,000	37,300	1.80
1983	334,000	38,000	1.85

Star Appliance Company (A)

EXHIBIT 4 • Projected Cash Flows (in thousands)

Costs	*Dishwasher*	*Food Waste Disposal*	*Trash Compactor*
Addition to plant	$ 7,000	$ 0	$ 3,000
Production equipment	21,500	13,600	10,000
Installation of equipment	1,500	400	1,000
Initial promotion expenditures	5,000	1,000	8,000
Total costs	$35,000	$15,000	$22,000
Expected project life[a]	15 years	15 years	15 years
Expected net cash flow after taxes			
Year 1	$ 1,000	$ 100	$ 400
Year 2	4,000	500	1,300
Year 3	8,000	1,000	3,000
Year 4	11,000	1,650	4,500
Year 5 and subsequent years	11,000	3,000	5,500
Terminal value[a]	$ 0	$ 0	$ 0
Internal rate of return	20.8%	10.6%	15.2%

[a]Actually, the marketing department projected sales beyond 15 years; however, the engineering staff predicted that, at best, the equipment would last 15 years before it would need to be completely replaced. Thus, to be conservative, the projections had included no terminal value.

Star Appliance Company (A)

EXHIBIT 5 • U.S. Treasury Security Yields, October 25, 1979

Term	*Yield*
3 months	13.04%
6 months	13.54
1 year	13.35
2 years	12.53
3 years	11.97
5 years	11.31
7 years	11.15
10 years	10.97
20 years	10.43
30 years	10.28

Star Appliance Company (A)

EXHIBIT 6 • Historical Company and Stock Market Data

Year	Stock Market Price Index[a] 1943=10	Stock Market Return[b] (percent)	Annualized Treasury Bill Yield[a] (percent)	Annualized AA Corporate Industrial Bond Yield[a] (percent)	Annual Consumer Price Inflation Rate[b] (percent)	Star Appliance Company				
						Earnings per Share	P/E Ratio	Dividends per Share	Dividend Yield (percent)	Stock Return (percent)
1964	83.96	16.48%	3.856%	4.31%	1.19%	$1.01	16.1×	$0.79	4.9%	17.7%
1965	91.73	12.45	4.362	4.72	1.92	0.95	17.3	0.79	4.8	5.9
1966	81.33	(10.06)	5.007	5.38	3.35	1.00	13.3	0.81	6.1	(13.0)
1967	95.30	23.98	5.012	6.23	3.04	1.06	14.0	0.83	5.6	17.2
1968	106.50	11.06	5.916	6.56	4.72	1.30	14.8	0.94	4.9	34.5
1969	91.11	(8.50)	7.720	7.62	6.11	1.34	16.6	1.04	4.7	20.3
1970	90.05	4.01	4.860	7.36	5.49	1.41	16.0	1.08	4.8	6.2
1971	99.17	14.31	4.023	7.14	3.36	0.75	41.1	1.08	3.5	40.1
1972	117.50	18.98	5.061	7.08	3.41	1.73	19.3	1.12	3.4	11.7
1973	94.78	(14.66)	7.364	7.64	8.80	1.83	14.0	1.25	4.9	(18.4)
1974	67.07	(26.47)	7.179	8.63	12.20	1.35	14.0	1.16	6.1	(20.1)
1975	88.70	37.20	5.504	8.68	7.01	1.61	14.5	1.16	5.0	28.5
1976	98.20	23.84	4.354	8.24	4.81	2.05	13.9	1.37	4.8	26.9
1977	95.10	(7.18)	6.152	8.92	6.77	2.13	11.9	1.45	5.7	(5.3)
1978	96.11	6.56	9.336	9.28	9.03	2.27	9.5	1.52	7.0	(7.9)

[a]As of last business day in the year.

[b]Annual return of the Standard & Poor's Composite Index based on capital appreciation and dividend income. Source: Roger G. Ibbotson and Rex A. Sinquefield, *Stocks, Bonds, Bills, and Inflation: Historical Returns (1926–1978)* (Charlottesville, Va.: The Financial Analysts Research Foundation, 1979).

Star Appliance Company (B): January 1985

In 1982 Star Appliance expanded its business by purchasing a company that made machines to clean fruits, grains, and vegetables for market.[1] The firm, Rhinescour Company, was located near Star's headquarters in Nebraska and had been managed into mediocrity. The quality of its management, along with the state of the U.S. farming economy, made the price very low. Star management considered its purchase a good investment and, because Rhinescour's continuation ensured jobs in the area, a local community service. To make the purchase, Star contracted long-term debt—for the first time in the company's history— $17.8 million.

In January 1985, Arthur Foster, Star's treasurer, realized that he had not reevaluated Star's cost of capital since taking on the debt. He wondered what changes the debt had caused. Mr. Foster found that the company was considered more risky since he had begun to deal with lenders, a new experience for him.

The more he worked to develop a new corporate discount rate, the more concerned Mr. Foster became about Star Appliance's required rate of return. When he had been in business school 25 years earlier, there had been only two methods for estimating the required return on equity: the price/earnings ratio (the implicit cost of capital) and the dividend-discount model. Many of Star's recently hired MBAs said the best method to use was a capital-market equilibrium approach called the capital asset pricing model (CAPM). Mr. Foster was determined to explore all the alternatives before settling on one method to use in future discount-rate revisions.

Two issues were being discussed among the staff and needed to be resolved. Some of the younger staff members, along with Mr. Foster, questioned whether the company's present discount rate, given the debt picture, accurately reflected capital costs. Some also wondered whether one discount rate should apply to all projects. Several suggested that different discount rates should be used with different kinds of investments. The

[1] Background about Star Appliance Company is found in "Star Appliance Company (A)."

point had come up in connection with a discussion of whether to develop a market for new crop dryers or increase plant space for the production of refrigerators.

Cost of Equity

Debbie Schofield, assistant to the corporate treasurer, was one of the more vocal advocates of multiple discount rates and using the CAPM for determining the required return on equity for various projects. "The projected return of the project," she said, "should be set off against its risk to determine value, and the CAPM does that and does it well. We've had lots of experience calculating betas and the risk-free and market rates of return. That makes the CAPM easy; anyone can use it."

As its measure of risk, the CAPM used beta (β), the relative volatility of a security's return in relation to all other assets. A security's beta represented expected risk, but was often estimated by fitting a least-squares regression, also called the market model, to a series of returns for the total market and for an individual stock over the most recent 5 years. If a security's returns moved less than those of the market as a whole, its risk would be deemed lower than average and its beta would be less than 1.0; if its movement was greater, its beta would be greater than 1.0. Using a beta, the return expected for the market, and that expected for a risk-free asset, one could estimate a security's expected return on equity from the CAPM equation:

$$R_j = R_f + \beta_j (R_m - R_f)$$

where:

R_j = the expected total rate of return for a security (j)

R_f = the risk-free rate of return, for which analysts often used a U.S. Treasury security rate

β_j = the variability of total returns for a security (j) relative to those of the market, called the security's beta

R_m = the expected total rate of return for the market. Analysts often used a broad market index, such as Standard & Poor's 500 Index, as a proxy

Exhibit 1 provides the betas, profitability ratios, and other pertinent data for firms in the home-appliance and agricultural-machinery industries. Exhibit 2 provides information on Star's stock performance and that of the S&P 500 Index.

To use this model, Mr. Foster would need estimates of expected market returns. He sought help from Star's bankers. Sam Ralfson, his primary contact at Kennelworth Bank and Trust, sent the letter shown in Appendix A in response to Mr. Foster's inquiry. This letter provided some direction in determining what rate to use for the market's expected return (R_m). As for the risk-free rate (R_f), the consensus among Mr. Foster's staff seemed to be that they would use the yield on a Treasury security (see Exhibit 3), but there was little agreement on which security offered the best proxy. Mr. Foster believed that the decision boiled down to choosing the security with the least risk (very short-term) but one that incorporated the inflation expected over the investment's life.

Mr. Foster wanted to compare the CAPM estimate with those made from the implicit and dividend-discount models. He also wanted to understand how increased debt affected the required return on equity using each of the models.

Once he had determined Star's capital providers' required return, Mr. Foster knew he would need to deal with the issue of multiple discount rates that Ms. Schofield had originated. Her initial arguments for multiple rates seemed overwhelming. She said, "It is obvious that different degrees of risk should be reflected in the expected returns of the projects, just as riskier stocks and bonds typically yield higher returns." She questioned whether it was rational for Star to expect the same 10-percent rate of return from both a relatively risk-free project and a riskier one. By applying the same discount rate to both types of projects, the riskier one, which typically would have the higher expected rate of return, would appear disproportionately attractive.

The arguments against the use of multiple discount rates, however, presented by Jude Weathers, another member of the finance staff, were also compelling. Mr. Weathers said, "To me it is obvious that, given the fungibility of capital, the company should seek to invest where the expected returns are best. Less profitable projects should receive less funding. That was the reason behind establishing a single discount rate in the first place. The corporation is financed as a whole, not by product lines, divisions, or projects."

Ms. Schofield had disagreed, stating her belief that a properly applied multiple-discount-rate system would help ensure that Star remained conservative by "scientifically allocating funds to projects with various degrees of risk." As a result of this conservatism, if the company were to decide at some point to contract more long-term debt, lenders would be willing to supply funds at better rates. Similarly, she said, stockholders would be more willing to pay more for shares. The price/earnings (P/E) ratio might fall farther than at present, she warned, if riskier projects were accepted with too little consideration for their relative rates of return.

Mr. Foster was concerned about how risk and discount rates were related. He believed his staff had already accounted for risk, in an intuitive sense, by adjusting the cash flows on the returns of riskier projects, but he

appreciated Ms. Schofield's approach, which he believed made the analysis systematic.

Ms. Schofield suggested that the same conclusion could be reached from a different angle. The company was historically conservative, in that it had until recently been entirely equity financed. Even now, the ratio of debt to total capital of 9.5 percent was below the industry average. "Maybe Star was too conservative in using costly equity on relatively risk-free, low-return projects," she said. A multiple-discount-rate system that used modern portfolio theory techniques such as the CAPM to determine the capital providers' required return for various divisions or projects might allocate those costlier funds more scientifically. "Perhaps," she suggested, "we could use a method like the one used by Kennelworth Bank. They combine the CAPM, or at least the beta, and the dividend-discount model to determine whether a stock is fairly valued. Maybe we could do something similar in ranking our projects."

In discussing Ms. Schofield's proposal, the staff had raised several questions. If Star were to use different discount rates for each division or project, how would the required rates of return be estimated? How would the required return on equity be estimated for divisions of companies and projects that are not publicly traded? If beta were used to determine the equity cost or in a method similar to Kennelworth Bank's, how could a beta be determined for a division or project? What was to be done about weighting debt and equity? The debt question was especially important at Star, because all financing was done at the corporate level; divisions had no long-term debt.

Mr. Weathers strongly disagreed with Ms. Schofield's total approach. He said, "Risk should be accounted for by presenting best-and worst-case scenarios for all projects and, as we already do, by making conservative cash-flow forecasts. The use of divisional or project discount rates would be redundant at best, and at worst, could prematurely discourage consideration of riskier projects." While several staff members supported his approach, one said, "In my opinion, we should forecast a number of different scenarios and discount each at an appropriate hurdle rate. Use a different rate for each scenario."

The Decision

As Mr. Foster thought about the diverse opinions expressed by his staff, he knew he had to deal with three issues. First, what effect did debt have on Star's required rate of return on capital and how should that effect be determined? Second, should the CAPM be used to evaluate Star's required return on equity? Third, should Star use multiple discount rates for future capital-budgeting decisions, and if so, how should the rates be determined and used?

Mr. Foster analyzed Star's position and the arguments for and against the CAPM and multiple discount rates in light of two strategic moves Star management was contemplating: increasing plant capacity to produce more refrigerators in an attempt to increase market share, and expanding the operations of Star's 1982 acquisition into a new product, grain dryers. A net present value of zero was expected at 14.5 percent for the refrigerator project, and Rhinescour Division's vice president said he expected a zero net present value at 17.2 percent on the dryer project. To Mr. Foster, however, the returns on this latter project would clearly be highly influenced by the state of the economy and farm prices. Intuitively, he believed that the first option was less risky than the second, but the potential rewards of the second were enticing.

Mr. Foster weighed the advantages and disadvantages of the CAPM and then, using the company's financial data provided in Exhibits 4 and 5, studied the effects of the company's long-term debt on its required return on capital. (The current long-term debt consisted of a promissory note with a variable interest rate, on which the company was currently paying 12.20 percent. Rates on various forms of public debt are shown in Exhibit 6.) Mr. Foster wanted to determine Star's required return on capital at its current ratio of debt to capital and if the company were to borrow up to the industry average of 19 percent.

Mr. Foster then attempted to apply his findings to the issue of multiple discount rates. As he did so, several questions arose:

1. Once a base rate was calculated for the least risky projects, could higher rates be scientifically determined for consistent use on other projects, or should rates be varied for strategic reasons?
2. Considering the controls already in place, would the use of multiple rates overcompensate for risk? Should multiple rates replace those controls?
3. Would multiple discount rates lend a greater sense of conservatism to the company?
4. Would the use of multiple discount rates mix the investment decision with the financing decision?

Star Appliance Company (B)

EXHIBIT 1 • Selected Data for the Home-Appliance and Agricultural-Machinery Industries

	Debt/Equity	*Debt/Capital*	*Return on Equity*	*Return on Assets*	*Return on Sales*	*Beta*[a]	*Average Market Price*	*Book Value*	*Average Price/Earnings*	*Payout Ratio*	*Dividend Yield*
Home Appliances											
Magic Chef	35%	26%	22.2%	10.6%	5.2%	1.35	$34	$25.2	6.2×	16%	2.6%
Maytag	11	10	27.6	20.7	9.8	0.90	43	16.9	10.0	60	6.1
National Presto	4	4	10.1	8.7	17.6	0.90	28	13.3	11.9	45	3.8
Ranco	39	28	14.6	7.3	4.5	0.80	19	15.1	9.4	44	4.7
Robertshaw	19	16	17.5	11.0	5.8	0.95	30	25.3	7.5	26	3.4
Toro	49	33	11.1	5.1	3.0	0.65	16	9.0	8.1	18	2.2
Whirlpool	5	5	17.2	12.4	6.0	1.00	46	29.9	9.7	42	4.3
White Consolidated	40	29	9.5	5.1	2.5	1.05	30	30.8	13.5	68	5.0
Unweighted averages	25%	19%	16.2%	10.1%	6.8%	0.95	$31	20.7	9.5	40%	4.0%
Agricultural Machinery											
Deere & Co.	43%	30%	3.1%	1.3%	1.6%	1.05	$29	$33.8	6.4×	220%	3.4%
Hesston Corp.	73	42	(10.5)	(3.5)	(2.4)	0.90	8	29.8	NMF	NMF	NMF
Massey-Ferguson	205	67	2.3	0.5	0.5	0.75	4	NMF	NMF	NMF	NMF
Steiger Tractor	20	16	4.2	2.4	1.6	0.80	9	NMF	NMF	NMF	NMF
Selected unweighted averages	85%	39%	(0.2)%	(0.2)%	0.3%	0.88	$13				

NMF = no meaningful figure.

[a]Calculated using 2.5 years of weekly total returns, adjusted for known problems.

Source: Value Line *Investment Survey*.

Star Appliance Company (B)

EXHIBIT 2 • Historical Company and Stock Market Data

Year/Month		Stock Market Price Index[a] 1943=10	Star Appliance Co. Market Price Changes[b]	Year/Month		Stock Market Price Index[a] 1943=10	Star Appliance Co. Market Price Changes[b]
1979	1	99.93	2.1%	1982	1	120.40	(4.7)%
	2	96.28	1.4		2	113.11	(2.2)
	3	101.59	1.1		3	111.96	7.3
	4	101.76	8.4		4	116.44	4.3
	5	99.08	(8.2)		5	111.88	5.4
	6	102.91	9.2		6	109.61	9.7
	7	103.81	(1.0)		7	107.09	3.6
	8	109.32	2.8		8	119.51	19.1
	9	109.32	6.5		9	120.42	(2.0)
	10	101.82	(7.3)		10	133.71	10.3
	11	106.16	(5.0)		11	138.54	3.7
	12	107.94	(9.2)		12	140.64	1.6
1980	1	114.16	2.9	1983	1	145.30	8.3
	2	113.66	(4.6)		2	148.06	16.0
	3	102.09	(4.8)		3	152.96	1.3
	4	106.29	2.6		4	164.42	18.1
	5	111.24	7.8		5	162.39	(3.1)
	6	114.24	8.3		6	168.11	(7.0)
	7	121.67	0.6		7	162.56	9.7
	8	122.38	(5.7)		8	164.40	(17.5)
	9	125.46	2.3		9	166.07	3.0
	10	127.47	2.3		10	163.55	(44.8)
	11	140.52	(5.8)		11	166.40	5.8
	12	135.76	(1.7)		12	164.93	(3.3)
1981	1	129.55	(0.2)	1984	1	163.41	81.6
	2	131.27	4.5		2	157.06	(6.7)
	3	136.00	13.5		3	159.18	1.4
	4	132.81	(1.1)		4	160.05	(4.3)
	5	132.59	(3.3)		5	150.55	(11.6)
	6	131.21	4.0		6	153.18	3.0
	7	130.92	(2.9)		7	150.66	2.0
	8	122.79	(1.9)		8	166.68	11.3
	9	116.18	(6.3)		9	166.10	9.6
	10	121.89	1.4		10	167.42	(1.6)
	11	126.35	14.4		11	163.58	1.6
	12	122.55	(10.2)		12	167.24	(4.0)

[a]Standard & Poor's 500 Index as of last trading day of each month.

[b]Stock price at end of 1984 was $63.29.

Star Appliance Company (B)

EXHIBIT 3 • U.S. Treasury Security Yields (end of quarter)

	Year/ Quarter	*3-Month Bill*	*6-Month Bill*	*5-Year Note*	*7-Year Note*	*10-Year Bond*
1982	1	13.04%	14.12%	14.11%	14.07%	13.99%
	2	11.97	12.52	13.78	13.81	13.69
	3	8.66	10.20	12.72	12.86	12.77
	4	8.51	9.00	10.47	10.77	10.69
Monthly average		11.09	12.00	13.11	13.22	13.18
1983	1	8.15	8.38	9.92	10.14	10.24
	2	8.91	9.23	10.49	10.77	10.79
	3	9.56	10.10	11.71	11.88	11.92
	4	9.17	9.56	11.40	11.51	11.58
Monthly average		8.83	9.18	10.79	10.94	11.01
1984	1	9.47	9.89	11.80	11.99	12.04
	2	10.08	11.25	13.65	13.73	13.78
	3	11.01	11.44	12.74	12.82	12.76
	4	8.68	9.14	11.25	11.53	11.50
Monthly average		9.89	10.44	12.28	12.45	12.45

Source: *Analytical Record of Yields and Yield Spreads* (New York: Salomon Brothers, 1985).

Star Appliance Company (B)

EXHIBIT 4 • Statements of Consolidated Income (dollars in thousands, except per-share data)

	1979	*1980*	*1981*	*1982*	*1983*	*1984*
Income						
Net sales	$302,670	$286,346	$339,169	$352,647	$477,590	$514,048
Interest	5,516	6,549	10,153	7,603	6,505	6,207
Miscellaneous	140	457	737	755	1,039	1,167
Total income	308,326	293,352	350,059	361,005	485,134	521,422
Cost of products sold	(195,207)	(189,704)	(233,854)	(237,053)	(309,002)	(337,413)
Operating profit	113,119	103,648	116,205	123,952	176,132	184,009
Selling and administrative	(44,744)	(50,415)	(59,383)	(66,988)	(81,802)	(87,598)
Interest expense	0	0	0	1,682	3,538	3,136
Income before taxes	68,375	53,233	56,822	55,282	90,792	93,275
Federal and state taxes	(31,250)	(24,108)	(25,481)	(25,600)	(42,240)	(42,800)
Net income	$37,125	$29,125	$31,341	$29,682	$48,552	$50,175
Net income per average share	$2.58	$2.02	$2.18	$2.06	$3.38	$3.51
Dividends	$23,002	$22,926	$25,110	$23,802	$29,991	$32,697
Average dividend yield	6.7%	7.1%	7.1%	5.4%	4.4%	4.6%
Average P/E ratio	9.2×	11.0×	11.2×	14.9×	14.1×	14.0×

Star Appliance Company (B)

EXHIBIT 5 • Consolidated Statements of Financial Condition (dollars in thousands)

	1979	*1980*	*1981*	*1982*	*1983*	*1984*
Assets						
Current assets						
Cash	$ 2,653	$ 3,303	$ 3,259	$ 3,413	$ 5,262	$ 4,870
Short-term investments	47,036	47,625	45,587	37,191	47,315	35,482
Prepaid pension	2,460	6,150	9,180	9,600	6,800	2,000
Accounts receivable, net	18,967	20,977	16,754	30,892	38,313	37,630
Inventories	31,941	41,397	40,819	50,504	60,518	62,147
Deferred taxes	1,620	0	0	0	0	1,913
Total current assets	104,677	119,452	115,599	131,600	158,208	144,042
Other assets						
Marketable securities	0	0	0	0	0	9,758
Prepaid pension	0	0	1,079	4,000	12,000	16,800
Miscellaneous	728	1,685	1,113	1,770	2,200	3,854
Total other assets	728	1,685	2,192	5,770	14,200	30,412
Property, plant, and equipment						
Land	708	1,241	1,018	1,686	2,078	2,224
Buildings and improvements	41,511	44,782	43,462	46,631	48,794	51,398
Machinery and equipment	83,737	93,678	101,860	113,048	122,674	133,772
	125,956	139,701	146,340	161,365	173,546	187,394
Less depreciation	(65,242)	(67,899)	(74,709)	(79,344)	(88,274)	(98,120)
Total property, plant, and equipment	60,714	71,802	71,631	82,021	85,272	89,274
Total assets	$166,119	$192,939	$189,422	$219,391	$257,680	$263,728
Liabilities and Shareholders' Equity						
Current liabilities						
Accounts payable	$ 7,173	$ 9,193	$ 6,553	$ 10,076	$ 16,106	$ 13,066
Compensation to employees	5,600	6,171	6,871	8,301	9,238	10,077
Accrued liabilities	5,127	6,188	6,078	8,155	11,243	12,765
Federal and state taxes	7,523	3,954	1,315	2,609	6,317	5,539
Deferred taxes	0	0	2,322	2,079	1,418	0
Total current liabilities	25,423	25,506	23,139	31,220	44,322	41,447
Deferred taxes	6,784	8,029	10,867	8,385	13,011	16,493
Long-term debt	0	0	0	17,797	19,351	19,417
Shareholders' equity						
Common stock						
Authorized—20,000,000 shares						
Issued—14,382,518 shares	26,840	28,765	28,765	28,765	28,765	28,765
Additional paid-in capital	0	17,368	17,579	17,078	17,084	17,070
Retained earnings	109,154	115,353	121,584	127,464	146,025	163,823
Total shareholders' equity	135,994	161,486	167,928	173,307	191,874	209,658
Less treasury stock	(2,082)	(2,082)	(12,512)	(11,318)	(10,878)	(23,287)
Net shareholders' equity	133,912	159,404	155,416	161,989	$180,996	$186,371
Total liabilities and shareholders' equity	$166,119	$192,939	$189,422	$219,391	$257,680	$263,728

Star Appliance Company (B)

EXHIBIT 6 • Interest Rates on Debt of Different Qualities

Year/Quarter		Corporate Bonds		Prime Lending Rate	90-Day Treasury Bills	7-Year Treasury Notes
		Aaa	*Baa*			
1982	1	14.58%	16.82%	16.50%	13.04%	14.07%
	2	14.81	16.92	16.50	11.97	13.81
	3	12.94	15.63	13.50	8.66	12.86
	4	11.83	14.14	11.50	8.51	10.77
1983	1	11.73	13.61	10.50	8.15	10.14
	2	11.74	13.37	10.50	8.91	10.77
	3	12.37	13.55	11.00	9.55	11.88
	4	12.57	13.75	11.00	9.17	11.51
1984	1	12.57	13.99	11.21	9.47	11.99
	2	13.55	12.66	12.60	10.08	13.73
	3	12.66	14.35	12.97	11.01	12.82
	4	12.13	13.40	11.06	8.68	11.53

Source: *Federal Reserve Bulletin*, 1985.

Star Appliance Company (B)

Appendix

To: Mr. Arthur Foster
Financial Vice President, Star Appliance Company

From: Sam Ralfson
Kennelworth Bank and Trust

Date: January 3, 1985

You asked us to provide you with an estimate of the return expected for the market. Unfortunately there is no single estimate (or even definition of the market), but rather, various estimates made by various groups. On *Wall Street Week*'s year-end program, one analyst was predicting that the Dow Industrial would go from its level of about 1,200 at the end of 1984 to 1,500. Another believed the U.S. deficit would take it 100 points below its current level by year's end.

Over history, the market has yielded from −26.5 percent to 54.0 percent, but the geometric average was 9.5 percent from 1926 to 1984. As shown in Exhibit A-1, the realized market returns have been quite variable. However, some of our analysts find the long-term average a reasonable estimate since, they believe, time averages out the extremes.

The analysts in our Investment Analysis and Advisory Group prefer another method. They use a combination of the dividend discount model and a measure of risk called beta to forecast and evaluate expected returns from almost 500 common stocks.

Their first step is to forecast the dividends they anticipate from each company for at least 15 years. I have attached a chart (Exhibit A-2) they used to explain their method to me. They go about forecasting dividends by looking first at the basic sources of the company's earnings—its markets, products, and competitors—as well as its costs. Using their earnings forecasts and estimates of dividend payout ratios, they determine each company's dividend payments over three periods: for the next few years (usually 5) in detail; for a time of earnings and dividend growth (the analyst determines how long this period will be); and when the company is mature, with a final, low rate of growth in earnings and a higher payout ratio.

As you can see, this is just a more detailed version of the dividend discount model you told me Star has used to estimate its cost of equity. The model assumes that as companies mature they have more cash available than they need and can thus increase dividends.

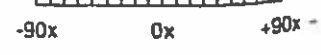
Once the dividends have been forecast, they are compared to the stocks' current market prices, and rates of return (sometimes called internal rates of return) are calculated. The analysts then compare the expected return (the internal rate of return) with the beta for each stock.

By the way, the analysts tell me they buy their beta estimates from what they call a "beta service." These betas, they say, are calculated over 5 years of history and are adjusted for some statistical problems, but are quite similar to a simple regression historic beta. The expected returns and betas for each stock are plotted on a graph like that shown in Exhibit A-3. A line of best fit is drawn, or calculated using a regression package like that provided with most computer spreadsheet models such as *Lotus 1-2-3*, and the market's expected return is derived by looking at the return expected for a stock or portfolio with a beta of 1.0.

Star Appliance Company (B)

EXHIBIT A-1 • Basic Series: Total Annual Returns, 1926–1984

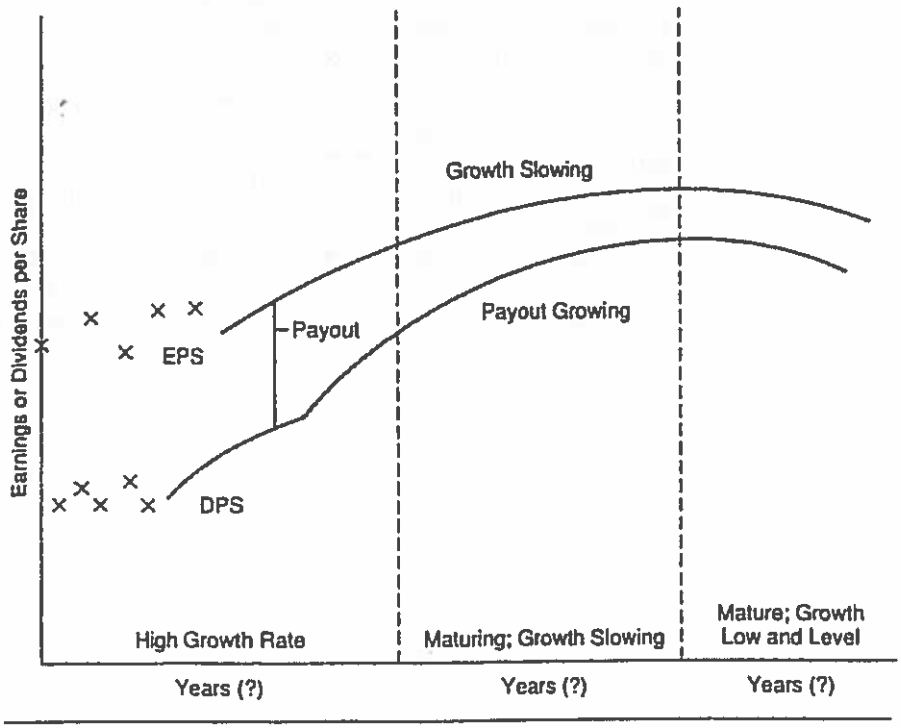
Series	Geometric Mean	Arithmetic Mean	Standard Deviation	Distribution
Common Stocks	9.5%	11.7%	21.2%	
Small Stocks	12.4	18.2	36.3	
Long-Term Corporate Bonds	4.4	4.6	7.6	
Long-Term Government Bonds	3.7	3.9	7.5	
U. S. Treasury Bills	3.3	3.4	3.3	
Inflation	3.0	3.2	4.9	



Source: *Stocks, Bonds, Bills, & Inflation 1985 Yearbook* (Chicago: Ibbotson Associates, 1985).

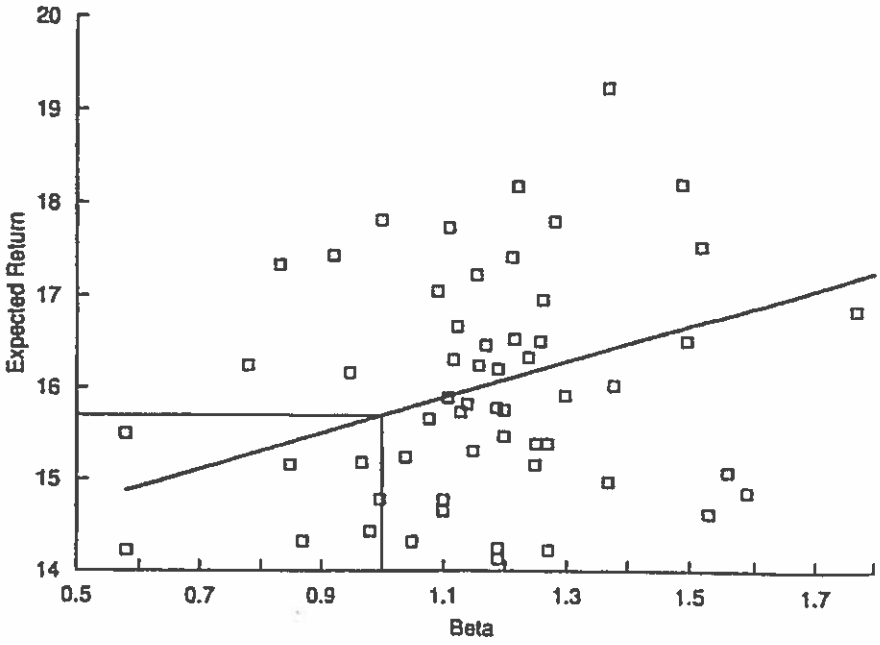
Star Appliance Company (B)

EXHIBIT A-2 • Data for Present Value Calculation



Star Appliance Company (B)

EXHIBIT A-3 • Expected Value



The Jacobs Division

Richard Soderberg, financial analyst for the Jacobs Division of MacFadden Chemical Company, was reviewing several complex issues relating to possible investment in a new product for the following year, 1984. The product, a specialty coating material, qualified for investment according to company guidelines. Mr. Reynolds, however, the Jacobs Division manager, was fearful that it might be too risky. While regarding the project as an attractive opportunity, Mr. Soderberg believed that the only practical way to sell the product in the short run would place it in a weak competitive position over the long run. He was also concerned that the estimates used in the probability analysis were little better than educated guesses.

Company Background

MacFadden, with sales in excess of $1 billion, was one of the ten largest chemical companies in the world. Its volume had grown steadily at the rate of 10 percent per year throughout the 1960s and until 1973; its sales and earnings had grown even more rapidly. Beginning in 1973, the chemical industry began to experience overcapacity, however, particularly in basic materials, which led to price cutting. Also, more funds had to be spent in marketing and research for firms to remain competitive. As a consequence of the industry problems, MacFadden achieved only a modest growth of 4 percent in sales in the 1970s and experienced an overall decline in profits. Certain shortages began developing in the economy in 1982, however, and by 1983, sales had risen 60 percent and profits over 100 percent as the result of price increases and near-capacity operations. Nevertheless, most observers believed that the "shortage boom" would be only a short respite from the intensely competitive conditions of the last decade.

The 11 operating divisions of MacFadden were organized into three groups. Most divisions had a number of products centered around one

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chemical, such as fluoride, sulphur, or petroleum. The Jacobs Division was an exception. It was the newest and, with sales of $30 million, the smallest division. Its products were specialty industrial products with various chemical bases, such as dyes, adhesives, and finishes, which were sold in relatively small lots to diverse industrial customers. No single product had sales over $5 million, and many had sales of only $100,000. There were 150 basic products in the division, each with several minor variations. Jacobs was one of MacFadden's more rapidly growing divisions—12 percent per year prior to 1983—with a 13 percent return on total net assets.

Capital Budgeting for New Projects

Corporatewide guidelines were used for analyzing new investment opportunities: return criteria were 8 percent for cost-reduction projects, 12 percent for expansion of facilities, and 16 percent for new products or processes. Returns were measured in terms of discounted cash flows after taxes. Mr. Soderberg believed that these rates and methods were typical of those used throughout the chemical industry.

Mr. Reynolds tended to demand higher returns for projects in his division, however, even though its earnings-growth stability in the past marked it as one of MacFadden's more reliable operations. Mr. Reynolds had three reasons for wanting better returns than corporate requirements. First, one of the key variables used in appraising management performance at MacFadden was the growth of residual income, although such aspects as market share and profit margins were also considered.[1] Mr. Reynolds did not like the idea of investing in projects that were close to the target rate of earnings imbedded in the residual-income calculation.

Second, many new projects had high start-up costs. Even though they might achieve attractive returns over the long run, such projects hurt earnings performance in the short run. "Don't tell me what a project's discount rate of return is; tell me whether we're going to improve our return on total net assets within three years," Mr. Reynolds would say. Third, Mr. Reynolds was skeptical of estimates. "I don't know what's going to happen here on this project, but I'll bet we overstate returns by 2 to 5 percent on average," was a typical comment. He thus tended to look for at least 4 percent more than the company standard before becoming enthusiastic about a project. "You've got to be hard-nosed about taking risk," he said. "By demanding a decent return for riskier opportunities, we have a better chance to grow and prosper."

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[1] Residual income was the division's profit after allocated taxes minus a 10-percent capital charge on total assets after depreciation.

Mr. Soderberg knew that Mr. Reynolds views were reflected in decisions throughout the division. Projects that did not have promising returns according to Mr. Reynolds' standards were often dropped or shelved early in the decision process. Mr. Soderberg guessed that at Jacobs almost as many projects with returns meeting the company hurdle rates were abandoned as were ultimately approved. In fact, the projects that were finally submitted to Mr. Reynolds were usually so promising that he rarely rejected them. Capital projects from his division were accepted virtually unchanged, unless top management happened to be unusually pessimistic about prospects for business and financing in general.

The Silicone-X Project

A new product was often under study for several years after research had developed a "test tube" idea. The product had to be evaluated relative to market needs and competition. The large number of possible applications of any product complicated this analysis. At the same time, technological studies were undertaken to examine such factors as material sources, plant location, manufacturing-process alternatives, and economies of scale. While a myriad of feasible alternatives existed, only a few could be actively explored, and they often required outlays of several hundred thousand dollars before the potential of the project could be ascertained. "For every dollar of new capital approved, I bet we spend $0.30 on the analysis of opportunities," observed Mr. Soderberg, "and that doesn't count the money we spend on research."

The project that concerned Mr. Soderberg at the moment was called Silicone-X, a special-purpose coating that added slipperiness to a surface. The coating could be used on a variety of products to reduce friction, particularly where other lubricants might imperfectly eliminate friction between moving parts. Its uniqueness lay in its hardness, adhesiveness to the applied surface, and durability. The product was likely to have a large number of buyers, but most of them could use only small quantities: only a few firms were likely to buy amounts greater than 5,000 pounds per year.

Test-tube batches of Silicone-X had been tested both inside and outside the Jacobs Division. Comments were universally favorable, although $2.00 per pound seemed to be the maximum price that would be acceptable. Lower prices were considered unlikely to produce larger volume. For planning purposes, a price of $1.90 per pound had been used.

Demand was difficult to estimate because of the variety of possible applications. The division's market-research group had estimated a first-year demand of 1 to 2 million pounds with 1.2 million cited as most likely. Mr. Soderberg commented, "They could spend another year studying it and be more confident, but we wouldn't find them more believable. The

estimates are educated guesses by smart people. However, they are also pretty wild stabs in the dark. They won't rule out the possibility of demand as low as 500,000 pounds, and 2 million pounds is not the ceiling." Mr. Soderberg empathized with the problem facing the market-research group. They tried to do a systematic job of looking at the most probable applications, but the data were not good.

The market researchers believed that, once the product became established, average demand would probably grow at a healthy rate, perhaps 10 percent per year. However, the industries served were likely to be cyclical, and depending on market conditions, total volume required could be 20 percent higher or lower than average. The market researchers concluded, "We think demand should level off after 8 to 10 years, but the odds are very much against someone developing a cheaper or markedly superior substitute."

On the other hand, there was no patent protection on Silicone-X, and the technological know-how involved in the manufacturing process could be duplicated by others in perhaps as few as 12 months. "This product is essentially a commodity, and someone is certainly going to get interested in it when sales volume reaches $3 million," observed Mr. Soderberg.

The cost estimates looked solid. Mr. Soderberg continued, "Basic chemicals, of course, fluctuate in purchase price, but we have a captive source with stable manufacturing costs. We can probably negotiate a long-term transfer price with Wilson [another MacFadden division], although this is not the time to do so."

Project Analysis

In his preliminary analysis, Mr. Soderberg used a discount rate of 20 percent and a project life of 15 years, because most equipment for the project was likely to wear out and need replacement during that time frame.

"We also work with most likely estimates. Until we get down to the bitter end, there are too many alternatives to consider, and we can't afford probabilistic measures or fancy simulations. A conservative definition of most likely values is good enough for most of the subsidiary analyses. We've probably made over 200 present-value calculations using our computer programs just to get to this decision point, and heaven knows how many quick-and-dirty paybacks," observed Mr. Soderberg. "We've made a raft of important decisions that affect the attractiveness of this project. Some of them are bound to be wrong—I hope not critically so. In any case, these decisions are behind us. They're buried so deep in the assumptions, no one can find them, and top management wouldn't have time to look at them anyway."

With Silicone-X, Mr. Soderberg was down to a labor-intensive, limited-capacity approach and a capital-intensive method. "The analyses

all point in one direction," he said, "but I have the feeling it's going to be the worst one for the long run."

The labor-intensive method involved an initial plant and equipment outlay of $900,000. It could produce 1.5 million pounds per year. "Even if the project bombs out, we won't lose much. The equipment is very adaptable. We could find uses for about half of it. We could probably sell the balance for $200,000, and let our tax write-offs cover most of the rest. We should salvage the working-capital part without any trouble. The start-up costs and losses are our real risks," summarized Mr. Soderberg. "We'll spend $50,000 debugging the process, and we'll be lucky to satisfy half the possible demand. However, I believe we can get this project on stream in one year's time."

Exhibit 1 shows Mr. Soderberg's analysis of the labor-intensive alternative. His calculations showed a small net present value when discounted at 20 percent and a sizable net present value at 8 percent. When the positive present values were compared with the negative present values, the project looked particularly attractive.

The capital-intensive method involved a much larger outlay for plant and equipment: $3.3 million. Manufacturing costs would, however, be reduced by $0.35 per unit and fixed costs by $100,000, excluding depreciation. The capital-intensive plant was designed to handle 2.0 million pounds, the lowest volume for which appropriate equipment could be acquired. Because the equipment was specialized, only $400,000 of this machinery could be used in other company activities. The balance probably had a salvage value of $800,000. It would take 2 years to get the plant on stream, and the first year's operating volume was likely to be low—perhaps 700,000 pounds at the most. Debugging costs were estimated to be $100,000.

Exhibit 2 presents Mr. Soderberg's analysis of the capital-intensive method. At a 20-percent discount rate, the capital-intensive project had a large negative present value and thus appeared much worse than the labor-intensive alternative. However, at an 8-percent discount rate, it looked significantly better than the labor-intensive alternative.

Problems in the Analysis

Several things concerned Mr. Soderberg about the analysis. Mr. Reynolds would only look at the total return. Thus the capital-intensive project would not be acceptable. Yet, on the basis of the breakeven analysis, the capital-intensive alternative seemed the safest way to start. It needed sales of just 325,900 pounds to break even, while the labor-intensive method required 540,000 pounds (see Exhibit 3).

Mr. Soderberg was concerned that future competition might result in price cutting. If the price per pound fell by $0.20, the labor-intensive

method would not break even unless 900,000 pounds were sold. Competitors could, once the market was established, build a capital-intensive plant that would put them in a good position to cut prices by $0.20 or more. In short, there was a risk, given the labor-intensive solution, that Silicone-X might not remain competitive. The better the demand proved to be, the more serious this risk would become. Of course, once the market was established, Jacobs could build a capital-intensive facility, but almost none of the labor-intensive equipment would be useful in such a new plant. The new plant would still cost $3.3 million, and Jacobs would have to write off losses on the labor-intensive facility.

The labor-intensive facility would be difficult to expand economically. It would cost $50,000 for each 100,000 pounds of additional capacity (only practical in 250,000-pound increments). In contrast, an additional 100,000 pounds of capacity in the capital-intensive unit could be added for $25,000.

The need to expand, however, would depend on sales. If demand remained low, the project would probably return a higher rate under the labor-intensive method. If demand developed, the capital-intensive method would clearly be superior. This analysis led Mr. Soderberg to believe that his breakeven calculations were somehow wrong.

Pricing strategy was another important element in the analysis. At $1.90 per pound, Jacobs could be inviting competition. Competitors would be satisfied with a low rate of return, perhaps 12 percent, in an established market. At a price lower than $1.90, Jacobs might discourage competition. Even the labor-intensive alternative would not provide a rate of return of 20 percent at any lower price. Mr. Soderberg began to think that using a high discount rate was forcing the company to make a riskier decision than would a lower rate and was increasing the chance of realizing a lower rate of return than had been forecast.

Mr. Soderberg was not sure how to incorporate pricing into his analysis. He knew he could determine what level of demand would be necessary to encourage a competitor, expecting a 50-percent share and needing a 12-percent return on a capital-intensive investment, to enter the market at a price of $1.70, or $1.90, but this analysis did not seem to be enough.

Finally, Mr. Soderberg was concerned about the demand estimates on which he had based the analysis. Even though he could not justify his estimates on the basis of demand analysis, as could the market-research department, he prepared a second set of estimates that he thought were a little less optimistic. Exhibit 4 shows his estimates for achieving various levels of demand in the first year.

Mr. Soderberg's job was to analyze the alternatives fully and recommend one of them to Mr. Reynolds. On the most simple analysis, the labor-intensive approach seemed best. Even at 20 percent, its present value was positive. That analysis, however, did not take other factors into consideration.

The Jacobs Division

EXHIBIT 1 • Analysis of Labor-Intensive Alternative for Silicone-X (dollars in thousands, except per-unit data)

	Year					
	0	*1*	*2*	*3*	*4*	*5–15*
Investments						
Plant and equipment	$ 900					
Working capital		$ 140	$ 14	$ 15	$ 17	$ 20
Demand (thousands of pounds)		1,200	1,320	1,452	1,597	N.Av.
Capacity (thousands of pounds)		600	1,500	1,500	1,500	1,500
Sales (thousands of pounds)		600	1,320	1,452	1,500	1,500
Sales price/unit		$1.90	$1.90	$1.90	$1.90	$1.90
Variable costs/unit						
Manufacturing		1.30	1.30	1.30	1.30	1.30
Marketing		0.10	0.10	0.10	0.10	0.10
Total variable costs/unit		1.40	1.40	1.40	1.40	1.40
Contribution/unit		0.50	0.50	0.50	0.50	0.50
Contribution in dollars		300	660	726	750	750
Fixed costs						
Overhead		210	210	210	210	210
Depreciation		60	60	60	60	60
Start-up costs		50	0	0	0	0
Total fixed costs		320	270	270	270	270
Profit before taxes		(20)	390	456	480	480
Profit after taxes (taxes @ 50%)		(10)	195	228	240	240
Cash flow from operations (Profit after taxes + depreciation)		50	255	288	300	300
Total cash flow	$(900)	$ (90)	$ 241	$ 273	$ 283	280
Terminal value (year 15)						$ 381

N.Av. = not available.

The Jacobs Division

EXHIBIT 2 • Analysis of Capital-Intensive Alternative for Silicone-X (dollars in thousands, except per-unit data)

	Year							
	0	*1*	*2*	*3*	*4*	*5*	*6*	*7–15*
Investments								
Plant and equipment	$ 1,900	$ 1,400						
Working capital			$ 160	$ 11	$ 17	$ 20	$ 24	$ 30
Demand (thousands of pounds)			1,320	1,452	1,597	1,757	1,933	2,125
Capacity (thousands of pounds)			700	2,000	2,000	2,000	2,000	2,000
Sales (thousands of pounds)			700	1,452	1,597	1,757	1,933	2,000
Sales price/unit			$1.90	$1.90	$1.90	$1.90	$1.90	$1.90
Variable costs/unit								
Manufacturing			0.95	0.95	0.95	0.95	0.95	0.95
Selling			0.10	0.10	0.10	0.10	0.10	0.10
Total variable costs/unit			1.05	1.05	1.05	1.05	1.05	1.05
Contribution/unit			0.85	0.85	0.85	0.85	0.85	0.85
Contribution in dollars			595	1,234	1,357	1,493	1,643	1,700
Fixed costs								
Overhead			110	110	110	110	110	110
Depreciation			167	167	167	167	167	167
Start-up costs			100	0	0	0	0	0
Total fixed costs			377	277	277	277	277	277
Profit before taxes			218	957	1,081	1,217	1,366	1,423
Profit after taxes (taxes @ 50%)			109	479	540	608	683	712
Cash flow from operations (Profit after taxes + depreciation)			276	646	707	775	850	879
Total cash flow	$(1,900)	$(1,400)	$ 116	$ 635	$ 690	755	$ 826	849
Terminal value (year 15)								$1,384

The Jacobs Division

EXHIBIT 3 • Breakeven Analysis for Silicone-X

	Labor Intensive	*Capital Intensive*
Normal ($1.90 price)		
Fixed costs		
Operations	$210,000	$110,000
Depreciation	60,000	167,000
Total	$270,000	$277,000
Contribution per unit	$0.50	$0.85
Units to break even	540,000	325,882
Price Competitive ($1.70 price)		
Contribution per unit	$0.30	$0.65
Units to break even	900,000	426,154

The Jacobs Division

EXHIBIT 4 • Probability Estimates of 1985 Demand for Silicone-X

Demand Range (thousands of pounds)	*Market-Research Department Probabilities*	*Market-Research Department Expected Value (thousands of pounds)*	*Mr. Soderberg's Probabilities*	*Mr. Soderberg's Expected Value (thousands of pounds)*
400– 600	2%	10	3%	15
600– 800	3	21	6	42
800–1,000	12	100	15	135
1,000–1,200	32	352	40	440
1,200–1,400	31	403	22	286
1,400–1,600	12	180	8	120
1,600–1,800	3	51	2	34
1,800–2,000	2	38	1	19
2,000–2,200	1	21	1	21
2,200–2,400	1	23	1	23
2,400–2,600	1	25	1	25
Expected value		1,224		1,160

Fantastic Manufacturing, Inc.

In late October 1980, David Rose and Pierce Turner, principals of Fantastic Manufacturing, Inc., were preparing forecasts for their rapidly growing business assembling and marketing ceiling fans. A product many had thought of as a fad, ceiling fans had instead been accepted by consumers as energy conservers, and new-home builders and homeowners were installing them in record numbers.

Fantastic Manufacturing was incorporated in late 1976 by Mr. Rose and Mr. Turner in Charleston, South Carolina. Mr. Rose had his own manufacturers' representative, Rose Sales, Inc., with annual sales of approximately $40 million to accounts around the world. He specialized in sales of building materials to mass-merchandisers.

In 1976 Mr. Rose had found many of his accounts interested in ceiling fans, and at the end of that year, he approached Mr. Turner, a tax attorney by training and head of his own manufacturing company, to discuss the possibility of importing and assembling ceiling fans. Agreeing with the idea, Mr. Turner accompanied Mr. Rose to Taiwan and Hong Kong to find parts suppliers for a new, low-priced, assemble-it-yourself fan. The men took their specifications to all the fan factories they could find in Taiwan and Hong Kong and selected exclusive suppliers.

Fantastic's first order for fans was placed in September 1977 and arrived in late November. After assembly, the fans were shipped to customers in December. By the end of the first fiscal year, which ended January 31, 1978, total sales were approximately $230,000.

Fantastic had begun operations by emphasizing sales of low-priced fans to the do-it-yourself market, selling largely through small stores. Initially, Mr. Rose and Mr. Turner had viewed the product as appealing to nostalgia, and they expected limited growth potential. The initial objective of the business was to get the product on the shelf, and the company encouraged retailers to advertise heavily. Many stores used the product initially as a faddish draw.

Studies had shown, however, that ceiling fans were economically beneficial, reducing both cooling costs in summer and heating costs in winter. As consumers began viewing ceiling fans as energy-saving devices, the growth prospects for the industry improved. Much of this improvement was expected to come from the upper end of the market, for which Fantastic Manufacturing had positioned its recently introduced Cotillion line. Their major premium-line competition came from two domestic lines, Hunter and Casablanca, both produced by Emerson Electric. Emerson had done little to promote its products.

Not much public information was available about fan sales in general, which made it difficult for Mr. Rose and Mr. Turner to estimate the potential for competition. They did know that Fantastic held a cost advantage because of its overseas sourcing. Customers were pleased with Fantastic's products and had commented positively on the high level of service and timeliness of delivery. The company's seven-year warranty on the fans had also encouraged consumer acceptance.

Fantastic's revenues increased rapidly from the beginning. In fiscal 1979 and 1980, the first two full years of operations, Fantastic had sales of $3.1 million and $9.9 million, respectively. Net profits in those years were $73,000 and $108,000, as shown in Exhibit 1. Although 1980 revenues had increased 213 percent from the prior year, net income rose only 48 percent because of substantially higher costs. Increased rent, advertising, bad debts, and interest costs had caused selling, general, and administrative costs to increase over 250 percent.

Fan sales were seasonal, with over 65 percent of revenues coming from April through September, as shown in Exhibit 2. Sales were made by salespeople working exclusively on commission. Commissions were paid in the same month the sales were made. The company served more than 100 customers, including many small accounts as well as mass-merchandisers and home-center stores such as K-Mart, J. C. Penney, Zayre, Ace Hardware, Best Products, and 84 Lumber. Two customers, however, had accounted for approximately 40 percent of total sales in 1980.

Salespeople wrote and confirmed the orders with no penalty for cancellation. Customers typically paid between 60 and 90 days after Fantastic shipped the merchandise. Accounts receivable were of good quality, although the bad debts/sales ratio was 2.1 percent in 1980 because of unpaid accounts from some small stores. Balance sheets for the period are shown in Exhibit 3.

The lead time for Fantastic's orders was 60 days—30 days for their suppliers to manufacture the fan parts once the order had been received and 30 days for shipping. Because the manufacturers had limited capacity, they could not supply highly variable quantities on short notice. As a result, Fantastic management had decided to place regular fan component orders, assemble the fans, and hold them in inventory until they were sold.

To finance the parts orders, the suppliers in Taiwan and Hong Kong required that letters of credit (L/C) be issued at the time the merchandise was ordered. A typical L/C was for 30 days, the time required to manufacture the goods and prepare them for shipment. The L/Cs were submitted for payment by the supplier when the merchandise was shipped. Because growth had been rapid, Fantastic did not keep cash available to pay for the goods when the L/C documents arrived at the bank. Thus the company typically drew a 60-day draft on the bank in the amount of the needed funds. The bank would accept the draft under an arrangement already established with Fantastic and extend the loan for a discounted amount of the draft. All Fantastic's current financing arrangements are summarized in Exhibit 4; representative short-term borrowing costs for 1978 to 1980 are in Exhibit 5.

The cost of the fans delivered at the Charleston plant had averaged 63 percent of Fantastic's final selling price. This cost varied with exchange rates shown in Exhibit 6. So far about half of the fans had been sourced from Hong Kong and half from Taiwan. Mr. Rose and Mr. Turner were satisfied with their suppliers and expected the relationships to continue.

The company's warehouse was located near Charleston in a building that had been purchased in July 1979 by a partnership owned by Mr. Rose and Mr. Turner and subsequently leased back to Fantastic. The term of the lease was 15 years, with annual payments of $185,000. The 116,000-square-foot facility was sufficient to support a sales volume of approximately $100 million. Most of the operations were simple; the company used the facility for unloading, inspecting, processing, repacking, and shipping the imported goods. The trickiest part of the operation was weighting and balancing the fan blades.

For the first half of fiscal 1981, sales were $15.8 million and profits almost $1 million. By year end, Mr. Rose and Mr. Turner expected sales to reach $30 million. Mr. Rose believed sales for 1982 would be over $71 million. He knew that this figure represented substantial growth in demand, growth that far outstripped forecasts,[1] but with Fantastic's $40-million order backlog, the forecast seemed reasonable. Furthermore, he believed that a return on sales of 9.8 percent was likely.

Up to now, Fantastic had grown more rapidly than had been expected, and planning had been lacking. Orders to suppliers had been based on forecasts of sales with a lead time of two months, and Fantastic's creditors had been willing to satisfy the growing company's capital needs on demand. Mr. Rose and Mr. Turner believed that, to continue good relationships with these two critical groups, longer range forecasts would

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[1] The U.S. Department of Commerce had forecast little growth in retail sales of home appliances through mid-1982 and a slight decline in sales in the second half of that year.

be useful. As sales grew, suppliers would have to arrange for ways to produce more, and Fantastic would have increasing needs for funds.

Mr. Rose and Mr. Turner looked at the company's brief history, considered their forecasts for the expected demand for ceiling fans, and decided first they needed to decide for how long to forecast. So far demand had grown so rapidly that forecasts for even a few months would be rapidly outdated. On the other hand, some order needed to be brought to their relationships with their parts and capital suppliers. Good forecasts would help.

Fantastic Manufacturing, Inc.
EXHIBIT 1 • Income Statements (in thousands)

	Year Ending		*Three Months Ending*	*Six Months Ending*
	January 31, 1979	*January 31, 1980*	*April 31, 1980*	*July 31, 1980*
Net revenues	$ 3,155	$ 9,860	$ 6,693	$ 15,818
Cost of goods sold	(2,263)	(7,306)	(4,543)	(10,310)
Gross profit	892	2,554	2,150	5,508
Salaries and payroll taxes	(252)	(308)		
Commissions	(149)	(487)		
Freight	(19)	(62)		
Rent	(0)	(128)		
Bad debts	(24)	(209)		
Interest*	(78)	(496)	—	—
Other selling, general, and administrative	(278)	(709)		
Total operating expenses	(800)	(2,399)	(1,615)	(3,428)
Income before taxes	92	155	535	2,080
Taxes	(19)	(47)	(239)	(998)
Net income before extraordinary item	73	108	296	1,082
Extraordinary item (net of income tax credit)	0	0	0	(94)
Net income	$ 73	$ 108	$ 296	$ 988

*Includes line-of-credit charges.

Fantastic Manufacturing, Inc.
EXHIBIT 2 • Monthly Pattern of Sales, 1979 and 1980

	Proportion of Annual Sales
January	2.8%
February	5.9
March	7.8
April	9.8
May	10.8
June	11.2
July	11.7
August	12.7
September	9.8
October	7.8
November	5.8
December	3.9
	100.0%

Fantastic Manufacturing, Inc.

EXHIBIT 3 • Balance Sheet (in thousands of dollars)

	January 31, 1979	*January 31, 1980*	*April 30, 1980*	*July 31, 1980*
Assets				
Cash	$ 3	$ 1	$ 1	$ 1
Accounts receivable	387	2,045	3,898	4,568
Due from affiliates	0	160	70	317
Collateral on letters of credit	97	83	171	249
Inventory	928	2,092	2,761	1,536
Inventory in transit	478	2,690	1,414	1,864
Prepaid expenses	26	78	155	112
Insurance claims receivable	0	0	0	756
Income tax refund receivable	0	0	0	134
Note receivable	0	0	0	53
Total current assets	1,919	7,149	8,470	9,590
Net property and equipment	384	241	402	614
Deposits	0	57	65	61
Total assets	$2,303	$7,447	$8,937	$10,265
Liabilities and Shareholders' Equity				
Accounts payable	$ 294	$ 613	$ 774	$ 628
Bank overdraft	0	312	445	51
Due to banks:				
Receivables financing	252	2,046	2,682	4,493
Inventory financing	1,127	3,531	3,518	1,716
Other	0	100	100	0
Current portion of long-term debt	22	31	44	74
Due to affiliates and shareholders	43	533	719	1,161
Taxes payable	8	23	85	891
Total current liabilities	1,746	7,189	8,367	9,014
Long-term debt	360	36	53	43
Notes payable, shareholders	85	0	0	0
Total liabilities	2,191	7,225	8,420	9,057
Shareholders' equity*	1	1	1	1
Retained earnings	111	221	516	1,207
Net worth	112	222	517	1,208
Total liabilities and shareholders' equity	$2,303	$7,447	$8,937	$10,265

*Common stock, $5 par; authorized, issued, and outstanding, 100 shares.

Fantastic Manufacturing, Inc.

EXHIBIT 4 • Summary of Financing Arrangements

Lender	*Amount*	*Use*	*Rate*	*Collateral*
Congress Financial Corp.	Varied	Direct loan on eligible accounts receivable	Prime + 6%	All accounts receivable Personal guarantees Deposits by stockholders
Standard Chartered	$6 million	Letters of credit Banker's acceptances ($4.5 million limit)	Prime + 1½% Banker's accept-ances + 2%	All inventory and personal guarantees Deposits by stockholders Partial guarantee by Congress Financial 10% deposit on L/Cs
Capital Bank	$1 million	Letters of credit	Prime + 1½%	Unsecured

Fantastic Manufacturing, Inc.

EXHIBIT 5 • Recent Prime and Banker's Acceptance Rates

Year/ Quarter	*Average Prime Rate*	*Banker's Acceptance, Annual Average Rate (90 days)*
1978		
1	8.0%	6.8%
2	8.5	7.3
3	9.5	8.2
4	10.5	10.1
1979		
1	11.0	10.1
2	11.5	9.9
3	12.6	10.1
4	14.9	13.4
1980		
1	17.6	14.9
2	16.0	11.8
3	11.8	9.9

Fantastic Manufacturing, Inc.

EXHIBIT 6 • Recent Exchange Rates

	Hong Kong Dollars (HK$) per U.S. Dollar (US$)		
March 31, 1978	4.6202	February 6, 1980	4.8616
June 30	4.6505	February 13	4.8668
July 31	4.6396	February 20	4.9221
August 30	4.7102	February 27	4.9421
December 29	4.7869	March 26	5.0751
March 30, 1979	4.9927	March 30	4.9059
June 29	5.0690	May 28	4.8898
July 26	5.1814	June 9	4.9179
September 28	4.9784	June 30	4.9300
October 17	4.9468	July 30	4.9564
December 31	4.9516	August 27	4.9481
January 30, 1980	4.8011	September 29	4.9916
	New Taiwan Dollars (NT$) per U.S. Dollar (US$)[a]		
June 18, 1980	36.1312	September 3, 1980	35.8680
July 2	35.9703	September 17	36.0711
July 16	36.0590	October 1	35.9891
July 30	35.5765	October 8	36.0685
August 6	35.5158	October 13	36.0000

[a]In July 1978, the NT$ was allowed to float around its fixed exchange rate of NT$38=US$1.

Source: National Westminster Bank.

Case

Polymold Division

The Polymold Division of Congeries Corporation was planning to purchase a computerized manufacturing and designing system known as "CAD/CAM" in January 1984. In September 1983, the manager of the Polymold Division, Joel Martin, curious to know how the CAD/CAM investment would affect Polymold's financial condition, was preparing to forecast the division's financial statements for the following five years.

The Company

Congeries Corporation was a conglomerate, divisions of which manufactured a wide variety of low- and medium-technology products ranging from small construction parts such as hinges and doorknobs to plastic injection molds. As shown in Exhibit 1, Congeries had been affected by the recent recession; in 1982 the firm lost over $1 million after posting a net income of $8.3 million in 1981. Given a $5-million loss in the first quarter, corporate management was not yet sure whether 1983 would be a profitable year.

Congeries' Polymold Division was one of the largest manufacturers of precision injection molds in the country. Exhibit 2 presents the division's financial statements from 1976 through 1982. Earnings and return on assets ranged from a high of $1.5 million and 29.9 percent, respectively, in 1980 to $679,000 and 13.2 percent in 1982. This precipitous decline was, as far as management could tell, simply the effect of the business cycle. Mr. Martin believed, however, that sales would continue to decline: if Polymold did not invest in the new computer-aided designing and manufacturing system, it would lose market share on its remaining products to its more technologically advanced competitors.

The Market

The basis of Mr. Martin's fear was a change in the marketplace. Polymold manufactured high-quality precision molds with interchangeable parts. The company's largest clients produced all sorts of small plastic items, such as plastic bottles and caps, razor handles, various computer parts, and cosmetic, camera, video, and cassette cases. More customers' needs were met with multi-cavity molds (molds with more than four cavities) or single/complex molds (molds with four or fewer cavities that were more difficult to design and manufacture). Multi-molds (several molds of a single type) were also common; the one remaining category was single/simple molds.

Polymold's 1983 sales by mold type were expected to be as follows:

Multi-mold	$2.5 million
Multi-cavity	2.5
Single/complex	2.8
Single/simple	1.0
Repairs and spares	2.0
Total sales	$10.8 million

This $10.8 million represented a 5.1 percent market share. Mr. Martin was worried about Polymold's ability to retain this share for several reasons:

1. The injection-mold manufacturing industry was highly segmented and regional, but analysts believed that the greater the degree of manufacturing precision a company could attain, the more national its potential market was.
2. Some of Polymold's large competitors already had highly computerized operations that made them more efficient than Polymold.
3. Others had become vertically integrated to provide customers not only the molds, but also large presses and peripheral equipment. This integration was attractive to customers, because they could purchase more of their equipment from one source, sometimes as packages. The integrated firms had already lured customers away from small competitors.
4. Still other mold manufacturers were being bought out by large plastics companies and used exclusively as in-house suppliers.
5. Several new competitor mold shops had been established by former Polymold employees, who knew the company's organization and clients.

Mr. Martin deduced from a variety of economic projections (shown in Exhibit 3) and his knowledge of the industry that the market for injection molds would grow from a total of $210 million in 1983 to $278 million by 1987. Demand and growth were expected to be greatest for multicavity and single/complex molds. Exhibit 4 breaks down forecasts for total demand by type of end-user. The packaging industry, with its demand for bottles and caps, was expected to continue as the largest customer, although it required less precise molding capabilities than Polymold provided. It was followed by commercial products, home entertainment, consumer products, and medical products.

Polymold already had a strong presence in the consumer and home-entertainment segments, as shown in Exhibit 5, and Mr. Martin had been discussing new marketing efforts to attract more buyers from the commercial and medical markets. The commercial-products segment, made up of the data-storage, computer, office-products, and telecommunications industries, was expected to grow 70 percent over the next six years.

Polymold's business by industry segment in 1983 was expected to break down as follows:

Segment	*Polymold Sales*
Consumer	$3.7 million
Medical	0.8
Commercial	3.8
Home entertainment	1.5
Packaging	0.3
Miscellaneous	0.7
Total sales	$10.8 million

Consumer products had dominated Polymold's sales for the previous 15 years, for 5 years in conjunction with commercial products. These two markets continued to be the most important, but Mr. Martin expected the medical and home-entertainment sectors to grow.

Polymold's customers consisted of a small number of large nationally and internationally known firms. This dependency contributed to the cyclical nature of the demand for the company's products. Should even a small number of firms demand fewer molds, Polymold's sales would greatly diminish.

Despite the new marketing plans, without the use of the computer design and manufacturing, Mr. Martin considered a further loss of market share in all segments to be likely. He had supplemented his own judgment with data from a consultant's study, which pointed out, as shown in Exhibits 6 through 11, that even though Polymold's market share had increased during the recessionary period of declining sales, the company was not

keeping pace with its closest competitors.[1] Furthermore, although Polymold's productivity remained higher than that of similar companies and the company was becoming increasingly capital intensive, real productivity per employee was stagnant. The study also indicated that the quality of Polymold's products, although high, was slipping dramatically when compared with its closest competitors'.

Manufacturing Technology

During the 1970s, most of Polymold's major competitors upgraded their production processes by installing numerically controlled (NC) machines. Numerically controlled equipment had been available for about 20 years, but had basically been ignored by the industry until the machines had become computerized and until the demand levels and the needs of plastics manufacturers justified the investment. Computerized NC machines, which referred to machines that were both computerized and numerically controlled, raised the capital intensity of the manufacturing process and permitted greater precision and efficiency than previously possible. The equipment carried out many functions by itself, so that less staff was required and errors were minimized.

The CAD/CAM system was the industry's latest technological advance. With the aid of CAD/CAM, injection molds could be designed and drawn on the computer rather than at the drafting table, the flow and cooling of the plastic in the mold could be analyzed, and the mold-manufacturing NC equipment could be controlled. In addition, CAD/CAM could be used to inspect the machined parts, to order materials, and to estimate the costs of production more accurately than previously possible. Using the system in both design and manufacture almost eliminated human error.

Mr. Martin saw CAD/CAM first as a time-saver, because it could remove design errors. Furthermore, the system would enhance the company's ability to expand its product line into rubber and powdered metal molds, which demanded more precision than plastics. Perhaps most importantly, because many customers designed their own molds, CAD/CAM could improve communications between the designer and the builder, especially if the customer also owned the system for its own design purposes. If both companies used CAD/CAM, designs and ideas could be readily transferred. The firms with CAD/CAM clearly would control the precision mold market.

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[1] The consultants carried out a PIMS, or Profit Impact of Marketing Strategy, study. PIMS was a service of the Strategic Planning Institute, Cambridge, Massachusetts, which combined a company's answers to a strategy-and-marketing questionnaire with a data base outlining the characteristics and experiences of a large sample of other companies. The resulting data were used to derive a complete report on the potential impact of a strategic move.

In 1981, recognizing that it had begun to fall behind its competition technologically, Polymold had invested in two pieces of NC equipment and two programmable inspection stations. Recently, the division had also leased a small, single-station CAD/CAM unit with limited computing power, so that it could assess the equipment's benefits, train operators, and determine whether to purchase a full, four-station CAD/CAM system.

Financial Analysis

To determine the effect of CAD/CAM, Mr. Martin projected the financial positions of the division with and without the device. Specifically, he wanted to project the financial condition of the division through 1988, first assuming the CAD/CAM was not purchased, and then assuming it was purchased in January 1984 for $750,000 ($190,000 of which was the price of the software). Regardless of whether CAD/CAM was purchased, other capital investments would have to be made in the future. All would be depreciated using ACRS depreciation guidelines over five years. Mr. Martin used the economic and market projections given in Exhibit 3 as the basis for his forecasts.

Without CAD/CAM. With the division's marketing strategy but without CAD/CAM, Mr. Martin projected a slow decrease in Polymold's market share from 5.1 percent of the total in 1983 to 4.2 percent in 1988.

Total cost of goods sold (COGS) was expected to be about 73 percent of sales in 1983, rising by slightly more than four percentage points by 1988. The 4-percentage point increase would come from a combination of factors affecting the various components of cost of goods sold: labor, 34 percent of sales in 1982, was expected to rise slowly to 36 percent or more; raw materials were also expected to rise from their current level of 11 percent to 12 percent; plant administration, a component of cost of goods sold that currently consumed 2.4 percent of sales, would double by 1988, largely because of its labor component; overhead, the second largest COGS expense, was expected to decline slightly; the costs of electricity, heat, water, and maintenance were expected to change little, because no new plants would be added and no major change in operations would be made without the addition of CAD/CAM. Polymold's accountants noted that they had not included in their COGS forecasts the savings expected from a special cost-reduction program recently instituted by management. For 1983 the savings were expected to be only $37,000, but they would rise rapidly to $210,000 in 1984 and reach $391,000 by 1988.

Mr. Martin believed that the salespeople would have a hard job trying to maintain Polymold's decreasing market share without CAD/CAM. That factor, coupled with increases in other general and administrative expenses, would increase selling, general, and administrative costs by an

average of 2 percentage points to 12.5 percent by 1988. This figure did not include research and engineering, usually buried in that category, which would stay at about $130,000 per year.

Depreciation, capital expenditures, and interest expense were expected to be as shown in Exhibit 12, which also shows tax credits that Polymold currently had available. Because Polymold was a division, it also paid a corporate expense assessment that rose each year. The amount would be the same regardless of whether CAD/CAM was purchased. The corporate accountants had told Mr. Martin that in 1983 this expense would be $168,000; in 1984, $176,000; and in 1985, $185,000. It had not yet been projected beyond 1985.

Even with the drop in market share, Polymold would need more working capital. Although that need had declined in the recent past, Mr. Martin believed that small increases each year would create a total increase in net working capital of about $300,000 by 1988. For convenience Mr. Martin always used a 50-percent tax rate for his projections.

With CAD/CAM. With the new system, Mr. Martin projected an increase in Polymold's market share from 5.1 percent in 1983 to 7.3 percent in 1988, although he believed that by 1988 the division's market share could be as little as 6.3 percent or as much as 7.7 percent.

Mr. Martin estimated that, once CAD/CAM was in full operation, overall cost of goods sold would remain at about 72 percent of sales even though materials costs would increase from 11 to 13.5 percent of sales. Cost of goods sold would be affected by the same forces with or without CAD/CAM, with overhead providing a compensating decline. However, overhead and labor were hard to forecast for a new process; the overhead forecast could be off by as much as 10 percent, and labor could be 5 percentage points higher than forecasted.

In dollars, plant administration would be the same with or without CAD/ CAM, but the savings from the new cost-efficiency program were expected to increase to $445,000 in 1984 and $802,000 by 1988. However, Polymold's accountants were less certain in making these savings forecasts than those for savings without CAD/CAM. They had given Mr. Martin a range, as shown in Exhibit 13, and had suggested that an outbreak of inflation like that recently experienced could wipe out about half of any savings.

Mr. Martin expected research and development costs with CAD/ CAM to be double what they would have been without CAD/CAM; the system, when in place, would simply require more development and engineering time. While selling this new process would initially require considerable new effort, selling, general, and administrative expenses (SG&A) were expected to decline relative to sales, by 1988 declining to as much as 2 percentage points below the level expected without CAD/CAM. Mr. Martin had been reminded by the accountants that, if sales were lower

than forecasted, SG&A would not decline as much. For example, if sales were 25 percent below forecast, SG&A could be as high as 13.5 percent in 1988.

The forecast predicted that working capital would certainly decrease as a percentage of sales with the acquisition of CAD/CAM. By 1984, if things went as expected, working capital would be no higher than 12.8 percent of sales. The precise figure would depend on sales: if sales were lower than forecasted, Mr. Martin believed that both inventory and accounts receivable would be higher, and working capital would probably be at a level equal to the current level. If sales were better than expected, however, inventory would move faster and accounts receivable would be lower, because Polymold could concentrate on the faster-paying accounts.

The purchase of the new system would require further capital expenditures as old processes and machines were updated to complement it. Forecasts for capital expenditures (including CAD/CAM), interest, and depreciation are shown in Exhibit 12.

Interest expenses were computed on the basis of the long-term debt necessary to support capital expenditures. Depreciation expenses reflected the ACRS schedule that Congeries Corporation used for tax purposes (at 15 percent the first year, 22 percent the second, and 21 percent each of the following three years). In addition to full depreciation, an 8-percent investment tax credit was available for this investment. No salvage value was expected for the CAD/CAM equipment, because changes in technology could rapidly make the equipment obsolete.

Mr. Martin planned to calculate the division's cost of capital by basing his estimate of the company's systematic risk, beta, on that of similar companies, which, along with industry financial information, are given in Exhibit 14. He believed that Polymold's capital structure would have reflected the industry average if the division had been a public company.

Polymold Division

EXHIBIT 1 • Congeries Corporation Consolidated Financial Statements (in thousands, except per-share data)

Balance Sheet	*1982*
Assets	
Cash	$ 3,945
Securities	2,649
Receivables	46,808
Inventories	39,706
Other current assets	10,649
Total current assets	103,757
Property, plant, and equipment	59,805
Other assets	18,546
Total assets	$182,108
Liabilities and Shareholders' Equity	
Current portion of long-term debt	$ 2,960
Accounts payable	23,533
Other current liabilities	1,298
Total current liabilities	27,791
Long-term debt	42,574
Other liabilities	6,418
Total liabilities	76,783
Preferred stock	8,169
Common stock	13,430
Additional paid-in capital	18,249
Retained earnings	88,461
Translation adjustment	(4,689)
Less treasury stock	(18,295)
Stockholders' equity	105,325
Liabilities and shareholders' equity	$182,108

Income Statements	*1979*	*1980*	*1981*	*1982*
Net sales	$280,148	$274,737	$281,886	$247,502
Operating income	34,268	28,753	29,814	12,880
Corporate expense	8,850	5,711	6,472	7,489
Interest expense	3,097	3,323	779	2,237
Earnings before taxes	22,321	19,719	22,563	3,154
Earnings of foreign affiliates	739	896	1,043	897
Provision for income taxes	(9,995)	(8,642)	(9,811)	(913)
After-tax earnings	13,065	11,973	13,795	3,138
After-tax loss, discontinued operations	(658)	(1,876)	(5,457)	(4,196)
Net after-tax earnings	$ 12,407	$ 10,097	$ 8,338	$ (1,058)
Earnings per share, common	$4.55	$3.51	$2.77	($0.89)

Polymold Division

EXHIBIT 2 • Polymold Division Financial Statements (in thousands)

	For the Years Ended December 31			
	1979	*1980*	*1981*	*1982*
Income Statement				
Net sales	$11,697	$13,280	$11,494	$10,763
Cost of products sold	7,838	9,064	7,805	7,713
Selling, general, and administrative	837	990	1,214	1,287
Depreciation	264	311	365	415
Other expense	0	0	0	37
Total costs and expenses	8,939	10,365	9,384	9,452
Pretax earnings	2,758	2,915	2,110	1,311
Taxes	1,379	1,457	1,038	632
Net earnings	$ 1,379	$ 1,458	$ 1,072	$ 679
Proceeds to parent	$ 1,252	$ 2,539	$ 655	$ 790
Balance Sheet				
Receivables, net	$ 3,630	$ 2,660	$ 2,804	$ 2,306
Inventories, net	235	97	130	110
Prepaid expenses	95	89	64	53
Total current assets	3,960	2,846	2,998	2,469
Fixed assets*	4,206	4,225	4,918	5,433
Less accumulated depreciation*	(2,058)	(2,189)	(2,379)	(2,750)
Fixed assets, net	2,148	2,036	2,539	2,683
Total assets	6,108	4,882	5,537	5,152
Accounts payable	219	194	186	64
Other current liabilities	635	515	761	609
Total current liabilities	854	709	947	673
Net worth**	5,254	4,173	4,590	4,479
Total liabilities and net worth	$ 6,108	$ 4,882	$ 5,537	$ 5,152

*Net of asset sales.

**Net worth is reduced by payments to parent each year.

Polymold Division

EXHIBIT 3 • Economic Trends and Polymold Sales Projections with CAD/CAM

	1980	*1981*	*1982*	*1983*	*Forecast* *1984*	*1985*	*1986*	*1987*	*Average Growth Rate 1984–1987*
U.S. gross national product (GNP) (billions of nominal dollars)	$2,633	$2,937	$3,059	$3,283	$3,605	$3,992	$4,430	$4,889	10.5%
U.S. GNP (billions of 1980 dollars)	$2,633	$2,691	$2,645	$2,713	$2,813	$2,948	$3,080	$3,187	4.1
Inflation rate	13.5%	10.4%	6.1%	3.2%	6.1%	5.9%	6.5%	6.9%	N.Ap.
Correction factor for inflation	1.0	0.906	0.854	0.813	0.775	0.737	0.699	0.664	N.Ap.
Index for rubber and plastic products (1980=100)	100.0	107.0	99.5	106.6	114.8	123.8	168.0	141.8	8.9
Index for fabricated metal products (1980=100)	100.0	101.7	85.6	93.2	102.9	114.1	122.3	129.8	8.6
Injection mold market (millions of dollars)	N.Av.	N.Av.	N.Av.	$210.0	$229.0	$253.9	$267.0	$278.0	7.3
Polymold actual and forecasted sales with CAD/CAM (millions of dollars)	$13.3	$11.5	$10.8	$10.8	$12.8	$15.8	$17.4	$19.1	15.5
Polymold actual and forecasted sales with CAD/CAM (millions of 1980 dollars)	$13.3	$10.4	$9.2	$8.8	$9.9	$11.7	$12.2	$12.6	9.6%

N.Av. = not available; N.Ap. = not applicable.

Polymold Division

EXHIBIT 4 • Forecasted End-User Injection Mold Market (in millions)

	1983	*1984*	*1985*	*1986*	*1987*	*1988*
Consumer	$ 20	$ 25	$ 28	$ 30	$ 31	$ 30
Medical/pharmaceutical	23	26	28	29	29	29
Commercial	25	28	32	35	37	37
Home entertainment	26	26	28	30	33	34
Packaging	44	46	50	52	54	55
Miscellaneous	23	25	29	31	32	32
Subtotal	161	176	195	207	216	217
All single/simple mold products	49	53	58	60	62	63
Total	$210	$229	$253	$267	$278	$280

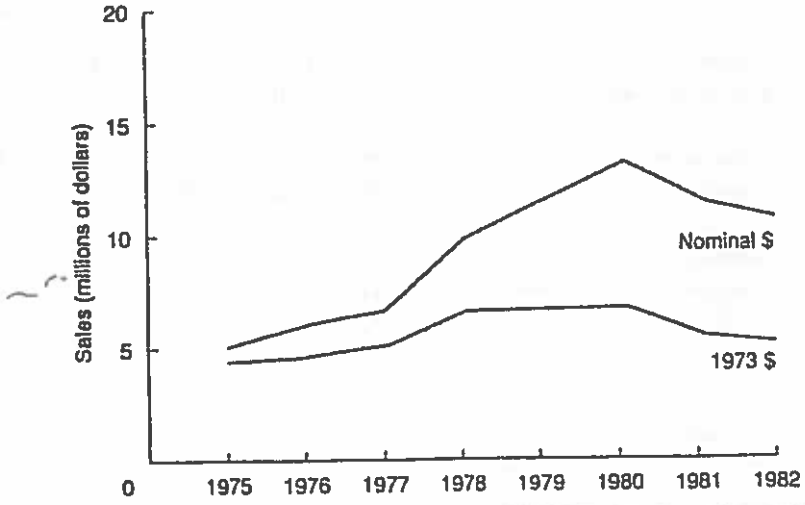
Polymold Division

EXHIBIT 5 • Involvement in Polymold's Markets by Competitors A–D

	Heavy	*Medium*	*Light*	*No Involvement*
Consumer products	Polymold C	A	D B	
Medical/pharmaceutical products		D	Polymold C A B	
Commercial products		Polymold	A B C	D
Home-entertainment products	Polymold A C		B	D
Packaging	B A	Polymold	D C	
Interdivisional sales	B A		Polymold	D C
Miscellaneous	D	Polymold C	B	A

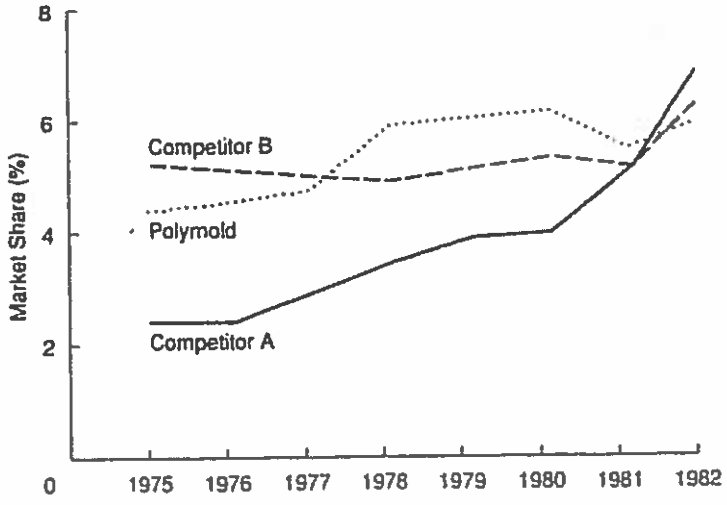
Polymold Division

EXHIBIT 6 • Polymold Sales Have Turned Downward



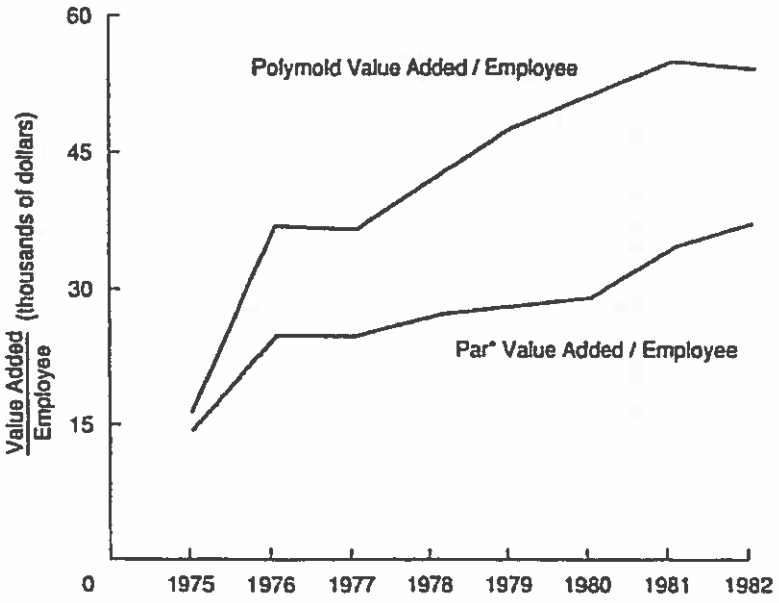
Polymold Division

EXHIBIT 7 • Yet Two Aggressive Competitors (A and B) Have Increased Market Share



Polymold Division

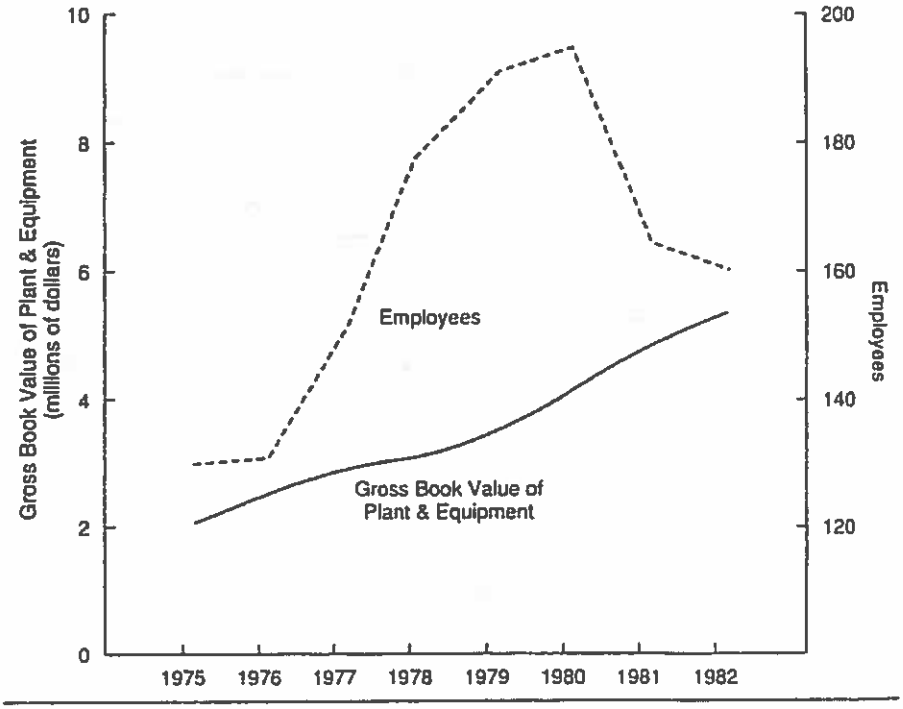
EXHIBIT 8 • Productivity Has Been Consistently Better Than Expected



*Par indicates universe of competitors.

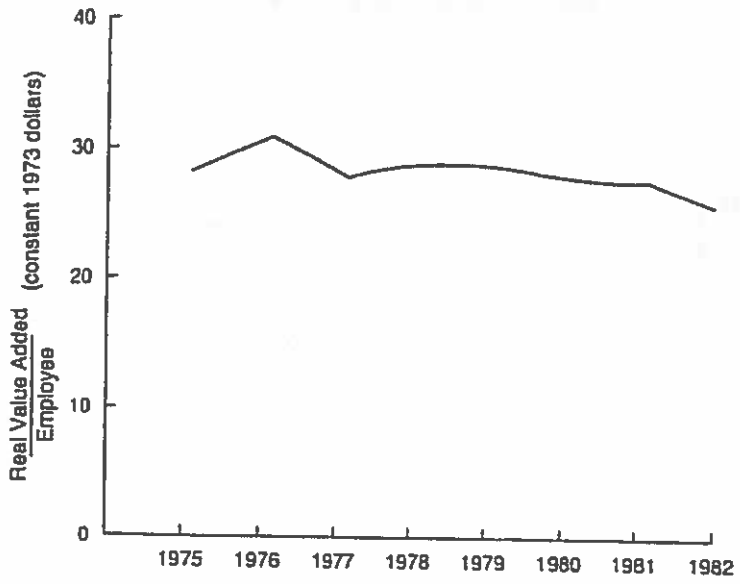
Polymold Division

EXHIBIT 9 • Capital Has Begun to Replace Labor



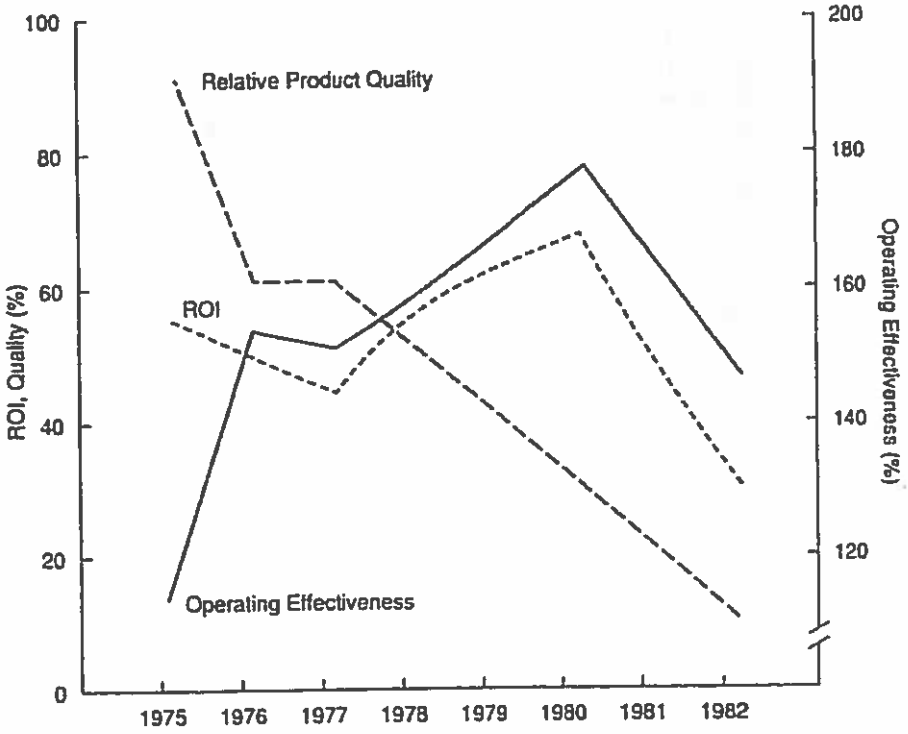
Polymold Division

EXHIBIT 10 • Yet Real Productivity Has Not Increased



Polymold Division

EXHIBIT 11 • Polymold Return on Investment, Relative Product Quality, and Productivity



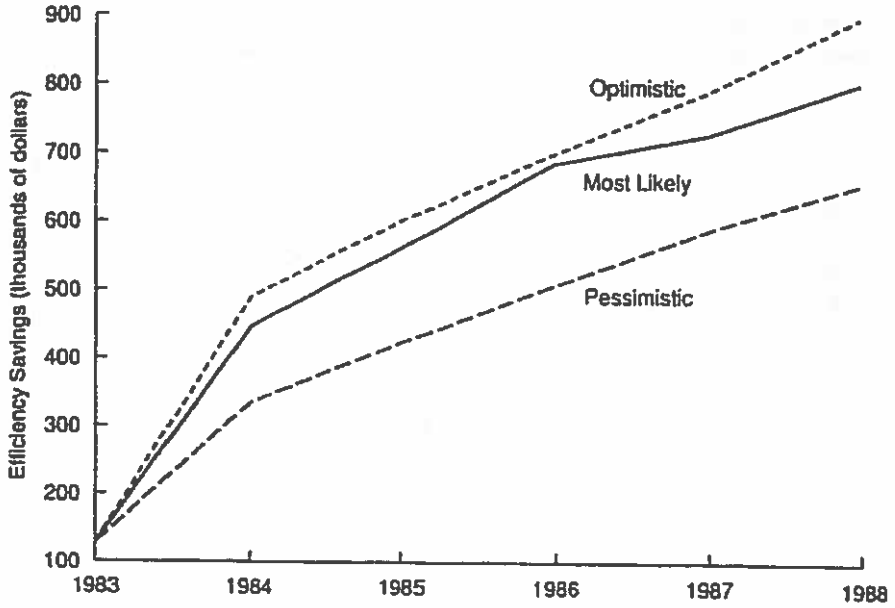
Polymold Division

EXHIBIT 12 • Depreciation, Interest, and Capital Expenditure Forecasts without and with CAD/CAM (in thousands)

	1983	*1984*	*1985*	*1986*	*1987*	*1988*
Without CAD/CAM						
Depreciation	$420	$416	$436	$449	$446	$465
Interest expense	144	136	129	112	112	101
Capital expenditures	287	458	534	362	381	541
Tax credits	23	37	43	29	30	43
With CAD/CAM						
Depreciation	420	513	623	694	782	894
Interest expense	144	136	129	112	112	101
Capital expenditures	287	1,106	831	652	870	954
Tax credits	23	88	66	52	70	76

Polymold Division

EXHIBIT 13 • Efficiency-Program Savings Estimates with CAD/CAM



Polymold Division

EXHIBIT 14 • Tooling Industry Financial Information (dollars in millions)

	Sales		*Net Income/Sales*		*Return on Assets*		*Return on Equity*	
	1981	*1982*	*1981*	*1982*	*1981*	*1982*	*1981*	*1982*
Company								
Acme–Cleveland	$ 400.7	$ 327.0	2.7%	3.6%	4.8%	4.6%	9.0%	9.3%
Brown & Sharpe	205.4	143.8	2.9	−0.1	0.3	−7.0	6.8	−18.0
Cincinnati Milacron	934.4	759.7	6.5	1.6	8.7	3.5	17.4	6.7
Ex-Cell-O	1,124.6	1,027.1	5.1	4.7	8.1	7.6	13.8	13.3
Gleason Works	239.9	179.7	3.7	−0.1	4.9	5.2	8.0	−9.6
Monarch Machine	140.1	95.2	13.6	7.3	21.3	7.6	27.1	9.5
Norton	1,334.6	1,264.1	7.1	1.5	9.4	3.6	17.5	6.7
Snap-on Tools	441.5	430.5	9.1	8.7	11.8	11.9	18.8	16.0
Stanley Works	1,009.5	962.8	5.5	3.9	8.3	5.9	14.4	9.6
Starrett	122.5	112.7	11.3	10.0	14.1	11.9	19.1	14.6
Vermont American	203.9	181.9	6.2	3.6	8.6	4.5	15.8	7.8

*As of September 1983.

N.Av. = not available.

N.Ap. = not applicable.

Sources: *Value Line Investment Survey* and Standard & Poor's *Bond Guide*.

continued

Polymold Division

EXHIBIT 14 *continued*

Debt/Total Assets		*Working Capital/Sales*		*Market/Book Value*		*Price/Earnings Ratio*			
1981	*1982*	*1981*	*1982*	*1981*	*1982*	*1981*	*1982*	*S&P Debt Rating*[a]	*Beta*[a]
23.4%	14.3%	24.4%	22.8%	0.78X	0.66X	10.5X	7.8X	N.Av.	0.90
25.0	23.5	36.4	38.5	0.65	0.54	12.1	N.Ap.	N.Av.	0.95
15.0	13.6	28.6	30.1	1.70	1.75	12.3	24.6	N.Av.	1.10
8.6	6.8	21.8	24.5	0.82	0.89	7.4	6.2	N.Av.	1.10
10.7	17.8	18.3	23.6	0.55	0.58	9.3	N.Ap.	N.Av.	1.05
0.0	0.0	38.4	54.4	1.01	0.96	4.1	9.1	N.Av.	1.05
17.7	18.2	26.1	23.6	1.31	0.99	8.5	14.9	A	0.95
8.1	8.0	37.2	43.1	2.00	2.35	11.2	12.1	N.Av.	1.00
12.8	14.1	24.6	25.0	1.21	1.69	8.6	12.4	A+	0.95
0.0	0.0	45.0	52.0	1.38	1.34	6.7	8.3	N.Av.	0.70
23.2	21.7	26.7	32.4	1.46	1.08	7.1	11.0	N.Av.	0.80

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Tottenham Hotspur plc

In early 2008, Daniel Levy, chairman of Tottenham Hotspur Football[1] Club, was contemplating a bold move for the organization, one that he hoped would help vault the team into the upper echelon of the English Premier League ("Premiership"). Despite the club's long and storied history, Levy felt that the team's future success likely required a significant investment in physical assets, notably the development of a new stadium.

Tottenham currently played in an old stadium called White Hart Lane with a capacity of only 36,500 fans, but had the opportunity to build a new stadium on some adjacent property. Most of their key competitors, such as Arsenal, Manchester United, and Chelsea, had newer or larger stadiums, and were able to leverage the added revenues these stadiums provided to gain a competitive advantage in the cutthroat player acquisition market. Levy had to decide if the benefits of a new stadium were worth the substantial commitment of time and resources that its construction would entail.

Background

Founded in 1882, the Tottenham Hotspur Football Club was one of the oldest teams in the Premiership. Its rich history featured a successful product on the pitch, as evidenced by major trophies in each of the past six decades--a feat matched only by Manchester United, and a series of innovations off the pitch as well. The club became the first publicly-owned football club in England when it listed on the London Stock Exchange in 1983, and was also the first to introduce corporate hospitality boxes at their stadium. Tottenham also saw the relationship with football fans worldwide as an important one, being were leaders in social responsibility and outreach, often topping the list of Premier League teams in charitable donations.[2]

Since 1981, the team's main shareholder had been ENIC International Ltd, an investment company established by Joseph Lewis. Daniel Levy, Lewis's partner at ENIC, had served as chairman of the club since 2001, after ENIC bought a controlling interest in the club. By June of 2007, ENIC had acquired a combined overall 82% beneficial interest in the club, and was the only shareholder with more than a 3% stake in the club.

[1] Known as "soccer" in the US and Canada.

[2] http://www.philanthropycapital.org/about_npc/about_us/intelligent_giving.aspx.

Professors Lauren Cohen, Joshua Coval, and Christopher Malloy prepared this case. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

Levy, who had formerly served as a director of the Scottish football club Rangers, was a life-long Tottenham fan, but understood the dynamics of football clubs and ran the club to endure financial stability and longevity: "If you sign older players at huge salaries, but don't get the immediate football success you dreamed of, you cripple yourself." To this end, Levy focused on three pillars that he felt could help establish a foundation of consistent, long-run success: 1) the development of a new stadium, 2) the building of a new practice facility (or "training ground"), and 3) the continual improvement of the club (particularly the "First Team", or starting squad) through prudent player acquisitions during the various "transfer windows."[3]

The club had a provisional agreement already in place to build the new training ground just outside of London. The club viewed the training ground (the second pillar of their strategy) as also crucial to the third pillar, which was to continually improve the quality of the team. Having a state-of-the-art training ground was a major selling point in recruiting new players, both young players whom they hoped to develop, as well as star players from other clubs or countries whom they hoped to acquire.

Commercial Overview

The Spurs (as the team was referred to by its fans) had a passionate fan base numbering an estimated 20 million people worldwide, including 2.1 million in the United Kingdom. The 36,500 capacity stadium at White Hart Lane was sold out for every game, and there was a waiting list for season tickets of over 20,000 people. As the club's commercial director noted, "football fans are more likely to change their spouses than their football club," a sentiment reflected in the fact that over 54% of Spurs fans claim to have supported the club for 6 years or more The club had created a "One Hotspur Membership" scheme, attracting over 70,000 fans, which offered varying levels of benefits ranging from insider team updates to occasional ticket packages to full season ticket packages, in order to further expand and monetize their brand and fan base.

Overall, the team received revenues from four major sources: attendance, sponsorship rights, merchandise sales, and broadcast rights. Its main costs consisted of player salaries and costs of operating the stadium. Premiership teams were ranked according to their win-tie-loss record[4] by the end of the 38-game season, which was summarized by the total number of "points" they had accumulated. A win earned a team three points, each tie earned them one point and there were no points gained or subtracted for a loss. A team's record affected its following which directly increased all its revenue sources. For example, teams that ranked higher earned a greater share of league television broadcast revenues, with each move up in the standings worth an estimated £760,000. Additionally, the top four teams were invited to play in the Champion's League – a tournament of the top teams from the major European leagues – which earned them additional revenue from

[3] A transfer window is a period during the year in which a football team can transfer players either in or out of their team. The Premiership has two transfer windows, one in the offseason from July 1 to August 31, and the other during the season from January 1 to January 31.

[4] In the Premiership, each game can either end in a win, a tie, or a loss. A winning team will have scored more goals than its opponent and a game will end in a tie if both teams have scored the same number of goals.

attendance and broadcast rights.[5] The bottom three teams were "relegated" – sent to a lower division in which they could expect to receive far lower revenues.

The official club sponsors were Mansion.com (which paid 34 million pounds over 4 years) and Puma (which paid 25 million pounds over 5 years), but the club had a series of other commercial partnerships as well, and viewed sponsorship revenue in general as a major potential growth area going forward. The club's merchandise sales had also grown substantially in recent years, in part through the new uniforms (or "kits") that were updated and re-designed for the team each year and then sold to fans, and also through a total of 11 retail stores that the club had opened at the stadium and elsewhere in London.

At the start of the 2008 season, the Premiership league was in the midst of an impressive run of growth. For the past several years, revenue growth in the Premiership had been averaging 9% per year across all sources. Player salaries were growing even more rapidly at 10% per year, reflecting the intense competition for top-level talent. Both were expected to continue at their current rates for another dozen years or so from which point they were likely to grow at 4% per year (1.5% per year faster than inflation which was expected to be 2.5% per annum). **Exhibit 5** presents a set of analyst pro-forma income statements for Tottenham through 2020.

Stadium Development

White Hart Lane had been updated, expanded, and refurbished several times over the past 100 years, but Levy felt that the only way to truly modernize the club's match-day facilities at this point was to build a new stadium. The current stadium housed only 36,500 fans, and the club was hoping to accommodate up to 60,000, a goal which simply could not be accomplished by renovating the existing structure. To this end, the club had explored a variety of possible locations and stadium configurations, but ultimately favored a plan which would build a new 60,000-capacity stadium in a location adjacent to their current ground.

Regardless of what stadium it had, Tottenham could anticipate a maintenance capital expenditure that was currently £3.3M[6] in 2007 and was expected to grow at 4% per year. Depreciation related to these capex charges was £2.2M in 2007 and was also expected to grow at 4%. In addition, the team currently held over £26M of excess cash that could help fund future investments, pay down debt, or be paid out to shareholders. The team planned to put together a consortium of wealthy investors to help finance the construction of the stadium and/or make additional investments. The new stadium would take two years to build at a total cost of £250M which would be paid in roughly equal installments at the end of the first and second years of construction. After-tax proceeds from selling the existing stadium were expected to be offset by costs of acquiring the land for the new stadium.[7] A special tax incentive would allow the team to depreciate the £250M of construction costs over a 10-year period following completion. Moreover, Tottenham had paid sufficiently high taxes in previous years to immediately capture as tax refunds any tax credits associated with net operating losses.

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[5] In addition, finishing 5th in the Premier League enabled a team to qualify for another European tournament called the UEFA Cup.

[6] At the time, one £ equaled roughly $1.60.

[7] The land acquisition costs would not be depreciable under UK tax law.

With the new stadium, the club expected attendance revenue to increase by 40% relative to forecasts in **Exhibit 5**, sponsorship revenues to increase by 20% relative to forecasts, and stadium operating expenses to increase by 14% relative to forecasts. These increases were estimated based on the historical experience of Arsenal (a rival club), who opened a new 60,300 capacity stadium called Emirates Stadium in 2006, after playing for many years in their old 38,400 capacity stadium at Highbury.

Player Acquisition

Levy believed that constructing a successful football team required more than just financial resources: "People say this business is all about the money, but it's not. Skill in assessing and developing players, as well as luck, are big factors." That said, Levy felt that a new stadium was a crucial component of long-run success in the Premiership, in part because the added revenues would allow the Spurs to compete more aggressively in the acquisition market for superstar international players. For example, in the offseason the Spurs would ultimately lose their two leading goalscorers, Robbie Keane and Dimitar Berbatov, in part because both players decided to move on to the "higher-profile clubs" of Liverpool and Manchester United, respectively. To offset these personnel losses, the club had quickly signed Roman Pavlyuchenko from Spartak Moscow, a young Russian striker who the club believed would allow the team to at least maintain their average performance level from the past few years (see **Exhibit 2** for average points and net goals for Tottenham for the past 10 years).

Levy realized, however, that in order to significantly improve the quality of the team, he would have to at least consider the possibility of signing another goalscorer in the future to pair with Pavlyuchenko. The club was scouting a young attacking midfielder/striker, but unfortunately established goalscorers of this type did not come cheaply. Tottenham first would need to pay for the rights to the player, and then negotiate a new contract with him. For the rights to a goalscorer of the caliber that Tottenham had in mind, the club would need to pay a "transfer fee" of roughly £20M. This fee would be paid directly to the player's current club immediately as a tax deductible expense.[8] Additionally, the club anticipated negotiating a 10-year contract that would pay the player £50,000 per week for the 2008 season with scheduled increases of 10 percent each year thereafter. Both the transfer fee and the contract were "guaranteed" in that, in the event of injury to the player, Tottenham could recover no portion of the transfer fee and would have to continue paying his salary. This risk was a nontrivial one considering that at any given point in the season an average of 20% of all Premiership players were sidelined by one injury or another.

The pairing of Pavlyuchenko and a new goalscorer had the potential to significantly impact Tottenham's bottom line. If the new player remained healthy, Tottenham would be expected to increase its net number of goals per season by 12.[9] By improving the team's ranking in the Premiership, increases in a team's net goals and hence its point total led to greater revenues. One concern with this strategy, however, was that because of Tottenham's small stadium, the club was unlikely to reap most of the revenue increases that would result from any improvement in the club's performance. In particular, the team forecasted that without a larger stadium that was comparable to

[8] Again, to the extent that the fee would generate a tax credit, Tottenham had paid sufficient taxes in recent years to collect it as an immediate tax refund.

[9] A team's number of net goals (or "goal differential") during a season is the total number of goals scored minus the total number of goals allowed.

those of the other top-tier teams, Tottenham would only capture *one-quarter* of the anticipated revenue improvements associated with the team's expected improvement. With all these considerations in mind, Levy had to decide if the stadium development plans made sense, and how best to proceed in the player acquisition market as well.

Exhibit 1 Basic Information

20-Year Risk Free Rate	4.57%
Tottenham Equity Beta	1.29
Company Tax Rate	35%

Source: Bloomberg, accessed September 2008.

:t 2 Team Valuations, Revenues, and Records (December 31, 2007)

	Enterprise Value (EV)[a]	Net Debt/EV	Revenue	Operating Income	Avg. Points (1998-2007)	Avg. Net Goals (1998-2007)
ɜster United	934	0.84	169	50	82	42.7
l	588	0.53	134	11	77	38.1
a	345	0.28	154	-20	74	33.9
ol	291	0.18	123	20	67	24.6
stle United	167	0.46	87	6	53	2.3
ıam Hotspur	156	0.12	75	5	51	-1.9
ı	106	0.32	58	-8	49	-4.9
/illa	90	0.16	50	-11	51	0.00

ise Value = Equity + Debt - Excess Cash.

Compiled from Forbes.com, "Soccer Team Valuations," http://www.forbes.com/lists/2007/34/biz_07soccer_Soccer-Team-Valuations_Rank.html, accessed August 2008.

Exhibit 3 Tottenham Games and Stock Market Reaction

Game Date	Win	Loss	Draw	Points	Tottenham	FTSE[a]
1/31/2004	0	1	0	0	-0.27%	-0.21%
2/7/2004	1	0	0	3	0.00%	0.72%
2/11/2004	1	0	0	3	11.89%	-0.42%
2/22/2004	0	0	1	1	0.00%	0.21%
3/9/2004	0	1	0	0	0.00%	0.07%
3/14/2004	1	0	0	3	9.52%	-1.22%
3/20/2004	0	1	0	0	0.00%	-1.90%
3/27/2004	0	1	0	0	-2.95%	1.13%
4/3/2004	0	1	0	0	0.00%	0.34%
4/9/2004	0	1	0	0	0.00%	0.47%
4/12/2004	0	0	1	1	8.57%	0.58%
4/17/2004	0	1	0	0	8.57%	0.20%
4/25/2004	0	0	1	1	-2.95%	0.04%
5/2/2004	0	1	0	0	0.00%	-0.66%
5/8/2004	1	0	0	3	8.07%	-2.29%
5/15/2004	1	0	0	3	0.00%	-0.87%
8/14/2004	0	0	1	1	-3.57%	1.13%
8/21/2004	1	0	0	3	0.11%	0.83%
8/25/2004	0	0	1	1	2.41%	0.96%
8/28/2004	1	0	0	3	0.00%	0.81%
9/12/2004	0	0	1	1	0.00%	0.30%
9/19/2004	0	0	1	1	-0.45%	-0.25%
9/25/2004	0	1	0	0	0.00%	-0.81%
10/2/2004	1	0	0	3	-4.13%	0.48%
10/18/2004	0	1	0	0	3.13%	0.62%
10/23/2004	0	1	0	0	0.00%	-1.10%
10/30/2004	0	1	0	0	1.89%	1.07%
11/6/2004	0	1	0	0	0.00%	-0.49%
11/13/2004	0	1	0	0	0.00%	0.19%
11/22/2004	0	1	0	0	-2.91%	0.20%
11/28/2004	1	0	0	3	0.14%	0.18%
12/4/2004	1	0	0	3	-3.95%	-0.53%
12/11/2004	1	0	0	3	3.57%	0.91%
12/18/2004	1	0	0	3	5.26%	0.73%
12/26/2004	1	0	0	3	0.00%	0.22%
12/28/2004	0	0	1	1	4.00%	0.45%
1/1/2005	1	0	0	3	0.00%	-0.12%
1/4/2005	0	0	1	1	7.35%	-0.85%
1/15/2005	0	1	0	0	5.15%	0.54%
1/22/2005	0	1	0	0	-2.58%	0.19%
2/1/2005	0	1	0	0	-0.50%	0.20%
2/5/2005	1	0	0	3	12.50%	0.78%
2/26/2005	1	0	0	3	5.43%	-0.76%
3/5/2005	0	1	0	0	0.16%	-0.18%
3/16/2005	0	1	0	0	0.97%	-0.31%
3/19/2005	1	0	0	3	0.00%	0.21%
4/2/2005	0	0	1	1	-5.48%	-0.35%
4/10/2005	1	0	0	3	-5.04%	-0.21%
4/16/2005	0	0	1	1	6.16%	-1.32%
4/20/2005	0	0	1	1	-3.81%	-0.05%
4/25/2005	0	1	0	0	-7.67%	-0.40%
5/1/2005	1	0	0	3	0.00%	0.24%
5/7/2005	0	1	0	0	0.96%	-0.17%
5/15/2005	0	0	1	1	1.03%	-0.05%
8/13/2005	1	0	0	3	0.00%	-0.03%

Game Date	Win	Loss	Draw	Points	Tottenham	FTSE[a]
8/20/2005	1	0	0	3	4.88%	0.11%
8/24/2005	0	0	1	1	0.00%	-0.37%
8/27/2005	0	1	0	0	0.00%	-0.53%
9/10/2005	0	0	1	1	-1.02%	0.29%
9/17/2005	0	0	1	1	-0.24%	0.40%
9/26/2005	1	0	0	3	-0.59%	-0.11%
10/1/2005	1	0	0	3	-0.39%	0.43%
10/15/2005	1	0	0	3	-0.04%	0.22%
10/22/2005	0	0	1	1	0.00%	1.27%
10/29/2005	0	0	1	1	-0.22%	1.99%
11/7/2005	0	1	0	0	7.69%	0.00%
11/20/2005	0	0	1	1	-2.18%	-0.02%
11/26/2005	1	0	0	3	0.00%	-0.84%
12/3/2005	1	0	0	3	0.47%	-0.32%
12/12/2005	1	0	0	3	-3.94%	0.10%
12/18/2005	0	0	1	1	-4.63%	0.15%
12/26/2005	1	0	0	3	0.00%	-0.03%
12/28/2005	0	1	0	0	-0.83%	0.28%
12/31/2005	1	0	0	3	0.00%	-0.35%
1/4/2006	1	0	0	3	2.83%	-0.41%
1/14/2006	0	1	0	0	-2.85%	0.51%
1/21/2006	0	0	1	1	-2.16%	-0.20%
1/31/2006	0	1	0	0	0.58%	0.72%
2/5/2006	1	0	0	3	1.18%	0.23%
2/12/2006	0	0	1	1	0.60%	0.51%
2/19/2006	0	0	1	1	4.89%	0.29%
3/5/2006	1	0	0	3	0.00%	0.67%
3/11/2006	0	1	0	0	2.91%	0.76%
3/18/2006	1	0	0	3	-2.41%	-0.13%
3/27/2006	1	0	0	3	2.83%	-0.61%
4/1/2006	0	1	0	0	-5.04%	1.00%
4/8/2006	1	0	0	3	0.00%	0.68%
4/15/2006	1	0	0	3	0.00%	0.48%
4/17/2006	0	1	0	0	-0.51%	0.24%
4/22/2006	0	0	1	1	1.80%	-0.55%
4/30/2006	1	0	0	3	0.00%	-0.61%
5/7/2006	0	1	0	0	-4.32%	-0.40%
9/9/2006	0	1	0	0	0.00%	-0.48%
9/17/2006	0	0	1	1	-0.20%	0.22%
9/19/2006	0	1	0	0	-1.35%	0.59%
9/23/2006	0	1	0	0	8.39%	-0.41%
9/26/2006	0	1	0	0	-3.39%	0.96%
10/1/2006	1	0	0	3	0.00%	-0.05%
10/14/2006	0	0	1	1	0.00%	0.25%
10/22/2006	1	0	0	3	0.36%	0.18%
10/28/2006	0	0	1	1	2.49%	-0.55%
11/5/2006	1	0	0	3	4.26%	1.24%
11/12/2006	0	1	0	0	0.00%	-0.23%
11/19/2006	0	0	1	1	-0.60%	0.20%
11/26/2006	1	0	0	3	1.59%	-1.18%
12/2/2006	0	1	0	0	-1.43%	0.48%
12/5/2006	1	0	0	3	4.01%	0.06%
12/9/2006	1	0	0	3	-0.71%	0.12%
12/17/2006	1	0	0	3	6.96%	-0.20%
12/26/2006	1	0	0	3	-0.14%	0.89%
1/1/2007	0	0	1	1	-1.27%	1.45%
1/14/2007	0	1	0	0	0.00%	0.39%

Game Date	Win	Loss	Draw	Points	Tottenham	FTSE[a]
1/20/2007	0	0	1	1	-2.34%	-0.30%
2/4/2007	0	1	0	0	-1.88%	0.11%
2/10/2007	0	1	0	0	-0.61%	-0.46%
2/21/2007	1	0	0	3	0.00%	0.37%
2/25/2007	1	0	0	3	-1.16%	0.52%
3/4/2007	1	0	0	3	0.00%	-0.94%
3/17/2007	1	0	0	3	-1.19%	0.96%
4/1/2007	1	0	0	3	0.00%	0.12%
4/7/2007	0	1	0	0	-1.16%	0.32%
4/15/2007	0	0	1	1	0.06%	0.83%
4/21/2007	0	0	1	1	8.77%	-0.11%
4/28/2007	1	0	0	3	8.42%	0.48%
5/7/2007	1	0	0	3	-3.91%	-0.81%
5/10/2007	0	0	1	1	5.50%	0.64%
5/13/2007	1	0	0	3	2.61%	-0.16%

[a]The FTSE is the UK equivalent of the S&P 500.

Source: Datastream, accessed September 2008.

Exhibit 4 2007 Tottenham Balance Sheet (millions of pounds)

Assets	
Current assets:	
Cash and equivalents	26.29
Investments, available for sale	0.63
Inventory - Merchandise	1.17
Accounts Receivable	19.99
Total current assets	48.07
Property and equipment, net	55.78
Intangible assets, net	49.35
Total assets	153.20
Liabilities and Stockholder Equity	
Current liabilities:	
Accounts payable	64.40
Total current liabilities	64.40
Long-term debt and deferred interest, net of current portion	43.08
Total liabilities	107.48
Total stockholders' (deficit) equity	45.73
Total liabilities and stockholders' equity	153.20
Shares Outstanding (millions of shares)	9.29
Market Capitalization	128.20

Source: Company reports.

ibit 5 Tottenham Pro Forma Income Statement (millions of pounds)

	Current	Forecast												
	0	1	2	3	4	5	6	7	8	9	10	11	12	13
enue	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
ndance	17.40	18.97	20.67	22.53	24.56	26.77	29.18	31.81	34.67	37.79	41.19	44.90	48.94	50.90
nsorship	15.70	17.11	18.65	20.33	22.16	24.16	26.33	28.70	31.28	34.10	37.17	40.51	44.16	45.93
adcast	28.70	31.28	34.10	37.17	40.51	44.16	48.13	52.46	57.19	62.33	67.94	74.06	80.72	83.95
chandise	5.20	5.67	6.18	6.73	7.34	8.00	8.72	9.51	10.36	11.29	12.31	13.42	14.63	15.21
er	7.10	7.74	8.44	9.19	10.02	10.92	11.91	12.98	14.15	15.42	16.81	18.32	19.97	20.77
al	74.10	80.77	88.04	95.96	104.60	114.01	124.27	135.46	147.65	160.94	175.42	191.21	208.42	216.76
erating Costs														
roll	50.92	56.01	61.62	67.78	74.56	82.01	90.21	99.23	109.16	120.07	132.08	145.29	159.82	166.21
dium Operating Expenses	16.38	17.04	17.72	18.43	19.16	19.93	20.73	21.55	22.42	23.31	24.25	25.22	26.22	27.27
er	1.80	1.87	1.95	2.02	2.11	2.19	2.28	2.37	2.46	2.56	2.66	2.77	2.88	3.00
al	69.10	74.92	81.28	88.23	95.82	104.13	113.22	123.16	134.04	145.95	158.99	173.28	188.92	196.48
TDA	5.00	5.85	6.76	7.73	8.77	9.88	11.06	12.30	13.61	14.99	16.43	17.93	19.49	20.27
reciation	2.20	2.29	2.38	2.47	2.57	2.68	2.78	2.90	3.01	3.13	3.26	3.39	3.52	3.66
T	2.80	3.56	4.38	5.26	6.20	7.21	8.27	9.41	10.60	11.86	13.17	14.55	15.97	16.61
rest	2.26	2.46	2.69	2.93	3.19	3.48	3.79	4.13	4.50	4.91	5.35	5.83	6.36	6.61
es	0.19	0.38	0.59	0.82	1.05	1.30	1.57	1.85	2.13	2.43	2.74	3.05	3.37	3.50
Income	0.35	0.71	1.10	1.52	1.96	2.42	2.91	3.43	3.96	4.52	5.09	5.66	6.25	6.50

rce: Compiled from company annual report 2007, http://admin.tottenhamhotspur.com/uploads/assets/docstore/old/tottenham_ar07.pdf, accessed August 2008, as well as internal company reports.

Case

Kelly Services, Inc.

As part of his rotation training, William Murry, a new analyst with Shack, Stripes, & Roam Securities (SS&R), had been assigned a portfolio of service companies. Three of the companies provided temporary help, and of the three, he found one, Kelly Services, Inc., to be particularly interesting. Kelly's growth and profitability record, and lack of debt, were what caught Mr. Murry's attention.

In his MBA program, Mr. Murry had been taught that debt was less expensive than equity, so he wondered whether a company that shied away from borrowing could be successful compared with its competitors. Could it be maximizing value for shareholders? Because interest rates had declined considerably over the previous couple of years (as shown in Exhibit 1), reducing the cost of debt even further than previously, Mr. Murry wondered how Kelly might have been affected if the company had taken on some debt either in 1985 or early in 1986. Had Kelly's share price been penalized because the company had not taken sufficient advantage of debt financing?

In contrast to Mr. Murry's MBA teachings, many of his colleagues at SS&R believed that Kelly had been a superior performer because it had no debt, and that it needed no debt now.

The Industry

> Temporary employed in the United States is booming. According to the Bureau of Labor Statistics, employment growth in the temporary help services industry has averaged 11 percent a year over the last 13 years, compared with a 2.1 percent growth rate for non-agricultural jobs throughout the economy.[1]

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[1] The quote and statistics in this section are from Cherlyn S. Granrose and Eileen Appelbaum, "The Efficiency of Temporary Help and Part-Time Employment," *Personnel Administrator*, January 1986, 71.

The increasing use of temporary help could be attributed to at least three factors. First, such help was used as an employment buffer; it would decline early in a recession, but would rebound rapidly in an economic recovery. In 1983, the first year of recovery from a recession, the use of temporary help had increased by 17.5 percent.

Second, companies had begun to hire temporary workers under long-term contracts. According to labor economist Audrey Freedman,

> "What the companies are doing is organizing so they don't have to pay for vacation, holidays, health benefits or pensions. In addition, they don't have to allocate money for training and for promotion." The savings can be large, and some firms are now building temporary work into their employment strategies.[2]

Third, temporary workers had expanded beyond secretaries and clerical workers to include engineers, accountants, nurses, and even lawyers and doctors costing up to $150 per hour. Ms. Freedman said,

> "In the make-or-buy decision, a lot of companies are deciding to buy, rather than make, something they need." Renting a professional instead of hiring one fits in with this trend, she says. The new temps choose temporary work to get money and experience at the beginning of a career, a lighter work load at the end, or a more relaxed lifestyle along the way.[3]

By 1982, 46 percent of temporary employment and 57 percent of receipts of temporary-help services firms were earned at non-office jobs.

A 1985 survey indicated that, of temporary help hired for office jobs, 58 percent were used in clerical positions and 25 percent were used for secretarial duties; the remaining 17 percent were used for such tasks as word and data processing and accounting functions. About half were hired to alleviate work overloads, and one-third were hired to cover for absent employees.

The Company

Kelly Services, Inc., was founded in 1946 in Detroit, Michigan, and had remained under family management, with William R. Kelly as chief executive officer. The company emphasized clerical and secretarial services but

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[2] Ibid., 72.

[3] "These 'Temps' Don't Just Answer the Phone," *Business Week*, June 2, 1986, 74.

also provided some marketing, light industrial, technical, and nursing and home health-care temporary-help services through over 650 offices in the United States, Canada, the United Kingdom, and France. Kelly opened 64 new offices in 1985 and 47 in 1984, but most of the company's growth had come from increased business from existing markets and customers.

As shown in Exhibit 2, Kelly's sales and profits had more than quintupled between 1976 and 1985 and had more than doubled since 1982. Kelly's sales had grown more rapidly than its assets and equity base and had done so with no long-term debt.

Wages and salaries (cost of goods sold) amounted to about 74 percent of Kelly's total revenues, and accounts receivable from businesses constituted about 55 percent of total assets. On the other side of the balance sheet, wages, payroll taxes, and insurance constituted 71 percent of total liabilities. In 1985 Kelly had $17.6 million in common stock and $11.5 million of treasury stock; retained earnings had increased from $102.1 million in 1984 to $123.0 million in 1985.

Kelly had split its stock ten times since 1962, when it first issued shares to the public. In June 1984, to improve the stock's marketability, each common share was split and reclassified as 1½ shares of nonvoting Class A and one-half share of voting Class B common stock. A five-for-four stock split took place in August 1985. Insiders controlled 60 percent of the Class A and 76 percent of the Class B shares. In 1985 dividends averaged 54 cents per share, representing the 14th consecutive and 23d overall annual increase in dividends since 1962. Exhibit 3 provides stock price data for Kelly Services between 1980 and 1985.

The Competition

Mr. Murry had similar information in his portfolio on two of Kelly Services' competitors, Volt Information Sciences, Inc., and Olsten Corporation. Olsten was the more successful of the two competitors. (Manpower, Inc., better known than Volt or Olsten, had been sold recently, and public data were no longer available for it.)

Olsten Corporation was the third largest temporary-help company in North America, with 119,000 personnel available through 322 offices in 39 states and Canada. About 31 percent of Olsten's offices were operated under franchise. The company had no long-term debt, and the Olsten family owned 40 percent of the stock.

Volt Information Sciences, Inc., earned about 60 percent of its revenues through its temporary-help operations and 32 percent through typesetting-equipment sales and service; the remaining 8 percent was earned through the installation of automatic directory-assistance systems and the sale of technical manuals. Volt employed 13,800 people, 70 percent of whom were temporary workers. The company had a long-term

debt/equity ratio of 124 percent and a long-term debt/assets ratio of 4[illegible] percent. Insiders owned 32 percent of Volt stock.

Financial data for Volt, Olsten, and Kelly Services are compared in Exhibit 4.

Projections

Being curious about the effect that debt might have on Kelly Services, Mr Murry created three pro forma financial statements based on the company's 1985 figures. He had worked out some rough figures for different capital structures (shown in Exhibit 5) by assuming that

1. the debt would be used to repurchase stock in January 1986 at $25 per share,
2. the interest rate on the long-term debt would be 12.5 percent,
3. the tax rate would be 50 percent, close to the average of the past 10 years, and
4. the payout ratio would be 28 percent.

From this analysis, he found earnings would decrease as leverage increased, but earnings per share would increase, with no negative impact on dividends per share, as shown below:

Proportion of Debt to Equity

	Actual	*30 Percent*	*50 Percent*	*70 Percent*
Net income (millions)	$32.6	$29.6	$27.9	$26.3
Earnings/share	2.01	2.03	2.06	2.10
Dividends/share	0.56	0.57	0.58	0.59

These results seemed in conflict to Mr. Murry. In addition, he was certain that whatever the shareholders perceived about the company would be reflected in its share price. The stock price was $25 per share at the beginning of 1986. What would it be if debt increased? Did these same results hold true for Olsten and Volt? Was his business-school lesson that leverage increased performance right or wrong? Did these data, or would further analysis, prove his professor's techniques correct?

Mr. Murry was determined to solve this enigma and show others at SS&R the exact source of the value of leverage—if he could determine whether increasing debt increased shareholder value.

Kelly Services, Inc.

EXHIBIT 1 • Interest Rates on Debt of Different Quality

Year/Month		Prime Rate	U.S. Treasury Bonds		Corporate Bonds			
			3-Year	10-Year	Aaa	Aa	A	Baa
1980		15.27%	11.55%	11.46%	11.94%	12.50%	12.89%	13.67%
1981		18.87	14.44	13.91	14.17	14.75	15.29	16.04
1982		14.86	12.92	13.00	13.79	14.41	15.43	16.11
1983		10.79	10.45	11.10	12.04	12.42	13.10	13.55
1984		12.04	11.89	12.44	12.71	13.31	13.74	14.19
1985	1	10.61	10.43	11.38	11.37	11.82	12.28	12.72
	2	10.50	10.55	11.51	12.13	12.49	12.80	13.23
	3	10.50	11.05	11.86	12.56	12.91	13.36	13.69
	4	10.50	10.49	11.43	12.23	12.69	13.14	13.51
	5	10.31	9.75	10.85	11.72	12.30	12.70	13.15
	6	9.78	9.05	10.16	10.94	11.46	11.98	12.40
	7	9.50	9.18	10.31	10.97	11.42	11.92	12.43
	8	9.50	9.31	10.33	11.05	11.47	12.00	12.50
	9	9.50	9.37	10.37	11.07	11.46	11.99	12.48
	10	9.50	9.25	10.24	11.02	11.45	11.94	12.36
	11	9.50	8.88	9.78	10.55	11.07	11.54	11.99
	12	9.50	8.40	9.26	10.16	10.63	11.19	11.58

Sources: *Federal Reserve Bulletin*, various issues; and *Economic Report of the President*, 1986.

Kelly Services, Inc.

EXHIBIT 2 • Financial Data (dollars in millions, except per-share data)

	1976	*1977*	*1978*	*1979*	*1980*	*1981*	*1982*	*1983*	*1984*	*1985*
Sales	$152.4	$202.6	$279.0	$369.3	$409.7	$462.6	$419.9	$524.4	$741.2	$876.4
Net income	5.7	7.3	12.6	15.0	15.2	18.2	12.0	17.5	26.7	32.6
Earnings/share	0.35	0.45	0.77	0.91	0.92	1.10	0.72	1.08	1.65	2.02
Dividends/share										
Common	0.09	0.10	0.14	0.19	0.26	0.30	0.36	0.38	N.Ap.	N.Ap.
Class A common	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	0.46	0.55
Class B common	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	0.37	
Assets	$37.0	$44.5	$60.3	$75.1	$87.9	$104.2	$108.8	$124.2	$148.9	$17
Cash	—	—	—	9.8	22.5	37.9	47.7	35.7	39.5	4
Net working capital	22.0	20.1	27.5	38.0	48.3	60.9	67.0	71.5	86.0	10
Stockholders' equity	27.4	32.8	42.8	54.7	65.7	78.4	84.2	89.4	108.8	12
Average price/earnings ratio	5.5	6.9	6.8	6.1	8.6	10.6	15.1	15.0	10.9	12
Average dividend yield	4.5%	3.5%	3.2%	3.5%	3.4%	2.5%	3.3%	2.4%	2.5%	2
Return on sales	3.7	3.6	4.5	4.1	3.7	3.9	2.9	3.3	3.6	3
Return on assets	15.4	16.4	20.9	20.0	17.3	17.5	11.0	14.1	17.9	18
Return on equity	20.8%	22.3%	29.4%	27.4%	23.1%	23.2%	14.3%	19.6%	24.5%	25
Shares outstanding (000)*										
Common	16,266	16,303	16,365	16,489	16,563	16,553	16,539	16,174	16,192	16,14
Class A	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	13,875	13,946
Class B	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	2,317	2,201
Beta	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	N.Av.	0.75	0.75

N.Av. = not available.

N.Ap. = not applicable.

*Adjusted for stock splits and reclassification.

Kelly Services, Inc.

EXHIBIT 3 • Quarterly Stock Price Data[a]

Year/ Quarter		Standard & Poor's 500	Common		Class A		Class B	
			High	Low	High	Low	High	Low
1980	1	102.9	$8.625	$5.125				
	2	114.2	7.25	6.5				
	3	125.5	9.875	7.25				
	4	135.8	9.375	8.75				
1981	1	136.0	11.25	8.875				
	2	131.2	13.75	11.125				
	3	116.2	13.75	11.5				
	4	122.6	13.5	11.625				
1982	1	111.9	12.5	10.875				
	2	109.6	12.875	9.5				
	3	122.4	10.625	7.875				
	4	139.4	13.125	9.875				
1983	1	151.9	15	12.125				
	2	166.4	16.25	14				
	3	167.2	17.5	16.125				
	4	164.4	20	16				
1984	1	159.2	20	17.75				
	2	168.1	$18	$17.25				
	3	166.1			$20.5	$16.5	$20.125	$15.5
	4	165.0			21.25	16	20.5	13.25
1985	1	153.2			23.25	18	23	18.25
	2	166.1			28	22	30.125	23.125
	3	167.2			29.375	25.5	29.375	26.125
	4	180.7			$29	$24.875	$26.5	$24.75

[a]Kelly data adjusted for stock splits.

Kelly Services, Inc.

EXHIBIT 4 • Comparative Financial Statements, 1984–1985 (dollars in millions, except per-share data)

	Kelly (December 31)		*Olsten (December 31)*		*Volt (October 31)*	
	1984	*1985*	*1984*	*1985*	*1984*	*1985*
Sales	$741.2	$876.4	$218.8	$262.9	$391.7	$389.8
5-year growth	16.2%	17.6%	24.4%	25.0%	22.3%	18.6%
Net profit	$ 26.7	$ 32.6	$ 6.0	$ 7.3	$ 13.0	$ (6.0)
5-year growth	17.1%	21.2%	23.2%	31.0%	9.6%	C/C
Earnings/share	$ 1.65[a]	$ 2.02[a]	$ 0.74	$ 0.90	$ 1.77	$ (0.85)
5-year growth	17.1%	21.2%	17.5%	24.7%	4.4%	(5.5)%
Dividends/share	$ 0.46[a]	$ 0.56[a]	$ 0.12	$ 0.16	0	0
5-year growth	20.1%	16.0%	15.7%	22.4%	0	0
Average annual P/E	10.9×	12.8×	10.5×	15.9×	11.9×	N.Ap.
Dividend payout ratio	27.0%	27.0%	16.0%	17.8%	0	0
Cash	$ 39.5	$ 47.9	$ 15.6	$ 20.8	$ 37.2	$ 27.2
Total current assets	126.2	151.9	55.0	63.5	190.2	159.4
Total assets	148.9	178.6	59.8	71.8	361.0	309.0
Total current liabilities	40.2	49.5	23.6	29.4	115.0	73.9
Long-term debt	0.0	0.0	0.0	0.0	125.9	125.9
Long-term debt and capital leases	0.0	0.0	0.0	0.0	127.3	127.3
Net worth	$108.8	$129.1	$ 36.2	$ 42.3	$115.5	$102.8
5-year average tax rate	49.5%	49.4%	48.0%	47.7%	46.1%	45.7%[b]
Stock price (end of year)	$18	$25	$18	$30	$17	$20
Beta	0.75	0.75	1.25	1.25	1.40	1.40
Return on sales	3.6%	3.7%	2.7%	2.8%	3.3%	(1.5)%
Return on assets	17.9	18.3	10.0	10.2	3.6	(1.9)
Return on capital	24.6	25.3	16.6	17.3	5.4	(2.6)
Return on equity	24.6%	25.3%	16.6%	17.3%	11.3%	(5.8)%
Common shares (millions)	16.19	16.15	8.11	8.13	7.35	7.05

C/C = cannot calculate because of a loss in at least one year.

N.Ap. = not applicable.

[a]Class A common stock.

[b]Four-year average because of loss during period.

Kelly Services, Inc.

EXHIBIT 5 • Pro Forma 1986 Results for Alternative Capital Structures (dollars in millions, except per-share data)

		Pro Forma Debt/Total Capital		
	Actual	*30 Percent*	*50 Percent*	*70 Percent*
Sales	$876.4	$876.4	$876.4	$876.4
Earnings before interest and taxes	64.0	64.0	64.0	64.0
Interest	0.0	4.8	8.1	11.3
Earnings before taxes	64.0	59.2	55.9	52.7
Taxes	31.4	29.6	28.0	26.4
Net earnings	$ 32.6	$ 29.6	$ 27.9	$ 26.4
Dividends	$ 8.9	$ 8.3	$ 7.8	$ 7.4
Shares outstanding (millions)	16.15	14.60	13.57	12.53
Earnings/share[a]	$ 2.02	$ 2.03	$ 2.06	$ 2.10
Price/earnings ratio	12.38×	N.Av.	N.Av.	N.Av.
Dividends/share	$ 0.55	$ 0.57	$ 0.58	$ 0.59
Dividend yield	2.20%	N.Av.	N.Av.	N.Av.
Beginning of year				
Debt	0.0	$ 38.7	$ 64.5	$ 90.4
Net worth	$129.1	90.4	64.6	38.7
Stock price/share	$ 25.0	N.Av.	N.Av.	N.Av.

N.Av. = not available.

[a]At a 50-percent tax rate, the EPS would be $1.98.

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NOVEMBER 17, 2011

WILLIAM E. FRUHAN
CRAIG STEPHENSON

Pacific Grove Spice Company

"Variety's the very spice of life, That gives it all its flavor."
—The Task: A Poem in Six Books, William Cowper, 1785.

As she sat in her office during July of 2011, Debra Peterson reflected on the opportunities and challenges facing the Pacific Grove Spice Company. Holder of degrees in Film Studies and Culinary Arts, Peterson had followed a nontraditional career path, which ultimately led to her appointment as president and CEO of Pacific five years ago. Cooking and the culinary arts had been riding a wave of popularity and growth for several years, and as a manufacturer, marketer, and distributor of high-quality spices and seasonings, Pacific had benefited from a mass change in perception: food as fuel was "out," and food as a celebration of taste and camaraderie was "in." Peterson and her staff had identified attractive internal and external opportunities for the company, but like many firms growing rapidly, Pacific's financial position and ability to fund this growth was stretched to the breaking point.

Spices and the Spice Industry

In many ways the history of spices is the history of humans and global commerce. By at least 3000 B.C. the ancient Egyptians were using spices in food, cosmetics, and embalming, and as the demand for spices increased, trade developed between producing and consuming regions. Spices from Africa and Asia were transported by caravans or sailing ships to the Middle East, Mediterranean, and Europe, and became sources of enormous wealth to cities and states active in the spice trade. Venice's dominant position in trade from Asia through the Middle East and into Europe forced other states to look for alternative sources and trade routes; beginning with Bartolomeu Dias in 1487, and continuing with Christopher Columbus, Vasco da Gama, and many others, the European powers competed for the riches associated with the spice trade. The expansion and importance of this trade in spices was perhaps best illustrated by the creation on March 20, 1602, of the world's first publicly traded business venture—the Vereenigde Oost-Indische Compagnie, better known today as the (Dutch) United East India Company, which was chartered in Amsterdam and granted a 21-year monopoly on East Indian trade. The spice trade had become big business at both the micro and

HBS Professor William E. Fruhan and Babson College Professor Craig Stephenson prepared this case solely as a basis for class discussion and not as an endorsement, a source of primary data, or an illustration of effective or ineffective management. This case, though based on real events, is fictionalized, and any resemblance to actual persons or entities is coincidental. There are occasional references to actual companies in the narration.

macro level, with the wealth and power of companies and nations rising and falling with their relative position in spices.

Spices continued to play an important role in kitchens and cooking until the late 20th century, when chefs began to "kick it up a notch" (the signature phrase of Chef Emeril Lagasse) as two separate cultural trends came together. The first of these started with the publication of *Mastering the Art of French Cooking* by Julia Child, Louisette Bertholle, and Simone Beck in 1961, and broadcast of "The French Chef" starring Julia Child in 1963. The book and television program began a movement toward the exotic and flavorful in American cooking, which continued unabated into 2011, when cooking programming was a staple on television, and many chefs had achieved celebrity status. High-quality cooking and cuisine was readily available, and many people changed their cooking habits accordingly, which translated into the purchase and use of more and better quality spices.

The second societal trend that increased the importance of spices to many American cooks was the growing concern about obesity and diet. Health-conscious consumers, who wished to reduce the amount of fat in their diets while maintaining flavor, could use spices and seasonings to improve the taste of low-fat meals. Low-fat ingredients, cleverly combined and enhanced with high-quality spices, could produce delicious and satisfying meals. This combined desire for healthier meals, which were also flavorful and often unusual, had a positive impact on the spice industry. By the year 2011, over 150 spice manufacturers were operating in the United States, attracted by the growing demand for the traditional and the new. Although the spice industry was dominated by large multinational firms like McCormick & Company and Associated British Foods plc, many small firms were competing successfully for a share of chefs' purchases and spice-rack space.

Pacific Grove Spice Company

Pacific had opened for business as a small specialty grocer on the Monterey Peninsula of California in the early 1980s, selling a selection of foods, coffees, teas, and spices. One of the founders, Judith Findra, was particularly interested in Asian and Indian Cuisine, and the store expanded its offerings of spices to support a wider range of international foods. Within 10 years the company became known as "the" place to find spices in Central California, and spices dominated the company's sales mix. By the 25th anniversary of its founding, the company's reputation, sales, and shipped orders covered all 50 states, with over 90% of sales made to high-end grocery stores—such as Whole Foods Market—and the remainder through an internet sales platform.

Debra Peterson had been hired to manage the company's retail distribution channel in the late 1990s, and soon after she assumed the role of Chief Operating Officer. As Pacific continued to grow its sales and profits, the founders began to de-emphasize their role, and in 2006 they stepped away from active management, naming Peterson president and CEO of the company. The transition had gone very well; Pacific's sales and profits had increased at a rapid rate, and this growth was forecast to continue. The company's most recent income statements and balance sheets, and four years of projections, are presented in **Exhibits 1** and **2**.

Pacific's mission statement emphasized its commitment to the highest quality and freshest spices. This required continuous searching and sampling of herbs and spices worldwide, as well as development of new seasonings and flavorings in the laboratory and test kitchen, to ensure Pacific delivered the finest culinary ingredients to retail and industrial customers. Its business model required significant investment in accounts receivable, inventory, and net property & equipment to support sales, and as the company's sales increased, its assets increased concurrently. Although the company was profitable and all of its net income was re-invested in the firm, retained earnings were not sufficient to fund the growth in assets necessary to support ever-increasing sales. The remainder

of Pacific's financing was provided by a large regional bank, through short-term notes payable backed by the company's accounts receivable, and long-term debt supported by the firm's other assets and earnings power.

The bank was willing to lend up to 81% of the company's accounts receivable balances, and given its robust growth in sales and assets, Pacific was continually at this limit. The bank preferred notes payable below the limit in the loan agreement, but the receivables were of excellent quality and the bank was comfortable with the amount borrowed. In addition, all of Pacific's bank debt carried an interest rate of Prime plus 500 basis points (Prime + 5%), earning a significant margin above the bank's cost of money.

The bank, or more precisely its credit committee and examiners, were unfortunately not as comfortable with the total amount of interest-bearing debt on Pacific's balance sheet. Beginning with the financial crisis of late-2008, banks had been under increasing oversight and pressure from regulators to limit exposure to potential loan losses. At the end of its most recent fiscal year the company had total debt of $37.172 million, equal to 62% of total assets and 216% of owners' equity. In addition, Pacific's equity multiplier (sometimes called financial leverage, and calculated as total assets divided by owners' equity) was 3.47 times, and times interest earned was only 2.15 times. The bank recently told Peterson that it wanted to see an action plan to reduce interest-bearing debt to less than 55% of total assets and the equity multiplier to less than 2.7 times by June 30, 2012. If this requirement was not met, the bank would refuse to extend any additional credit to Pacific, forcing the company to find a new source of funding at a time when credit was difficult to obtain.

Pacific's four-year financial projections in **Exhibits 1** and **2** had been prepared jointly by Peterson and the company's CFO, Fletcher Hodges, and they both agreed the forecasts were reasonable and attainable under the company's current business model. They expected the growth rate of sales would gradually decrease over the next four years, from the robust 19% achieved in fiscal 2011 to 9% in fiscal 2015, and that operating income would stabilize at 8.4% of sales. As the growth rate of sales decayed, the additional investment required each year to support sales would also decrease, and Peterson wondered if this combination of slower sales growth, slower asset growth, and additional profitability would be sufficient to quickly reduce the company's interest-bearing debt percentage and equity multiplier to the numbers demanded by the bank. One of CFO Hodges's young analysts was performing a financial ratio analysis of the projected income statement and balance sheet to determine if this was the case.

Beyond the financial constraints imposed on current operations by its bank, Peterson and Hodges were also evaluating three opportunities:

1. Should Pacific accept an offer from a cable cooking network to produce and sponsor a new program? This opportunity would increase the company's sales, profits, and cash flow above that presented in **Exhibit 1**, but would require investment in television equipment, capacity and working capital.

2. Should Pacific raise new equity capital by selling shares of common stock?

3. Should Pacific acquire High Country Seasonings—a privately owned spice company with sales revenue approximately 22% of Pacific's?

There's No Business Like Show Business

A well-known cooking network had signed a popular young chef, Lesley Buller, to a five-year contract to star in a new half-hour program. The network had approached Pacific to produce and sponsor the program, as the company's facilities were close to Buller's home, and having worked for Pacific during the summer of her high school and college years, she was friendly with company management. Negotiations with the network had produced a tentative agreement, and the finance team had prepared an investment analysis of the proposed deal. If the analysis showed a sufficiently high rate of return, Peterson would commit the company to the program.

Everyone believed the new program would have a significant positive impact; incremental sales created by the program in year one were expected to be $8,100,000, equal to one-tenth of Pacific's sales in fiscal 2011, with these sales growing at a 5% annual rate in the remaining four years. Cost of goods sold and promotional expense would be 58.5% and 11%, respectively, of each year's sales. General and administrative expense would be $760,000 in year one of the program, and would increase at a 5% rate per year. Depreciation expense on the capital investment associated with the program was not included in any of these cost numbers, and Pacific's marginal income tax rate would be 27%.

The up-front capital investment required to produce the program was relatively modest. Television equipment and productive capacity were expected to cost $1,440,000 and this investment would be depreciated straight-line over five years to zero salvage value. Pacific must also invest in more working capital to support the additional sales, with the investment in any year driven by the increase of sales or costs of goods sold in that same year compared to the prior year. The forecast bases for this working capital investment were that accounts receivable would equal 75 days of sales, inventory would turn over 4 times, and accounts payable would equal 30 days of cost of goods sold.

The investment analysis of the new television program is presented in **Exhibit 3**, and Peterson was very pleased with the cash flows and internal rate of return. The 41% IRR was outstanding, and after performing a quick sensitivity analysis on sales she determined that if sales made only 75% of forecast, and promotion and general and administrative expenses remained as forecast, the IRR was still 20%. "We're going into show business," thought Peterson, "if we can find a way to finance it."

Selling New Common Stock

One alternative to finance growth and reduce debt was to sell new common stock to outside investors. Pacific's common stock was traded on the NASDAQ, and with 1,165,327 shares outstanding and a current stock price of $32.60, the company's market value of equity was almost $38 million. The founders owned approximately 25% of these shares, Peterson owned about 7%, and the remainder was owned by other investors. Although not on the same scale as the NASDAQ tech giants, trading in Pacific's common stock was sufficiently active that its common stock could be easily bought or sold through market makers or electronic communication networks (ECNs).

Peterson hoped this liquid market for Pacific's common stock would facilitate its sale, but she knew that financial markets had been experiencing very high levels of volatility since the financial crisis of 2008. Investors' reaction to both positive and negative news about companies and the economy was fast and furious, which she assumed would make the sale of new common stock more difficult and possibly more expensive. One month ago Peterson had met with William Rodriguez, a college classmate and San Francisco investment banker, to explore the possible sale of new shares, and she had just received his report and offer: an investment group was willing to purchase 400,000 shares at a price which, after subtracting transaction costs and fees associated with the transaction,

would result in net proceeds to Pacific of $27.50 per share. Peterson had hoped to receive net proceeds much closer to the company's current market price, but Rodriguez told her that investors were especially anxious right now, and after approaching several potential investment groups, this was the best he could do. Peterson then asked about a seasoned equity offering to the public, but Rodriguez explained that a small company selling such a small number of shares would result in even higher transaction costs and fees, producing lower net proceeds to the company. Peterson respected Rodriguez both personally and professionally, so she realized the company would not be able to sell new common stock to outside investors on better terms.

High Country Seasonings

Peterson had one more opportunity to consider—the possible acquisition of High Country Seasonings, a small and successful privately held firm located along the Colorado Front Range. Like many companies in the industry, High Country had started as the idea of its founders, and after local success it had grown into a regional business with a growing clientele. The company had been founded by Martha and Carol Atwood in 1991, a partnership of two sisters which combined scientific precision and a flair for the adventurous, and the company produced and sold a selection of quality spices and unique seasonings. The most recent income statements and balance sheets for High Country are presented in **Exhibits 4** and **5**.

After 20 years of hard work, the sisters both agreed it was time to sell their 100% ownership stake in the business and pursue other interests. They had contacted several larger spice companies about a possible sale, and a strong mutual attraction developed between High Country and Pacific. High Country's products and brands would be a nice extension of Pacific's own offerings, and the Atwood sisters liked the idea of being acquired by Pacific; as long as the price was right. Negotiations between the parties revealed that the Atwood sisters would sell their company for $13.2 million, and they were firm on this price. This number represented 16 times High Country's fiscal 2011 net income, which was equal to Pacific's price-earnings ratio, and barely less than industry-leader McCormick & Company's P/E ratio of 17. The Atwoods told Peterson and her team, "The price is 16 time earnings. This multiple matches yours, and is just below McCormick's. We're a well-run and profitable company, and we're happy to be acquired by Pacific, but the price is 16 times earnings."

The Atwood sisters also insisted on a common-stock-only transaction; their entire ownership interest in High Country would be exchanged for 404,908 shares of Pacific worth $32.60 per share. This was very important to Martha and Carol Atwood, as their receipt of Pacific stock would not be a taxable event. They would recognize income and pay income taxes if and when they sold their Pacific stock in the future.

Peterson was confident that sales of High Country's spices and seasonings would increase when they were added to Pacific's larger marketing and distribution network. She anticipated High Country's revenues would grow by 7% in year 1, 6% in year 2, 5% in year 3, and 4.8% in later years (fiscal years 2012, 2013, 2014 and beyond, respectively). She also believed operating costs for High Country's products would quickly converge to Pacific's expected relationship with sales, as follows:

	2012	2013 and Beyond
Cost of goods sold	61.5%	58.5%
Research & development	1.0%	1.6%
Selling, general & administrative	30.1%	31.5%

Acquiring High Country also meant increasing operating asset and liability accounts to support sales, reducing free cash flows. When forecasting the asset accounts, Peterson anticipated that cash would equal 20 days of operating expenses, accounts receivable would be 75 days of sales, both inventory and net property & equipment would turnover 4 times, prepaid expenses would be 1.2% of sales, and other long-term assets would equal 4.5% of sales. For the liability accounts, accounts payable would equal 30 days of cost of goods sold, and accrued expenses would be 1.66% of sales.

Discounting the expected free cash flows from the acquisition at the appropriate cost of capital would reveal the value of High Country to Pacific. If this amount was greater than $13.2 million, then Pacific should accept the Atwoods' price and buy the company. The forecasts of sales, expenses, assets and liabilities were sufficient to calculate free cash flows, but Peterson also needed to determine the correct risk-adjusted discount rate. The cost of equity capital could not be directly calculated for High Country, since its equity beta coefficient was unobservable. The finance team had, however, collected financial information and equity beta coefficients for three peer firms in the industry, as well as other current financial market information, which is presented in **Exhibit 6**. Peterson also knew that High Country paid an interest rate of Prime + 4% on its bank loans—less than Pacific—due to its limited use of debt finance.

Peterson wondered how the acquisition would impact Pacific's financial statements. CFO Hodges told her that once the acquisition was completed the two firms' financial statements would be consolidated; High Country's income statement items would all be added to Pacific's, and the value of its assets and liabilities would be added to Pacific's balance sheet. If the Pacific stock issued to the Atwoods equaled High Country's book value of equity, then Pacific's common stock would increase by the value of the stock issued, and the balance sheet would balance. But if the value of the Pacific stock issued was greater than High Country's book value of equity, then common stock would still increase by the value of the stock issued, and the excess amount would be allocated to the intangible asset goodwill on Pacific's balance sheet. This goodwill would not be amortized like other physical assets; as long as the goodwill was not impaired—that is, an annual test determined High Country's business generated sales, net income, and cash flow as expected and priced in the acquisition—then goodwill would remain on the balance sheet. Peterson would agree to the acquisition only if the likelihood of success was very high, so she did not anticipate future impairment and write-down of any goodwill created by Pacific's purchase of High Country.

When forecasting the consolidated financial statements, Peterson assumed interest expense for the combined companies would increase by $200,000 in 2012 and $100,000 more each year from 2013 through 2015. She thought this was reasonable given interest-bearing debt would increase, and it also meant Peterson wouldn't have to iterate between the balance sheet and income statement. All net income would be retained, and bank notes payable would be the amount required to make liabilities plus owners' equity equal total assets.

After working through these issues, Peterson thought to herself, "The bank wants our debt levels reduced, we have a great opportunity to partner with Lesley Buller, we can sell $11 million of our common stock to outside investors, and for $13 million of our stock we can acquire High Country Seasonings. How do we select among these alternatives for maximum shareholder benefit?"

t 1 Income Statement ($ in millions except for price per share)

	Actual					Projected			
e Statement	06/30/07	06/30/08	06/30/09	06/30/10	06/30/11	06/30/12	06/30/13	06/30/14	06/30/15
les	$ 46.180	$ 53.107	$ 57.887	$ 68.017	$ 80.940	$ 93.081	$105.182	$116.751	$127.259
: Goods Sold	26.784	30.802	33.575	39.790	47.512	54.452	61.531	68.300	74.447
Profit Margin	19.396	22.305	24.312	28.227	33.428	38.629	43.650	48.452	52.813
:xpense	0.739	0.850	0.926	1.088	1.295	1.489	1.683	1.868	2.036
Expense	14.916	17.260	18.871	21.902	26.063	29.321	33.132	36.777	40.087
gs Before Interest & Taxes	3.741	4.195	4.515	5.237	6.070	7.819	8.835	9.807	10.690
t Expense	2.906	2.940	2.668	2.423	2.817	3.237	3.582	3.894	4.124
gs Before Income Taxes	0.835	1.255	1.847	2.814	3.253	4.581	5.254	5.913	6.566
₂ Taxes	0.225	0.339	0.499	0.760	0.879	1.237	1.418	1.597	1.773
:ome	0.610	0.916	1.348	2.054	2.374	3.344	3.835	4.316	4.793
h rate of sales		15.0%	9.0%	17.5%	19.0%	15.0%	13.0%	11.0%	9.0%
₂ tax rate assumed						27.0%	27.0%	27.0%	27.0%
Earnings Ratio					16.0				
t Value of Equity					$37.990				
on Shares Outstanding					1,165,327				
er share					$32.60				

it 2 Balance Sheet ($ in millions)

s	Actual					Projected			
	06/30/07	06/30/08	06/30/09	06/30/10	06/30/11	06/30/12	06/30/13	06/30/14	06/30/15
	$ 2.325	$ 2.680	$ 2.924	$ 3.440	$ 4.102	$ 4.672	$ 5.279	$ 5.860	$ 6.387
ınts Receivable	9.489	10.912	11.895	13.976	16.632	19.126	21.613	23.990	26.149
.tories	6.697	7.701	8.394	9.947	11.878	13.613	15.383	17.075	18.612
ıid Expenses	0.770	0.840	0.910	0.828	0.969	1.117	1.262	1.401	1.527
l Current Assets	19.281	22.133	24.123	28.191	33.581	38.528	43.537	48.326	52.675
'roperty & Equipment[a]	15.200	16.000	17.300	19.100	22.400	25.157	28.427	31.554	34.395
: Long-Term Assets	2.241	2.479	2.671	3.074	3.639	4.189	4.733	5.254	5.727
.l Assets	36.722	40.612	44.094	50.365	59.620	67.874	76.697	85.134	92.797
wth rate of assets		10.6%	8.6%	14.2%	18.4%	13.8%	13.0%	11.0%	9.0%
lities & Owners' Equity	**06/30/07**	**06/30/08**	**06/30/09**	**06/30/10**	**06/30/11**	**06/30/12**	**06/30/13**	**06/30/14**	**06/30/15**
Notes Payable	$ 7.669	$ 8.820	$ 9.613	$ 11.295	$ 13.442	$ 15.492	$ 17.506	$ 19.432	$ 21.181
unts Payable	2.203	2.532	2.760	3.271	3.905	4.476	5.057	5.614	6.119
ɜnt Portion of Long-Term Debt	0.973	1.060	1.124	1.240	1.483	1.614	1.751	1.842	1.869
ıed Expenses	0.771	0.884	0.965	1.129	1.345	1.545	1.746	1.938	2.113
ıl Current Liabilities	11.616	13.296	14.462	16.935	20.175	23.127	26.061	28.826	31.282
-Term Debt	14.600	15.894	16.862	18.606	22.247	24.204	26.258	27.614	28.028
ıl Liabilities	26.216	29.190	31.324	35.541	42.422	47.331	52.319	56.440	59.310
mon Stock	6.881	6.881	6.881	6.881	6.881	6.881	6.881	6.881	6.881
ned Earnings	3.625	4.541	5.889	7.943	10.317	13.661	17.497	21.813	26.606
ıl Shareholder Equity	10.506	11.422	12.770	14.824	17.198	20.543	24.378	28.694	33.488
Liabilities & Net Worth	36.722	40.612	44.094	50.365	59.620	67.874	76.697	85.134	92.797

property & equipment for all years is calculated as net property & equipment from the prior year, plus capital expenditures in the same year, minus depreciation expense in the same year.
:iation expense is included in reported operating expenses; it is not broken out separately.

xhibit 3 Capital Budgeting Analysis of Television Program Opportunity

Initial Investment Cash Flows	Year 0					
Equipment	-$1,440,000					
Growth Rate of Sales			5.0%	5.0%	5.0%	5.0%
Operating Cash Flows		Year 1	Year 2	Year 3	Year 4	Year 5
Sales		$ 8,100,000	$ 8,505,000	$ 8,930,250	$ 9,376,763	$ 9,845,601
Cost of Goods Sold at 58.5% of sales		4,738,500	4,975,425	5,224,196	5,485,406	5,759,676
Gross Profit Margin		3,361,500	3,529,575	3,706,054	3,891,356	4,085,924
Promotion Expense at 11% of sales		891,000	935,550	982,328	1,031,444	1,083,016
General & Administrative Expense		760,000	798,000	837,900	879,795	923,785
Depreciation Expense		288,000	288,000	288,000	288,000	288,000
Incremental Operating Profit		1,422,500	1,508,025	1,597,826	1,692,118	1,791,123
Income Taxes at 27%		384,075	407,167	431,413	456,872	483,603
Incremental Net Income		1,038,425	1,100,858	1,166,413	1,235,246	1,307,520
+ Depreciation Expense		288,000	288,000	288,000	288,000	288,000
Incremental Operating Cash Flow		1,326,425	1,388,858	1,454,413	1,523,246	1,595,520
Yearly Net Working Capital Investment		Year 1	Year 2	Year 3	Year 4	Year 5
Additional A/R at 75 Days Sales Outstanding		$ 1,664,384	$ 83,219	$ 87,380	$ 91,749	$ 96,337
Additional Inventory at 4 Inventory Turns		1,184,625	59,231	62,193	65,302	68,568
Additional A/P at 30 Days COGS		389,466	19,473	20,447	21,469	22,543
Total NWC Investment		-2,459,543	-122,977	-129,126	-135,582	-142,361
Terminal Cash Flows		Year 1	Year 2	Year 3	Year 4	Year 5
Recovery of NWC						$2,989,590
Total Project Cash Flows	-$1,440,000	-$1,133,118	$1,265,881	$1,325,287	$1,387,664	$4,442,748
Internal Rate of Return	41.28%					
Net Present Value at 20%	$1,716,414					
Net Present Value at 15%	$2,405,498					
Net Present Value at 10%	$3,278,174					

Exhibit 4 High Country Seasonings Income Statement ($ in millions)

Income Statement	06/30/08	06/30/09	06/30/10	06/30/11
Net Sales	$ 15.401	$ 15.919	$ 16.664	$ 17.564
Cost of Goods Sold	9.887	10.284	10.732	11.329
Gross Profit Margin	5.514	5.635	5.932	6.235
R&D Expense	0.000	0.000	0.000	0.000
SG&A Expense	4.359	4.553	4.816	5.041
Earnings Before Interest & Taxes	1.155	1.082	1.116	1.194
Interest Expense	0.057	0.072	0.060	0.063
Earnings Before Income Taxes	1.098	1.010	1.056	1.131
Income Taxes	0.297	0.273	0.285	0.306
Net Income	0.801	0.737	0.771	0.825
Dividends Paid	0.288	0.254	0.422	0.401

Exhibit 5 High Country Seasonings Balance Sheet ($ in millions)

Assets	06/30/08	06/30/09	06/30/10	06/30/11
Cash	$ 0.585	$ 0.610	$ 0.639	$ 0.673
Accounts Receivable	3.165	3.271	3.424	3.609
Inventories	2.060	2.142	2.236	2.360
Prepaid Expenses	0.231	0.239	0.250	0.263
Total Current Assets	6.041	6.262	6.549	6.905
Net Property & Equipment[a]	3.831	4.146	4.273	4.424
Other Long-Term Assets	0.462	0.477	0.500	0.527
Total Assets	10.334	10.885	11.322	11.856
Liabilities + Owners' Equity	**06/30/08**	**06/30/09**	**06/30/10**	**06/30/11**
Bank Notes Payable	$ 0.791	$ 0.818	$ 0.856	$ 0.902
Accounts Payable	0.813	0.845	0.882	0.931
Current Portion of Long-Term Debt	0.000	0.000	0.000	0.000
Accrued Expenses	0.262	0.271	0.283	0.299
Total Current Liabilities	1.866	1.934	2.021	2.132
Long-Term Debt	0.000	0.000	0.000	0.000
Total Liabilities	1.866	1.934	2.021	2.132
Common Stock	4.584	4.584	4.584	4.584
Retained Earnings	3.884	4.367	4.716	5.140
Total Shareholder Equity	8.468	8.951	9.300	9.724
Total Liabilities & Net Worth	10.334	10.885	11.322	11.856

[a] Net property & equipment for all years is calculated as net property & equipment from the prior year, plus capital expenditures in the same year, minus depreciation expense in the same year. Depreciation expense is included in reported operating expenses; it is not broken out separately.

it 6 Industry Information

	McCormick & Company[a]		ConAgra Foods[b]		Pacific Grove Spice Co.	
	2010	2011	2010	2011	2010	2011
revenue (in millions)	$3,336.8	$3,440.5	$12,014.9	$12,303.1	$68.0	$80.9
ıcome (in millions)	$370.2	$386.5	$725.8	$817.0	$2.1	$2.4
ıgs per share	$2.79	$2.92	$1.63	$1.90	$1.76	$2.04
ıg stock price	$44.01	$49.60	$24.02	$25.76	$25.87	$32.60
'earnings ratio	15.8	17.0	14.7	13.6	14.7	16.0
liabilities (in millions)	$1,957.0	$1,947.3	$6,809.1	$6,700.2	$35.5	$42.4
st-bearing debt (in millions)	$880.3	$989.7	$3,487.2	$3,233.8	$31.1	$37.2
value of equity (in millions)	$1,462.7	$1,642.1	$4,928.9	$4,708.5	$14.8	$17.2
; outstanding (in millions)	133.1	132.4	443.6	429.7	1.2	1.2
;t value of equity (in millions)	$5,857.7	$6,567.0	$10,655.3	$11,069.1	$30.1	$38.0
/ beta coefficient		0.50		0.60		0.85

'ormick's fiscal year-end is November 30. The 2011 data presents the most recent four quarters of income statement information and the May 31, 2011, balance sheet ıation.

Agra's fiscal year-end is May 31. The 2011 data presents the full 2011 fiscal year.

nt market interest rates in July of 2011:

term U.S. Treasury Bonds	4.25%
term AA Corporate Bonds	5.20%
Term BBB Corporate Bonds	5.65%
;t Risk Premium, S&P 500 vs. Long-term Treasuries	7.00%
Interest Rate	3.25%

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MARRIOTT CORPORATION

In January 1980, the management of Marriott Corporation (MC) faced an interesting dilemma: not only did the corporation have considerable excess debt capacity, but projections of future operations and cash flows indicated that this capacity would increase during the upcoming year. Management had stated that unused debt capacity was inconsistent with the goal of maximizing shareholder wealth. Excess debt capacity was viewed as comparable to unused plant capacity because the existing equity base could support additional productive assets.

Management's negative view of excess debt capacity had been strengthened by the rising inflation rates of the late 1970s, which were thought to increase the costs of unused debt capacity, both directly and indirectly. As stated in MC's 1979 annual report:

> Both the cost of equity and the cost of debt increase with inflation. However, as inflation accelerates, tax deductibility partially offsets the rising cost of debt. On the other hand, business absorbs the full inflationary impact of equity cost increases. A firm which prudently utilizes its full debt capacity substitutes marginally cheaper debt for more expensive equity, thus optimizing the weighted-cost of capital.

High inflation rates also had subtle effects on a firm's capital structure. Measured by its current value, debt previously committed at comparatively low interest rates actually declined in value. When the company's balance sheet was recast on a current-value basis, the debt-to-total-capital ratio actually declined, implying an increase in debt capacity.

Management was therefore faced with two problems. First, it needed to determine the amount of funds that would be available if MC's full debt capacity were utilized. Second, management needed to decide whether to invest the excess funds in new or existing businesses or to return them to the company's shareholders by paying higher cash dividends or repurchasing stock.

Marriott Corporation Background

Operations through 1974

The Marriott Corporation was founded by J. Willard Marriott in 1927 as a root beer stand. The family first broadened its operation in 1937 as a pioneer in the field of airline catering, and again in the 1950s when it entered the hotel business and began providing food-service management to hospitals. MC's period of greatest diversification occurred in the late 1960s when, in addition to expanding the company's existing businesses, MC management made the following moves: (1) acquired several foreign airline catering kitchens; (2) bought the Big Boy coffee shop chain; (3) obtained the rights to use Roy Rogers's name on a chain of family restaurants; (4) entered the amusement business by initiating plans to develop up to three theme parks; and (5) purchased a cruise ship business, the Sun Line Shipping Co.

The corporation's aggressive growth proceeded unchecked until 1975. From 1968 to 1974, both sales and net income increased at an average annual rate of 22%, while earnings per share nearly tripled. The absolute growth in the size of the corporation was perhaps best reflected in the quadrupling of its capital base in this seven-year period, as shown in **Exhibit 1**. By the end of 1975, the MC had been organized into the five operating groups described in **Exhibit 2**: restaurant operations; the business and professional services group; the hotels group; Sun Line Cruises; and theme parks.

In 1975, MC's profits declined for the first time in 20 years. While domestic sales and profits had grown during the year, their rates of growth were slowed and profit margins eroded by the combined effects of inflation and recession. In addition, the rapid business expansion resulting from management's targeted growth rate of 20% per year had generated sizable new-venture startup costs and significant increases in interest expenses. The major factor that affected MC's 1975 performance, however, was the $5.8 million loss incurred by Sun Line Cruises. Inflation had a devastating effect on this business, as rapidly escalating oil prices increased costs and declining consumer interest in cruise vacations reduced sales. The 1974 military coup and Turkish invasion of Cyprus, one of the company's areas of operation, further reduced the company's revenues.

The combined effect of all of these problems was a 12.6% decline in MC's 1975 net income and a 14% drop in earnings per share. The company's return on average equity reached a new low of 8.8%.[1]

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[1] Marriott changed the end of its operating year in 1978 from July to December to accommodate the seasonality of the theme parks. The financial statements for the five preceding years, 1974–1977, when restated to the new operating year, showed the following results for 1974–1975: net income increased 0.2%; earnings per share declined 1.4%; and return on average equity reached a low of 9.5%.

1975–1976 reappraisal

In view of the company's 1975 performance, MC management reassessed its long-term goals and developed the following objective: continue the company's growth by renewing the corporation's historic emphasis on the hotel business. But management believed that the company was too highly leveraged and too dependent on inflexible secured debt to reach this goal easily.

Until 1975, MC had relied on the traditional mortgage markets for most of its long-term financing. By the end of 1975, 63% of MC's long-term obligations (about 81% of the company's net worth) was in the form of secured debt. Roughly, 54% of MC's net property, plant, and equipment was pledged against this debt, making any significant modification to or disposition of these assets extremely difficult. This situation was regarded by MC management as a constraint on the company's maneuverability.

Furthermore, the corporation's continued expansion into the restaurant, catering, and amusement businesses had changed the composition of its assets. The assets associated with these new businesses could not be readily mortgaged. For instance, lenders were unwilling to grant mortgages on the assets associated with MC's theme parks. Originally estimated to cost $80 million, these assets had a final cost of $160 million. Lastly, the mortgage markets had shown wide swings in both interest rates and availability of funds. These variations raised additional questions about the future costs and availability of long-term mortgage debt financing.

In short, MC management viewed its continued reliance on the mortgage markets as a constraint on the company's growth and its ability to capitalize rapidly on high-return investments. Consequently, management decided to diversify the company's source of debt, by making MC an A-rated unsecured borrower and by developing a wider market for the debt associated with its hotels. Before it could take these steps, however, MC had to improve its returns and restructure its liabilities.

To increase the rate of growth in revenues, MC management accelerated the corporation's marketing efforts. Concurrently, cost-control programs were initiated to improve margins. Moreover, about $100 million of marginally productive assets were disposed of. Reflecting management's renewed commitment to the hotel business, the dispositions included several foreign airline-catering kitchens, the majority interest in an idle cruise ship, a security company, excess land around the existing theme parks, and land originally purchased in anticipation of a third theme park. **Exhibit 2** details the changes in MC's operating units between 1975 and 1979.

MC management also reduced planned capital expenditures and increased its hurdle rates for new investments. Some existing hotels were sold to counteract the capital intensity of the hotel business, although MC retained management contracts for these hotels, thereby keeping operational control of the units. MC also increased its reliance on off-balance-sheet financing as a further means

of reducing the company's capital intensity.[2] Finally, the company issued 1.25 million shares of common stock, the first equity issue since 1975.

Results through December 1978

The results of management's actions were almost immediately apparent. All key performance ratios had shown improvement as early as 1976, and the corporation's cash flow had increased very strongly, up 25% over the 1975 level. In addition, both the proportion of mortgage notes payable to total capital and the ratio of assets pledged to net property, plant, and equipment had declined, while the corporation's debt maturities had been lengthened. Management had decided that the corporation's annual cash flow should, at a minimum, equal the sum of the next five years' debt maturities. It was able to meet its self-imposed debt limit as early as 1976, when Marriott's cash flow exceeded its five-year debt maturities by 6%. Continued strong returns through 1977 allowed the corporation to place $40 million of 20-year unsecured debt.

Several further steps were taken during 1978. First, MC initiated the payment of cash dividends. In addition, management redefined its debt criterion: long-term debt was, at a minimum, to equal 45% of total capital.[3] And last, management adjusted the corporation's target debt rating from A to BBB. An A rating, management believed, was not all that desirable for growth-oriented companies that required financial flexibility. Furthermore, in the case of companies such as Marriott, which used borrowed funds to meet restrictive loan covenants relative to working capital requirements, the higher credit rating could also be more expensive. MC management had decided that the interest payments saved by less restrictive loan covenants relative to working-capital balances would more than offset the increased interest rates resulting from the lower credit rating.

By the end of 1978, management believed that MC was in a financially liquid and flexible position. Sales had increased 15%, but earnings were up 39%, more than double management's goal of 15% per year earnings growth. Marriott's cash flows had increased 22%, boosted both by the increased earnings as well as by the receipt of $35 million in after-tax proceeds from the sale of assets. The return on average equity had increased from the 1975 low of 9.5 to 14%. The return on total capital had risen from 13% to 16%.

For the most part, each of the corporation's business segments had done well during the period. While operating margins in the contract food service and restaurant groups had eroded slightly, those of the hotel group had increased, resulting in an overall 2% improvement in the corporate operating margin from 9% in 1975 to 11% in 1978. The major profit gains came from the theme parks—which began operations in 1976—and from a turnaround in the cruise ship business. **Exhibit 3** provides operating results for MC's five business groups.

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[2] By keeping its investments in ventures to less than 50%, management could, for accounting purposes, record its investments using the equity method, thereby increasing the rates of return earned.

[3] Long-term debt was defined as senior debt plus capital-lease obligations. Total capital was defined as total assets less current liabilities.

Long-term debt was at an all-time low of 37.5% of total capital, and the 1978 cash flow exceeded the sum of the next five years' debt maturities by 11%. These improvements led management to believe that it had $150 million in excess debt capacity.

1979 operating year

On the basis of MC's 1978 returns and those projected for 1979, management increased the company's capital budget for the year by 14% and repurchased five million shares of common stock at a cost of $74 million. This purchase was intended to offset the dilutive effects of the company's stock option plan.

Despite those major investments, MC's 1979 performance exceeded that of 1978, as shown in **Exhibits 4** and **5**. As a result, management continued to believe that the corporation was significantly underleveraged, despite the increase in debt to 41% of total capital.

In 1979, the Financial Accounting Standards Board required firms of Marriott's size to report the effects of inflation on their financial statements for the first time. The results of recasting Marriott's financial statements into constant dollar and current value bases are shown in **Exhibit 6**. MC management favored the current-value approach over the constant-dollar method for several reasons: (1) the company's assets were largely real-estate based and tended to appreciate rather than depreciate in value; (2) the assets were not subject to any major technological or competitive obsolescence that might necessitate their replacement; and (3) the company's annual repair and replacement costs traditionally averaged only 50% of the yearly depreciation charge. Management concluded that its reliance on the company's historical financial statements had caused it to undervalue MC's assets and overstate its liabilities. Once again, management believed that the company's debt capacity had been underestimated.

At the same time, management concluded that the debt-to-total-capital ratio was not the best measure of debt capacity because it ignored the market value of assets and liabilities, the reliability and size of cash flows, and the structural differences among competitors within an industry. Instead, management chose to measure debt capacity in terms of earnings' coverage of net interest. Specifically, management concluded that earnings before interest and taxes—adjusted for actual repair and replacement expenses rather than by the income statement's depreciation charge—should cover net interest five times. (**Exhibit 7** displays the results of applying this debt criterion to the company's historical financial data.)

The uncertainty about the best measure of the company's debt capacity spilled over into MC management's investment and capital-budgeting processes. Originally very project-oriented in its investment and financing decisions, management had taken a broader perspective when it diversified away from the mortgage markets. The use of unsecured debt had allowed management to separate the investment and financing decisions. It was still faced with determining the relationship between the corporation's debt capacity and the earning power of a given project. Management felt that MC's debt capacity was directly related to a project's ability to generate a reliable stream of cash to cover

the interest charges associated with its financing. This view implied that the corporation's prevailing debt criterion should be applied project by project in the capital-budgeting procedure.

Marriott's 1979 Investment Alternatives

While management did have considerable discretion in determining the best investments for the corporation,[4] each of the preceding decisions and factors—as well as the prevailing capital market conditions detailed in **Exhibit 8**—contributed to the complexity of the 1979 investment decision. Management had identified two general categories of investments:

- Promoting growth by expanding existing operations or diversifying into new businesses;
- Returning capital to the shareholders by increasing the company's dividends or by buying back some of the outstanding stock.

Promote Growth

Alternative 1: Accelerate expansion of existing businesses

MC management could increase its rate of investment in existing operations. The most promising area for investment was the hotel business. Although a mild recession was anticipated for early 1980, its effects on the lodging industry in general and on MC in particular were expected to be mild. MC hotels catered to business people and convention-goers, whose travel plans were less subject to change than those of vacationers. MC hotels had come through the 1970 recession and the even more severe one in 1974–1975 with healthy earnings increases. Prevailing trends in the lodging industry also appeared to favor rapid room expansion. Industry-wide construction had been somewhat constrained recently because of high interest rates, rising construction costs, and selective institutional lending.

An increase in the rate of hotel-room expansion also made sense from a competitive viewpoint. During the latter half of the 1970s, both Hilton and Holiday Inn, two of MC's major competitors, had diversified their investments away from the pure lodging business into gambling and casino ventures. MC management had decided to avoid the gambling business for ethical reasons and was in a good position to expand in the more traditional markets.

At the end of 1979, Marriott had 50 hotels in various stages of development. Completion of these units would result in about a 20% to 25% annual rate of growth in hotel rooms. More than half of those planned hotels were to be managed rather than wholly owned by the Marriott Corp. The

[4] Management's decision-making abilities were constrained only by the corporation's articles of incorporation, which required the approval of two-thirds of the outstanding shares for any merger, sale, or exchange of substantially all of the assets or businesses of the company.

large proportion of managed hotels among the planned units reflected management's emphasis on higher returns on invested capital rather than increased margins. The operating margin on a managed hotel was lower than that of an owned property—8% to 10% versus 15%, on average.[5]

If MC management chose to invest additional funds in the hotel business, it could do so in one of the following ways:[6]

1. Limited capital investment: MC could take up to a 50% equity position, thus minimizing its capital investment while maximizing the probability of being awarded the management contract on the property.
2. Full capital investment in a property with high and reasonably well-assured returns: MC could expand existing MC hotels where occupancy rates were high and the local market's demand was known and readily forecast.
3. Full capital investment but low entry cost: MC could acquire an existing hotel where the Marriott name, management expertise, and referral systems were expected to improve the property's results.
4. Capital put at risk in a new hotel at a new location.

Details regarding average construction costs for hotel properties are shown in **Exhibit 9**. Typically, motels operated in a 30-year life cycle: occupancy would increase dramatically in its first decade, with occupancy rates approaching 100% after about eight years, then decrease gradually over the subsequent twenty years.[7] In 1979, the average annual occupancy rate in the U.S. lodging industry was about 73%, slightly higher than the 1978 level of 72%. Marriott hotels, however, had an average occupancy rate of over 80% in 1979, well above the industry average.

Alternative 2: Diversify through acquisition

Marriott management could also use the company's funds to acquire another company. Management had every reason to believe that it could identify a company and a situation that would benefit from MC's principal asset: the operating expertise that cut across a broad range of food service, lodging, and entertainment businesses.

Exhibit 10 displays recent data on merger and acquisition activity in the market.

Return Shareholders' Capital

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[5] Joseph J. Doyle, "Marriott Corporation–Lodging and Restaurants–01/03/1979." Research report for Smith Barney Harris Upham & Co., Inc., (New York, New York).

[6] Doyle, "Marriott Corporation–Lodging and Restaurants."

[7] Stephen Rushmore, "The Appraisal of Lodging Facilities," *The Cornell Hotel and Restaurant Administration Quarterly*, August 1978.

Alternative 3: Increase dividends

MC management could also increase the company's cash dividends. Although a single lump-sum payment could be made to the shareholders, this tactic would offer only a short-term solution to the company's problem of excess debt capacity and steadily increasing cash flows. A permanent increase in the company's payout ratio seemed a more reasonable alternative.

A major increase in cash dividends had significant ramifications for existing shareholders as well as for potential investors.

Per-share and other financial data for MC and its principal competitors are shown in **Exhibits 11** and **12**.

Alternative 4: Repurchase shares of common stock

A repurchase of common stock carried with it many of the same advantages and disadvantages as the previous alternative. Most serious, potentially, was the possible market interpretation of the move: the idea that MC had fully utilized its growth opportunities. The fact that management had only recently repurchased about five million shares on the open market was also of some significance. By shrinking the company in this manner, however, management had expected that the company's earnings per share and return on equity would increase enough to offset any negative interpretation of the strategy. Trends in Marriott's stock price relative to those of its major competitors are shown in **Exhibit 12**.

If management selected this alternative, it would need to make several decisions:

- Number of shares to tender.
- Price at which to tender the shares.
- Whether to retire the shares repurchased.

At the end of 1979, the Marriott family owned about 6.5 million shares of the company's common stock. Nonfamily members of management owned an additional 1.5 million shares through the company's stock option and profit-sharing plans. Ownership of the remaining shares was largely dispersed among about 50,000 shareholders.

Exhibit 1

MARRIOTT CORPORATION

Historic Performance[1]

	Sales % Change/Year	Net Income % Change/Year	PAT/Average Equity/Year	Predebt Cash Flow[2] % Change/Year	Average Capital[3] % Change/Year	Predebt Cash Flow/Average Capital	Debt/ Total Capital[4]
1968	35.0%	23.1%	N.Av	N.Av	N.Av.	N.Av	49.0%
1969	31.0	20.6	12.9	28.0%	N.Av.	13.1	43.4
1970	23.0	23.9	12.9	36.2	32.6%	13.4	49.4
1971	10.6	24.3	12.4	27.4	25.9	13.6	48.0
1972	20.2	28.7	11.6	22.3	23.9	13.4	49.7
1973	27.3	18.3	11.2	20.0	21.6	13.2	53.4
1974	19.0	15.8	11.4	25.3	20.1	13.8	50.4
1975	14.4	(12.6)	8.8	10.0	18.9	12.8	54.1
1976[5]	21.6	43.1	10.7	23.0	15.9	13.5	50.5
1977	15.3	17.5	10.7	11.2	6.9	14.1	45.3
1978	14.6	29.9	12.3	15.1	0.4	16.1	38.2

Exhibit 2

MARRIOTT CORPORATION

Corporate Activities, 1975 and 1979

Operating Group	Number of Units	
Restaurant operations group	7/25/75	12/28/79
Company-owned restaurants	407	476
Dinner houses and restaurants	18	9
Ice cream parlor restaurants(Farrell's)	83	77
Cafeterias (principally Hot Shoppes)	40	16
Coffee shops (principally Bob's Big Boy)	132	180
Fast foods (principally Roy Rogers)	124	194
Franchised restaurants	846	1,013
Coffee shops (Big Boys)	746	901
Ice cream parlor restaurants (Farrell's)	22	32
Fast foods (Roy Rogers)	78	80
Production facilities		
Kitchens providing food research and production for Marriott restaurants, hotels, and flight kitchens as well as for sale to the food service industry and retail food chains	2	0
Business and Professional Services Group (Subsequently named Contract Food Services)		
Domestic flight kitchens (airline catering)	40	39
International flight kitchens (airline catering)	20	23
Management contracts: provision of food services to business and industry, health care and educational institutions, highway restaurants, etc.	168	217
Airline terminal contracts	10	12
Special services (including institutional catering from in-flight kitchens and food service to auto-train passengers)	19	0
Security systems	12	0
Hotels Group		
Company-owned properties		
Hotels	19[1]	20
Rooms	8,371	8,348

Operating Group	Number of Units	
Hotels Group (cont'd)		
Company-managed properties	7/25/75	12/28/79
Hotels	11	27
Rooms	4,616	12,608
Franchised Marriott Inns		
Inns	12	18
Rooms	2,841	5,328
Resort/hotel condominiums		
Properties where condominiums are held for retail sale	2	1
Full-service travel bureau	1	0
Sun Line Cruises		
Number of ships	3	3
Theme Parks (completed in 1976)	0	2

Source: Marriott Corporation Annual Reports, 1975 and 1979.

Exhibit 3

MARRIOTT CORPORATION

Segment Data (dollars in millions)

	Unaudited									
Fiscal Year	1975		1976		1977		1978		1979	
Sales	Dollars	%	Dollars	%	Dollars	%	Dollars	%	Dollars	%
Hotel group	$238.30	31%	$281.30	30	$334.70	31	$408.30	33%	$535.00	35%
Contract food serv.	256.3	33	289.4	30	342.6	31	388	31	479.8	32
Restaurant group	267.3	34	295.4	31	316.9	29	347.2	28	377.3	25
Theme parks	0	0	64.1	7	71.9	7	75.5	6	83.9	6
Cruise ships & other	14	2	16.5	2	24.2	2	30.6	2	34	2
Total sales	$775.90	100%	$946.70	100%	$1,090.30	100%	$1,249.60	100%	$1,510.00	100%
Operating Profit										
Hotel group	$33.30	47	$38.10	41	$54.10	47	$66.50	49	$86.60	51
Contract food serv.	18.7	26	19.2	20	21.2	18	23.5	17	31.6	18
Restaurant group	21.7	31	20.2	22	26.1	23	27.6	21	28.5	17
Theme parks	0	0	14.7	16	10	9	11.8	9	17.5	10
Cruise ships & other	–2.6	–4	–0.9	1	4	3	4.8	4	6.4	4
Total operating profit	$71.10	100%	$93.10	100%	$115.40	100%	$134.20	100%	$170.60	100%
Gross Margin										
Hotel group		14.00		13.50		16.20		16.30		16.20
Contract food services		7.3		6.6		6.2		6.1		6.6
Restaurant group		8.1		6.8		8.2		8		7.6
Theme parks		0		22.9		13.9		15.6		20.9
Cruise ships and other		18.6		5.5		16.5		15.7		18.8
Total Marriott		9.10%		9.80%		10.60%		10.70%		11.30%

Exhibit 3 (continued)

	Identifiable Assets			Net Assets Employed[3]		
Segment	1977	1978	1979	1977	1978	1979
Hotel Group	$379.10	$351.20	$434.30	$353.70	$303.60	$371.90
Contract food Services	127.9	138.6	163.2	99.3	99.3	124
Restaurant group	162	184.9	198.8	143.8	161.7	175.4
Theme parks[2]	169	167.5	163.9	164	161.4	158
Cruise ships and other	45.1	43.9	45.3	36	32	32
Corporate	66.4	114.2	75.9	32.9	68.9	30.6
Total	$949.5	$1,000.30	$1,080.4	$823.70	$826.90	$891.90

	Capital Expenditures and Acquisitions			Depreciation and Amortization		
Segment	1977	1978	1979	1977	1978	1979
Hotel group	$43.10	$62.90	$80.60	$17.70	$16.00	$16.00
Contract food serv.	9.9	10.8	20.3	7.4	7.9	7.6
Restaurant group	23.7	34.1	45	11.8	12.5	14.7
Theme parks[2]	9.7	9.2	6.3	7.9	8	9.2
Cruise ships and other	0.8	0.4	1.2	1.7	1.8	1.4
Corporate	11.2	21.7	5.1	0.8	0.9	1.7
Total	$98.40	$139.10	$158.50	$47.30	$47.10	$50.60

	Sales/Total Capital[1,3]			Return on Capital Operating Profit/Total Capital[1,3]		
Segment	1977	1978	1979	1977	1978	1979
Hotel group	0.95%	1.34%	1.44%	15.3%	21.90%	23.30%
Contract food services	3.67	3.91	3.87	22.7	23.70	25.5
Restaurant group	2.20	2.15	2.15	18.2	17.10	16.3
Theme parks	0.44	0.47	0.53	6.1	7.30	11.1
Cruise ships and other	0.67	0.96	1.06	11.1	15.00	20.0
Total Marriott	1.32	1.51	1.69	14.0	16.20	19.1

Source: Marriott Corporation Annual Reports, 12/28/79 and 12/29/78. The company changed its year end in 1978 to the Friday closest to December 31. The segment results are presented on the new fiscal-year basis. The unaudited data for 1975 and 1976 as restated were prepared using the same procedures employed to obtain the audited 1977 and 1978 results.

[1] Operating profit represents total operating results before interest, corporate administrative expense, unallocated corporate charges, and dispositions of business and idle property.

[2] Theme park operating results for 1976 are not comparable with subsequent years because the initial year did not bear the full burden of off-season costs and included charges for depreciation and real estate taxes only from the opening of the parks.

[3] Net Identifiable Assets = Total Identifiable Assets − Identifiable Current Liabilities = Total Capital.

Exhibit 4

MARRIOTT CORPORATION

Consolidated Income Statements (dollars in hundreds, except for per-share data)

Year Ending	12/25/1975	12/30/1976	12/30/77	12/29/78[1]	12/28/79[1]
Sales	$732,396	$890,403	$1,090,313	$1,249,595	$1,509,957
Costs and expenses:					
Cost of sales and operating expenses	533,222	647,044	815,510	935,504	1,135,855
General and administrative expenses	31,469	35,023	43,935	50,182	53,616
Rent	30,427	34,146	–	–	–
Taxes, payroll, etc.	28,455	35,929	45,246	50,300	56,495
Depreciation and amortization[2]	30,637	36,119	47,279	47,144	50,495
Advertising and promotion	12,289	18,858	28,518	34,901	46,535
Gross interest	28,328	31,187	32,565	28,454	32,545
Interest capitalized	−10,353	−10,432	−2,359	−4,766	−4,705
Net interest	17,975	20,755	30,206	23,688	27,840
Profit-sharing contributions	3,604	4,582	5,730	7,792	10,337
Preopening and development expenses	5,911	6,183	4,766	4,785	5,511
Total costs and expenses	$693,989	$838,639	$1,021,190	$1,154,296	$1,386,812
Profit before taxes	38,407	51,764	69,123	95,299	123,145
Gross taxes	19,564	26,819	34,638	46,334	58,879
Invest. tax credit (flow-through)[3]	−2,975	−5,900	−4,565	−5,335	−6,734
Net taxes	16,589	20,919	30,073	40,999	52,145
Profit after taxes	21,818	30,845	39,050	54,300	71,000
Primary EPS	$0.66	$0.90	$1.04	$1,43	$1.96
Fully diluted EPS	N.Av	N.Av.	$1.04	$1,43	1.95
Cash dividends/share[4]	N.Av	N.Av.	0.3	0.13	0.17
Funds from operations[5]	70,320	87,543	99,834	121,588	140,934
Capital expenditures	$159,178	$143,235	$81,887	$134,738	$149,000

[1] Data for 1975–1976, if restated to an operating year ending in December, would show the results summarized in the table on the next page (data is unaudited):

[2] Depreciation and amortization are accounted for on a straight-line basis.

[3] Investment tax credits are accounted for using the flow-through method.

[4] Marriott issued 2.5% stock dividends annually 1970–1977, except in 1972 when the stock split two-for-one.

[5] Funds provided from operations: net income plus depreciation, deferred taxes, and other items not requiring current outlay of working capital.

Exhibit 4 (continued)

(millions of dollars)	12/1975	12/1976
Sales	$775.90	$946.70
Operating expenses	704.8	853.6
Gross interest	33.5	33.2
Interest capitalized	−10.5	−6.4
Net interest	23	26.8
Corporate expenses + income + dispositions	8	13.4
Profit before taxes	40.1	52.9
Gross taxes	20.3	26
Investment tax credit	−4.4	−5.1
Net taxes	15.9	20.9
Profit after taxes	$24.20	$32.00
Fully diluted earnings per share	$0.69	$0.86
Funds provided from operations	$77.60	$92.20
Capital expenditures	154.6	113.4

Exhibit 5

MARRIOTT CORPORATION

Consolidated Balance Sheets[1]
(dollars in thousands)

	Year Ended				
	7/25/75	7/30/76	12/30/77	12/29/78	12/28/79
Assets/ Current assets					
Cash and equivalent	$18,318	$17,760	$16,990	$14,747	$12,445
Marketable securities at cost	6,490	2,993	–	38,510	8,825
Accounts receivable	43,588	50,293	61,484	76,774	99,955
Inventories (FIFO)	27,667	35,504	41,498	41,108	46,629
Prepaid expenses	4,492	7,580	9,444	9,571	9,868
Total current assets	$100,555	$114,130	$139,416	$180,710	$177,722
Lincolnshire Hotel (net assets under sale/leaseback)	7,282	–	–	–	–
Property and equipment					
Land	$58,932	$73,784	$106,919	$100,053	$103,009
Buildings and improvements	174,053	270,686	293,679	264,038	323,059
Leasehold improvements	165,742	198,280	213,118	213,791	251,409
Furniture/equipment	164,967	228,401	248,066	250,265	284,733
Capital leases	–	–	53,408	29,243	29,724
Cruise ships	11,219	11,367	11,441	11,814	11,903
Idle land and ship	33,262	37,610	–	–	–
Construction in progress	98,044	16,483	29,441	88,270	62,501
Total property and equipment	706,219	836,611	956,072	957,474	1,066,338
Depreciation and amortization	−128,169	−155,218	−204,152	−212,430	−241,160
Net property and equipment	$578,050	$681,393	$751,920	$745,044	$825,178
Other assets					
Investment in/advances to affiliates[2]	$11,557	$10,467	$26,548	$25,506	$27,160
Goodwill	18,960	18,656	17,549	19,257	19,106
Notes receivable	–	–	11,670	17,805	16,284
Deferred preopening costs	5,636	5,388	–	–	–
Other	14,470	14,192	12,407	11,933	14,915
Total other assets	50,623	48,703	68,174	74,501	77,465
Total assets	$736,510	$844,226	$949,510	$1,000,255	$1,080,365

[1] Data for 1975 do not reflect changes in accounting requirements relative to capital leases that were adopted in subsequent years. When instituted in the July 1978 financial statements, the change had the cumulative effect of a $2.4-million decline in the 1976 retained earnings balance of $63.6 million.

[2] The aggregated numbers (dollars in millions) and balance-sheet characteristics of Marriott's affiliates in 1975 and 1979 are summarized below:

	Number of Investments	Total Assets	Total Liabilities	Total Equity
July 1975	2	$53	$46	9
December 1979 (5 of 11 investments)	11	$211	$155	56

Exhibit 5 (continued)

	Year Ended				
	7/25/75	7/30/76	12/30/77	12/29/78	12/28/79
Liab. and shareholders' equity/current liabilities					
Short-term loans	$2,752	$2,989	$3,976	$3,473	$4,054
Accounts payable	33,111	41,503	46,666	66,960	71,528
Accrued liabilities	37,843	43,653	51,376	72,509	79,909
Income taxes payable	–	–	13,034	18,672	22,511
Current portion of debt and capitalized leases	11,424	10,119	10,813	11,758	10,497
Total current liabilities	$85,130	$98,264	$125,865	$173,372	$188,499
Senior debt					
Interim constr. financing	$4,948	$16,000	–	–	–
Mortgage notes payable[3]	207,135	219,906	214,090	175,565	163,520
Unsecured notes payable	117,941	115,022	107,332	110,457	178,075
Total senior debt	330,024	350,928	321,42	286,022	341,595
Capital lease obligations	–	–	48,092	23,877	23,684
Deferred income taxes	$34,514	$47,343	$56,385	$59,903	$65,597
Deferred income and other liabilities	866	1,007	2,435	10,260	20,569
Convertible substitute debentures	32,240	31,340	29,515	28,165	26,918
Shareholders' equity					
Common stock ($1 par)[4]	$32,507	$35,567	$36,674	$36,891	$36,900
Capital surplus	169,974	212,250	222,785	224,915	224,533
Net deferred compensation payable in stock	3,256	3,952	4,967	6,350	7,670
Retained earnings	47,999	63,575	103,037	152,555	217,779
Treasury stock, at cost	N.Av	N.Av	−1,667	−2,055	−73,379
Total equity	253,736	315,344	365,796	418,656	413,503
Total liabilities & shareholders' equity	$736,510	$844,226	$949,510	$1,000,255	$1,080,365

Source: Marriott Corporation Annual Reports. Data for 1975–1976 do not reflect changes in accounting requirements relative to capital leases that were adopted in subsequent years. When instituted in the July 1978 financial statements, the change had the cumulative effect of a $2.4-million decline in the 1976 retained earnings balance of $63.6 million.

[3] The value of the net assets pledged against this debt was estimated at $243 million in 1975 and $293 million in 1979.

[4] Movements in Marriott's common stock accounts are summarized below:

	7/26/74–7/25/75	7/25/75–7/29/77	7/30/76–7/29/77	12/30/77–12/29/78	12/29/78–12/28/79
Opening numbers of shares	31,183	32,507	35,567	36,507	36,715
Shares issued	1,324	3,060	1,101	385	235
Shares repurchased	–	–	–	177	4,851
Closing numbers of shares	32,507	35,567	36,668	36,715	32,098
Estimated number of shareholders, end of period	43,200	47,000	52,800	50,700	N.Av

Exhibit 6

MARRIOTT CORPORATION

Inflation-Adjusted Financial Statements[1]
(dollars in thousands)

A. Current Value Accounting: Changes in shareholders' equity[2]	
Current value, December 29, 1978	$ 767,719
Discretionary cash flow	99,123
Reduction in current value of debt	25,287
Increase in current value of assets	77,227
Purchase of treasury stock	(74,187)
Cash dividends	(5,776)
Common stock issued and other	3,810
Current value, December 28, 1979	$ 893,203[3]

Shareholders' equity, 12/28/79	*Historical Cost*	*Current Value*
Nonmonetary assets		
(primarily property and equipment)	$927,287	$1,356,244
Less: net monetary liabilities-		
Senior debt and capital leases	365,279	320,736
Convertible debt	26,918	20,718
Other monetary liabilities, net	121,587	121,587
	513,784	463,011
Shareholders' equity	$ 413,503	$ 893,203
Senior debt and capital leases to total capital	41%	24%

Gain from decline in purchasing power of net monetary liabilities	
Negative working capital	$ 6,322
Debt and other monetary liabilities	48,787
Total gain	$ 55,109

B. Total constant-dollar accounting (average 1979 dollars):	*12/28/79*
Net income as reported	$ 71,000
Constant-dollar adjustments	
Cost of sales	(5,203)
Depreciation and amortization of property and equipment	(18,427)
Total constant-dollar adjustments	(23,630)
Constant-dollar net income	$ 47,370
Constant-dollar gain from decline in purchasing power of net amounts owed	$ 55,109
Constant-dollar net income per share (excluding the gain from the decline in purchasing power of net amounts owed)	$1.31
Shareholders' equity (constant 1979 dollars)	$ 703,598
Effective 1979 income tax rate	52.4%

Exhibit 6 (continued)

C. *Five-Year Comparison of Selected Supplementary Financial Data Adjusted for the Effects of Changing Prices (Average 1979 dollars)*

Fiscal Years Ended	*Net Sales and Other Operating Revenue*	*Cash Dividends Declared per Common Share*	*Market Price per Common Share at Year End*	*Average Consumer Price Index*
1975	$1,045,878		$20.17	161.2
1976	1,206,576		16.88	170.5
1977	1,305,371	0.04	13.73	181.5
1978	1,389,647	0.14	12.99	195.4
1979	1,509,957	0.17	16.53	217.4

[1] Property and equipment and investments in affiliates are valued on a discounted cash-flow basis. Projections of future cash flows are adjusted to reflect anticipated asset maintenance requirements. Good will is assigned no value. The interest rates used to discount the cash flows reflect current market rates.

[2] If the current value of existing hotel management agreements were included in the data, this figure would increase by about $275.8 million to $1,169 million.

Source: Marriott Corporation, 1979 Annual Report

Exhibit 7

MARRIOTT CORPORATION

Alternative Measurements of Debt and Marriott Results

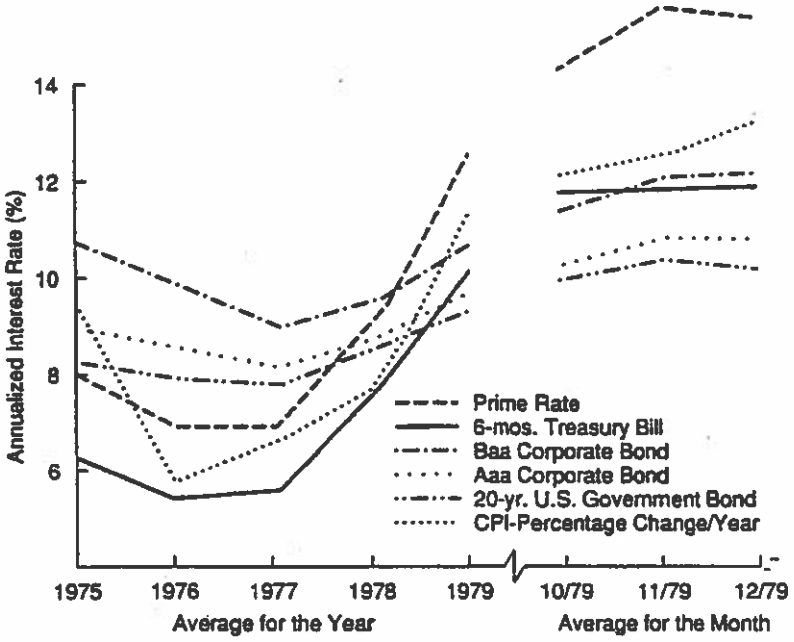
	1974	1975	1976	1977	1978	1979
1. Cash flow/year/five-year debt maturities[1]	0.63	0.84	1.06	1.11	1.15	N.Av.
2. (Senior debt + Capital leases)/ (Total assets-current liabilities)[2]	53%	55%	48%	45%	38%	41%
3. EBIT/Net interest[2]	3.06	2.74	2.98	3.29	5.02	5.42
4. EBIT adjusted/net interest[2,3]	3.74 est.	3.51	3.80	4.27	6.43	6.64
5. EBIT-adjusted/gross interest[2]	2.65 est.	2.40	3.07	3.95	5.35	5.66

[1] Data reflect July fiscal year. Figure for 1978, if restated to December calendar year, would be 1.19.
[2] Data reflect December calendar year.
[3] EBIT adjusted = EBIT + Depreciation - Actual repairs/replacements.

Exhibit 8

MARRIOTT CORPORATION

Market Data: 1975–1979



Source: *Federal Reserve Bulletin*. CPI data compiled by Economic Studies Center, Tayloe Murphy Institute at the University of Virginia.

Exhibit 9

MARRIOTT CORPORATION

Typical Hotel-Motel Costs per Room
1978 ($000s)

	Improvements	Furniture, Fixtures, and Equipment	Land	Preopening	Operating Capital	Total
Luxury	$32–55	$5–10	$4.0–12.0	$1.0–2.0	$1.0–1.5	$43.0–0.5
Standard	20–32	3–6	2.5–7.0	0.75–1.5	0.75–1.0	27.0–47.5
Economy	8–15	2–4	1.0–3.5	0.5–1.0	0.5–0.75	12.0–24.25

Source: Stephen Rushmore, "The Appraisal of Lodging Facilities," *The Cornell Hotel and Restaurant Administration Quarterly*, August 1978.

Exhibit 10

MARRIOTT CORPORATION

Data on the Merger and Acquisition Market, 1975–1978
(dollars in millions)

Year and Market Value of Companies Receiving Tender Offers		Number of Tender Offers Received	Average 5-Year Sales Growth per Year[1]	Average 5-Year Earnings Growth per Year[1]	Market Price/ Book Value[2] (average)	Market Price/ Earnings Ratio[2] (average)	Market Price/ Cash Flow[2] (average)	Average Return on Equity[2]	Average Total Debt/ Equity[2]	Tender Price/ Market Value = Premium[2]
1975	$20	6	5.5%	11.3%	0.52	7.72	4.06	7.5	.94	49.97
	$20–250	6	19.8	29.2	1.03	6.6	4.87	15.6	.75	44.65
	$250	–	–	–	–	–	–	–	–	–
1976	$20	2	8.9	N.A.	0.45	7.6	4.39	6	.46	29.56
	$20–250	11	17.3	20.7	1.45	11.81	6.83	16.6	1.43	28.98
	$250	3	13.8	13.2	1.37	10.77	7.3	12.8	.99	43.25
1977	$20	1	4.2	N.A.	0.72	10.69	3.55	7	1.76	36.50
	$20–250	12	12.7	12.8	1.52	9.43	5.46	16.7	1.19	39.64
	$250	6	12.9	19.9	1.56	9.29	7.99	14.9	.71	62.55
1978	$20	–	–	–	–	–	–	–	–	–
	$20–250	10	11.5	3.7	1.15	7.37	4.17	18.6	1.70	60.05
	$250	3	10.9	17.9	1.32	6.38	4.58	19.7	1.13	35.30
Control group[3]										
1978	$20	–	18.8	6.3	1.05	9.0	4.3	6.0	1.32	N.App.
	$20–250	–	14.1	13.5	1.74	8.9	6.46	19.2	.54	N.App.
	$250	–	18.3	10.2	1.49	8.8	5.8	17.3	1.07	N.App.

[1] Five years prior to tender offer.
[2] All numbers reflect actual data two weeks prior to receipt of tender offer.
[3] Control group is random sample of companies in operation in 1978 which did not receive tender offers.

Exhibit 11

MARRIOTT CORPORATION

Travel Services Industry Competitors: Historical Data
(dollars in millions, except per-share data or as noted)

Company and Year	Annual Revenues	Annual Profit After Tax	Return on Average Equity	Debt/Total Capital	Primary Earnings per Share	Cash Flow per Share	Dividends per Share	Average Equity/Average Shares	Average Market Price	Beta
Holiday Inns										
1975	$912	$41.0	9.4%	36.9%	$1.36	$3.43	$0.35	$14.73	$11.65	1.50
1978	1,188	63.0	11.9	33.3	2.04	4.17	0.56	17.74	18.77	1.55
1979	1,092	71.0	12.0	31.1	2.25	3.47	0.66	19.03	18.48	1.60
Hilton Hotels										
1975	351	42.0	20.5	34.7	1.43	2.35	0.28	7.26	6.05	1.40
1978	444	68.0	26.6	36.0	2.62	3.72	0.74	10.88	20.70	1.45
1979	484	99.0	29.1	23.4	3.76	4.77	1.09	13.51	29.33	1.40
Ramada Inns										
1975	212	1.0	0.8	67.0	0.04	0.59	0.06	4.88	4.00[1]	1.70
1978	308	10.2	7.1	63.7	0.40	1.09	0.12	5.54	7.56	1.55
1979	348	15.5	10.2	63.3	0.57	1.39	0.12	5.66	10.43	1.50
Marriott										
1975	732	21.8	9.0	55.5	0.65	1.54	N.App.	7.12	10.99	1.55
1978	1,250	54.3	14.0	40.9	1.43	2.57	0.13	10.22	11.34	1.55
1979	1,510	71.0	17.1	44.0	1.96	3.79	0.17	11.75	14.90	1.50
S&P 500										
1975	999.7B	50.9B	12.4	31.0	2.31	4.22	1.01	19.14	22.80	1.00
1978	1,454.0B	82.7B	15.1	29.0	3.52	6.00	1.44	23.97	27.43	1.00
1979	1,725.6B	101.2B	16.7	29.0	4.25	7.04	1.61	26.19	29.29	1.00

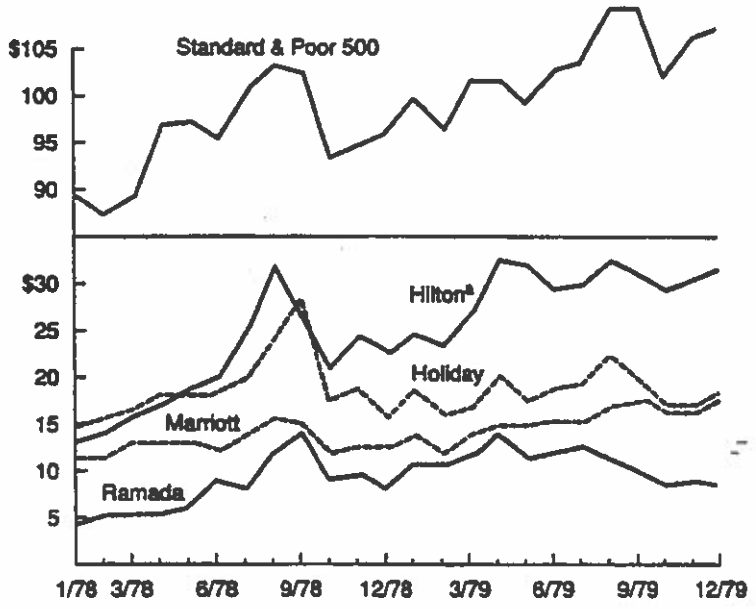
[1] Estimated.

Sources: Value Line; Standard & Poor's Computer Services, Inc., and S&P Standard NYSE Stock Reports.

Exhibit 12

MARRIOTT CORPORATION

Comparative Common Stock Data, 1978–1979
(monthly closing price)



Source: New York Stock Exchange Daily Stock Index.
[a] Market price per share for Hilton has been adjusted for a two-for-one stock split in December 1978.

Case

Philip Morris, Incorporated: Seven-Up Acquisition (A)

The decision had been made. Philip Morris, Inc., (PM) was going to make a takeover bid for the Seven-Up Company. The difficulties and intricacies of that decision paled, however, in the face of the next one: at what price should PM management make its tender offer?

It was the latter half of April 1978, and in the face of an increasingly active merger/acquisition market, PM management recognized the need for the utmost speed and secrecy in developing its bidding strategy.

Background

Philip Morris, Inc., was one of the 50 largest companies in the United States in 1977 with revenues of $5.2 billion and an asset base of $4 billion. The company had achieved record increases in sales and earnings over the 5 years ending 1977, as shown in Exhibit 1, and its stock was extremely highly rated. However, while market analysts predicted that PM's annual sales growth would continue at 13 to 14 percent between 1977 and 1982, earnings were expected to increase by only 12 to 13 percent per year.

Philip Morris, originally founded in the 19th century, had primarily manufactured and sold cigarettes until the late 1960s. What diversification the company had undertaken was largely vertical and included manufacturing paper, packaging, and chemical products used in making cigarettes.

In the late 1960s, the first reports regarding the potential dangers of smoking began to emerge, and by the early 1970s, cigarette advertising was banned from television. These events led PM management to modify its corporate strategy by diversifying into new businesses. PM's experience with its early acquisitions eventually led the company's managers to the following conclusion: future acquisition targets should be significant players within large industries, i.e., relatively large companies whose performance could make a significant contribution to that of the corporation as a

whole. Because of the healthy cash flows of the cigarette business, management was willing to forgo strong early returns from an acquired company if its long-term potential appeared attractive. Management decided, however, to limit its diversification to companies that produced consumer goods, hoping for synergies from the broader use of PM's existing marketing expertise.

The first major step in this strategy was the acquisition of Miller Brewing Co. in 1970. PM management used essentially the same consumer-driven strategy with its beer products as it had with its cigarette products. Sophisticated marketing programs were undertaken that included (1) detailed market studies identifying target consumer groups and their salient characteristics, (2) the identification of existing, or the development of new, products for the groups so identified, and (3) the creation of a product packaging, distribution, and advertising program suitable for the product and the specific consumer group. Concurrently, management committed itself to constructing modern, efficient production facilities adequate for the volume that PM's marketing programs were expected to generate.

While PM management's strategies for beer and tobacco products were procedurally similar, they differed in terms of their practical applications. Specific cigarette brands were being marketed to increasingly well-defined (and, therefore, smaller) consumer groups, but PM management redefined Miller beer's target market in a dramatic move that greatly increased the number of the product's potential consumers. When PM acquired the Miller Brewing Co., that company marketed one major product, Miller Beer, which, with a 4-percent share of market, was the seventh largest-selling beer in the country. The company had annual sales of 5 million barrels, making it the fifth largest brewer in the United States.

PM management refocused Miller's marketing program away from the female, upper-income consumer implicitly targeted by the "Champagne of Bottled Beer" theme. Management believed that the use of *champagne* isolated the beverage from the mainstream of the beer market and implied that the beer should be offered only on special occasions. Instead, the beer was now targeted toward the male, blue-collar, heavy beer-drinking segment of the market.

By 1977 Miller's share of market exceeded 15 percent, the second largest share in the industry. In addition, PM management had increased the company's production capacity to 30 million barrels per year, making Miller the second largest U.S. brewer. Plans to increase this capacity to 50 million barrels per year by 1982 had already been approved.

In addition, PM management developed and introduced two new products: Miller Lite and domestically brewed Lowenbrau. The latter product was targeted at the super premium-priced segment historically dominated by Michelob. Miller Lite, however, was a relatively new concept in the beer industry. Although most other national brewers subsequently introduced competitive products of their own, Miller Lite retained

its position as the leading low-calorie beer in the United States through 1977. The financial and share-of-market results of PM management's strategy are shown in Exhibit 2.

The success of PM management's marketing strategy in both the beer and the cigarette industries was reflected in its financial statements. In 1977 alone, Philip Morris's net earnings increased 26 percent on a sales increase of 21 percent, and the return on average equity reached a 10-year high of 22 percent. Total debt to equity was at a 10-year low of 0.93, and the company's net cash flow (after-tax cash flow less common and preferred dividends) exceeded planned capital expenditures by 19 percent. PM's most recent financial statements are shown in Exhibits 3 and 4.

At the end of 1977, Philip Morris's operations were divided into five groups:

1. Philip Morris U.S.A. (cigarettes),
2. Philip Morris International (cigarettes),
3. Miller Brewing Company (beer),
4. Philip Morris Industrial (specialty papers, chemicals, etc.),
5. The Mission Viejo Company (real estate and community development).

Each group's contribution to Philip Morris's revenues and operating income is shown in Exhibit 1.

On the basis of the increasing share-of-market success and the returns of its existing products and operations, PM management decided to make another acquisition. Management settled on the soft-drink industry, focusing on the Seven-Up Company as the most likely target.

Soft-Drink Industry

The soft-drink industry was large and growing. Soft-drink sales of the top five competitors alone were about $4.7 billion in 1977, up 16 percent from the 1976 figure of $4.0 billion. In the 5-year period from 1973 to 1977, these companies generally outperformed the S&P 500 composite average, as shown in Exhibits 5 and 6. Detailed financial statements for the Seven-Up Company appear in Exhibits 7 through 9.

Soft-Drink Product

Soft drinks were the quintessential consumer product. They were a low-cost, multipurchase consumer item, the sales of which were highly influenced by sophisticated marketing programs. The industry's successful combination of advertising, promotional efforts, packaging, and distribu-

tion had, by the end of 1977, made the drinks the most popular beverage in the United States. There was every indication that the drinks were well on their way to acquiring the same status worldwide.

Soft drinks traced their origin to two different sources, both medicinal. On the one hand, research into the therapeutic properties of naturally effervescent spring waters had begun as early as the 1600s in Europe. By the beginning of the 19th century, artificially carbonated soda water was being bottled and sold commercially in both the United States and Europe. Concurrently, various syrups were being developed to cure a wide range of ills. Among these was Coca-Cola, invented in May 1886. Coke was originally marketed as a medicinal syrup, whose chief components, cocaine and opium, would cure a wide range of nervous afflictions, such as neuralgia and hysteria. By chance, the product was mixed with soda water by the end of 1886, giving rise to the soft-drink product known in 1977. (The major intervening modifications to the product were the deletions of the cocaine and opium.)

Similarly, Seven-Up, introduced in 1929 as "Bib-Label Lithiated Lemon-Lime Soda," was advertised as a hangover cure for home and hospital use. The fact that Seven-Up was also widely perceived as an excellent mixer for alcoholic drinks provided an added boost to sales. In fact, Seven-Up management did not consciously redefine and market Seven-Up as a soft drink until 1968.

Soft drinks were deceptively simple in their composition, which included only four basic categories of ingredients: a base-flavor concentrate or extract, such as cola, a sweetener, water, and carbonation. However, the base concentrates contained numerous flavorings, the specific names and proportions of which were secrets closely guarded by the concentrate manufacturers. The type of sweetener used in the soft drink was also variable. At the end of 1977, saccharin was the major sugar substitute used in diet drinks, while either sugar or high-fructose corn syrup (HFCS)[1] might be used in the production of regular soft drinks.

Soft drinks came in numerous flavors: cola, orange, root beer, lemon-lime, etc. Cola-flavored drinks were the most popular in the United States, enjoying a 62-percent share of the total domestic soft-drink market (regular and diet drinks). Coca-Cola and Pepsi-Cola were the two top-selling cola products, with 39 percent and 28 percent of this segment's volume. Lemon-lime drinks constituted the next largest flavor category with a 12-percent share of the total market. Seven-Up and Sprite (a Coca-Cola Co. product) were the leading competitors within the segment, holding 49 percent and 23 percent of the segment, respectively. The distance between the

[1] HFCS was sold at a 20-percent discount to sugar for an equivalent sweetening power. At the end of 1977, most concentrate manufacturers (except Coca-Cola and PepsiCo) had authorized its use in whole or in part in the production of soft drinks. Seven-Up, which required less sweetener than the colas, derived a special economic advantage from the substitution of HFCS for sugar.

cola and lemon-lime segments was slightly less in the international market, where lemon-lime drinks had a 15 percent share of the total market.

Since their introduction, diet drinks had enjoyed increasing popularity. By 1977, sales of diet drinks had grown to roughly 11 percent of the total market. Each of the top soft-drink companies had introduced one or more diet products. The success of the different flavor categories within the diet-drink market paralleled the patterns in the total market. Cola-flavored products of the Coca-Cola Co. and PepsiCo., Inc., Tab and Diet Pepsi, dominated the market with 23-percent and 19-percent shares of the diet-drink market. Diet Seven-Up was the only major lemon-lime product in the diet market and, with an 11-percent share, was the third largest-selling diet drink in the country.

Market data for the soft-drink industry and its leading competitors are shown in Exhibits 10 and 11.

Market-Growth Analysis

By 1977 soft drinks had surpassed coffee as the most popular beverage in the United States. In the period between 1963 and 1977, soft-drink consumption grew from 3.4 billion gallons per year to 7.9 billion gallons, representing an increase in consumption of from 191 to 389 12-oz. cans per person per year, roughly comparable to 20 percent of the average daily liquid intake.

Numerous factors contributed to the phenomenal growth in soft-drink sales. In the early years, the United States' rapid rate of population growth provided a steadily increasing number of consumers. Per-capita consumption was spurred by the product's relatively low price, by intensive marketing efforts, and by the spread of distribution networks across the country.

By the 1960s, the wide availability of soft drinks was forcing competition to proceed along other dimensions:

> The frontiers of the American market had been conquered, and henceforth domestic growth would come by priming the market with new products and using new ways to market the old ones. The need for a complete soft-drink line was underscored by the widespread acceptance of the multiple-flavor vending machine and the triple-drink fountain dispenser. To avoid being outflanked by competitors, each manufacturer introduced a spate of new containers intended to make soft-drink consumption as convenient as possible. The most noticeable trend was nonreturnable bottles and cans, the latter particularly after the introduction of the easy opening flip-top in 1962.[1]

[1] J. C. Louis and Harvey Z. Yazijian, *The Cola Wars* (New York: Everest House, 1980), pp. 107–108.

Further constraints on the industry's growth appeared in the latter half of the 1970s as America's population growth rate gradually declined. Down to about 1 percent per year by 1977, the decline implied a major demographic shift toward an older population. Whether or not America's teenagers, historically the industry's primary target market, would carry their soft-drink consumption patterns with them into their twenties and thirties was a question of major concern to both concentrate manufacturers and other industry participants.

The increasing saturation of the market, together with the country's changing demographics, led to greatly increased competition among the soft-drink companies, as each strove to maintain and improve its historical growth record. Media advertising budgets were sharply increased (as shown in Exhibit 12), and price discounting became commonplace.

Internationally, soft drinks were meeting the same acceptance that they had received in the United States. Although per-capita consumption was considerably less than that in the United States, this phenomenon resulted largely from the products' later entry into the international market. Furthermore, the growth rates in certain countries were roughly comparable to patterns experienced earlier in the United States.

Industry Structure

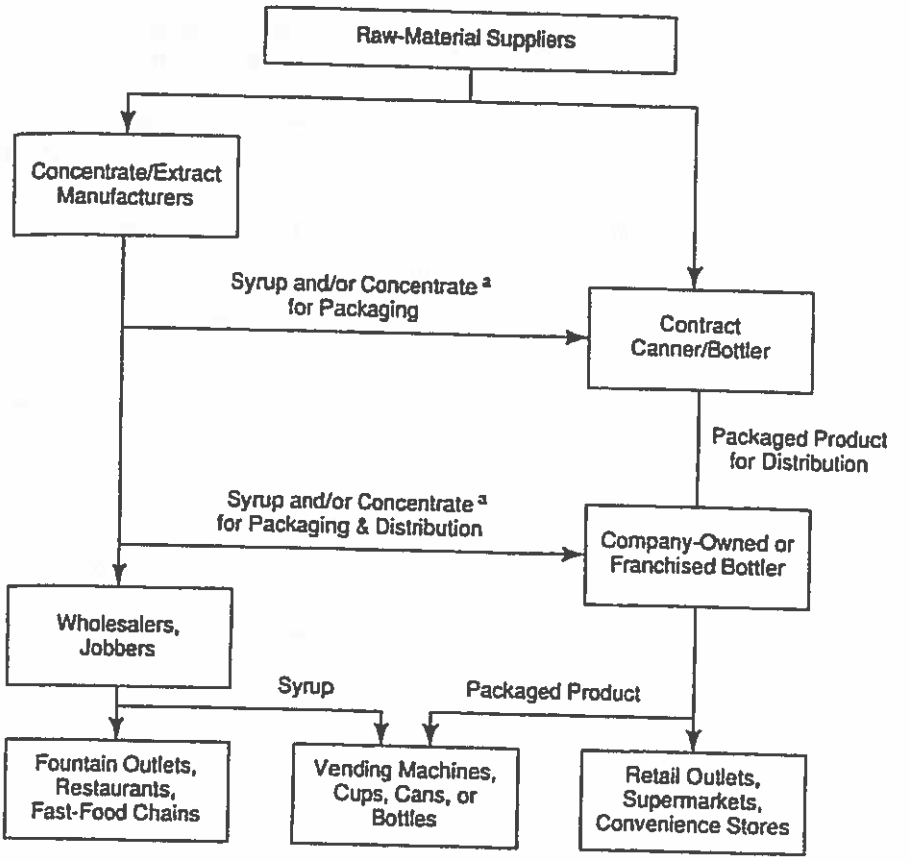
There were four major groups of participants in the soft-drink industry: concentrate or extract manufacturers, raw-material and packaging suppliers, bottling and distribution companies, and retailers. The general relationships between these groups are outlined below.

Concentrate Manufacturers. More than 30 companies manufactured branded products and marketed them regionally or nationally, while numerous food chains produced private-label soft drinks. Sales within the industry were, however, highly concentrated. Five companies (Coca-Cola Co.; PepsiCo, Inc.; Seven-Up Co.; Dr. Pepper Co.; and Royal Crown Cos.) accounted for 75 percent of the 1977 sales volume, as shown in Exhibit 10. The leading brands of each of these companies (Coca-Cola, Pepsi-Cola, Seven-Up, etc.) accounted for 56 percent of the total industry volume.

Each of the top five competitors could trace its origin to the turn of the century. By the end of World War II, each had begun to market its product internationally. In fact, Coca-Cola was being distributed through 64 bottlers in 28 countries as early as 1930. By the end of 1977, Coke was available in more than 135 countries, Pepsi-Cola in 140 countries, Seven-Up in 86 countries, and Royal Crown products in 51 countries.

The industry leaders had also grown by expanding their product lines (as highlighted in Exhibit 10) and by diversifying into other products. As shown in Exhibit 13, by 1977 only the Dr. Pepper Co. derived 100 percent of its revenues from the sale of soft drinks.

Soft-Drink Industry: General Structure



[a]Concentrate, when combined with the sweetener, was referred to as *syrup*. Only Coca-Cola and PepsiCo sold syrup to their bottlers.

Soft-Drink Bottlers and Distributors. The distribution system in the soft-drink industry was almost as old as the products themselves. The system had been established by the Coca-Cola Co. in 1899 and subsequently adopted by other soft-drink companies. Briefly, Coca-Cola's owner, Asa Candler, had signed a contract with Benjamin Franklin Thomas and Joseph Brown Whitehead, giving them the right to set up bottling plants throughout the nation at no expense or liability to the Coca-Cola Co. In addition, Mr. Candler agreed to sell the syrup exclusively to the two men, to furnish labels and advertising materials, and to grant them the sole rights to use the Coca-Cola trademark. Mr. Thomas and Mr. Whitehead promptly set out to find enterprising individuals with adequate capital for their own bottling operations. In exchange for its

investment, each franchisee was granted the exclusive right to bottle and market a given product within a certain geographical market.[3] Typically, in the early years, family members would use the earnings from one franchise territory to set up a relative in an adjacent area. Because the franchises were granted in perpetuity, the arrangement fostered a closed system within which franchises were passed from parent to child through the years.

The franchised bottlers operated under certain contractual constraints. Bottlers had to maintain quality standards, provide adequate bottling and distributing facilities, and participate in marketing programs. Furthermore, they were not allowed to sell in other franchised territories (or to sell to second parties who were likely to sell the product in another territory), nor could they sell directly competing products. However, a bottler was under no legal obligation to handle the full product line of any single concentrate manufacturer and could select which product to distribute within a given flavor category. Thus, for example, an independent Pepsi franchisee could distribute Seven-Up within the lemon-lime segment, rather than Teem, PepsiCo's competitive entry.

The franchise bottling system had originally evolved because of economic necessity. The concentrate manufacturers needed to maximize their products' distribution and availability, while the bottlers needed some guarantee of territorial exclusivity to make it worth their while to invest in the necessary capital equipment. The result, early in the industry's history, was a multiplicity of small bottlers. As time passed, a plethora of container sizes and shapes put many small bottlers at an economic disadvantage: they could not invest in all of the production lines necessary to ensure a complete line of any given product. Many bottlers therefore entered into joint ventures with one another to share production facilities. Alternatively, several concentrate manufacturers, such as the Seven-Up Company, made separate contracts with independent canners which guaranteed the provision of the full line of products to the company's franchised bottlers.

Regardless of the production system used, all products were still distributed through the territorially franchised bottlers. The numbers of bottlers were declining, however, while their territories were expanding. Of the estimated 5,200 domestic bottlers in operation in 1947, only 2,300 were thought to remain in business in 1970.[4] This change derived in part from mergers among the individual bottlers as one means of providing the

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[3] The bottlers' specific production responsibilities included (1) purchasing raw materials, principally sweeteners and packaging materials; (2) mixing the concentrate, sweetener, water, and carbonation; and (3) packaging the finished product.

[4] J. C. Louis and Harvey Z. Yazijian, *The Cola Wars* (New York: Everest House, 1980), p. 334.

Breakdown of 1977 Domestic Sales by Type of Bottler

	Company-Owned Bottlers		*Franchised Bottlers*	
Company	*Nos.*	*Percent Sales*	*Nos.*	*Percent Sales*
Coca-Cola Co.	11	10	555	90
PepsiCo, Inc.	13	22	404	78
Seven-Up Co.	1[a]	3	473[a]	97
Dr. Pepper Co.	5	12	494	88
Royal Crown Cos.	13	25	272	75

[a]The Seven-Up Bottling Co. of Phoenix, Ariz., was acquired in 1972. The company also owned a second bottling operation in Ontario, Canada.

[b]It was estimated that only three bottlers handled the Seven-Up line exclusively; all others marketed one or more competitive products. Industry analysts also estimated that about 330 of Seven-Up's bottlers (70 percent of the total) handled Coca-Cola or Pepsi-Cola.

Source: Company annual reports and 10-K's, *Value Line*, and industry reports.

necessary production equipment. However, the trend was also caused by the acquisition of certain bottlers by larger corporate entities, which included newcomers to the soft-drink industry as well as certain concentrate manufacturers themselves. In the former case, the trend toward acquisitions by outsiders started in the late 1960s when certain medium-sized conglomerates such as RKO General and General Cinema, started buying bottlers. By the late 1970s, however, larger conglomerates were making the acquisitions, the size of the purchasers reflecting the attractive cash flows of many bottlers. In the case of the concentrate manufacturers, the primary goal was to maintain or increase their control over marketing and distribution. The results of the increased concentration among the bottlers and concentrate manufacturers are shown in the table of domestic sales by bottler.

The increasing concentration among soft-drink bottlers and concentrate manufacturers did not go unnoticed. In the mid-1970s, the Federal Trade Commission brought an antitrust action against the industry in general and against the territorial franchise system in particular. Although a decision on the case was not imminent at the end of 1977, the industry was lobbying strongly against the action. Dissolution of the franchise system, the industry argued, would cause irreparable economic damage to the independent bottlers by opening the door for a warehouse distribution system along the lines of that used in the beer industry.

Competitive Environment

The soft-drink industry had long been dominated by its two leading competitors, the Coca-Cola Co. and PepsiCo, Inc. These two companies,

through their competition with each other, determined the industry's pricing schedules and marketing programs.

For instance, until 1975 the Coca-Cola Co. was the industry price leader in both the fountain and take-home segments of the market. Coke's pricing schedule was based on the terms originally negotiated with its bottlers at the turn of the century. As a result, the price of the company's base concentrate had remained at 88 cents per gallon for many years.[3] In 1974, however, PepsiCo initiated an aggressive campaign against Coca-Cola. The company's theme, "the Pepsi Challenge," asked customers to taste test the two beverages. The campaign was supported by heavy consumer discounts as well as increased advertising expenditures. With this campaign, PepsiCo seized the position of industry price leader within the take-home segment.

This escalation of the competition between Coke and Pepsi affected the rest of the industry in two ways. The widespread use of consumer discounts reflected the growing emphasis on volume and share-of-market data rather than earnings. Those concentrate manufacturers electing not to discount their products, such as the Seven-Up Company, ran the risk of weakening their relations with their bottlers. The budgets allocated to marketing were also increasing.

These trends were not expected to abate in the near future. In fact, early in 1978, the Coca-Cola Co. began negotiations with its bottlers to change their fixed-price contracts. Coke's aim was to revise its pricing schedule such that the syrup's price could be raised commensurate with increases in the consumer price index. In return for this concession, Coke promised its bottlers that the company would use a large portion of the anticipated increase in earnings to augment its marketing budget in the Coke–Pepsi dispute. Negotiations on this matter were ongoing in March 1978.

These negotiations had several implications for Coke's competitors. Because most companies strove to approximate Coke's pricing schedule, the negotiations appeared to offer some relief from inflation's negative effect on margins. However, this benefit was largely offset by the specter of the increased marketing budgets Coke had promised its bottlers.

In addition, Coca-Cola Co.'s and PepsiCo's marketing programs were becoming more successful, as reflected in the increases in their individual shares of market as well as in the continued preference for cola-flavored products. Both the Seven-Up Company and the Dr. Pepper Co. responded with campaigns highlighting the differences between their products and the colas. Seven-Up management introduced the "Uncola" theme in 1968,

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[3] Coca-Cola charged its bottlers for sugar on the basis of the average price of sugar at the ten largest Northeast refiners during the first 10 days of each quarter. Coca-Cola was one of the world's leading purchasers of sugar and procured its needs under futures contracts.

while Dr. Pepper relied on "the most misunderstood soft drink" theme. Although Seven-Up introduced modest variations on its Uncola message in the intervening years, the basic theme had not changed substantially by 1977: "7-Up is a drink with a style all its own, and the people who drink it have a style all their own." This theme was re-emphasized and repackaged in 1977 and presented by management as its vehicle to regain its former share of the market. Specifically, management announced its goal of growing at a rate of 1 to 2 percent higher than the industry as a whole.

Early in 1978, however, Seven-Up's president made the following statement to *Advertising Age* (4/17/78): "Research has found that the 'Seven-Up image is confused and cloudy.' " The company subsequently terminated its relationship with its advertising agency of 36 years and announced its intent to test market a new graphics program in late 1978 and to increase the product's advertising budget. Market analysts generally approved of this move, thinking that the Uncola campaign had succeeded too well: consumers had come to see Seven-Up as a specialty product.

Competition in the industry was also proceeding along two other major fronts: international expansion and new-product development. The Middle East was the major arena of expansion during 1977. The Coca-Cola Co., previously well-established in Israel, was finally granted permission to enter the Egyptian market. Less than 12 months later, Seven-Up management announced its intent to introduce Seven-Up into the Cairo market in May 1978 and to open 11 other bottling operations abroad during the year.

With respect to new product entries, the last major spurt of activity had been in the early 1960s. PepsiCo acquired and introduced Mountain Dew nationally. PepsiCo and Coca-Cola introduced Teem and Sprite into the lemon-lime segment, and all companies developed and started marketing diet drinks. In early 1978, the Coca-Cola Co. was test marketing Mello Yello, and the Seven-Up Company introduced Quirst, a new entry into the lemonade market. Quirst, which had been developed by Seven-Up's recently acquired subsidiaries, was to be test marketed in about one-fifth of the U.S. market starting in early May. The product's introductory campaign was to be backed by an annual advertising budget of $5 million.[6]

Industry Outlook

The outlook for the soft-drink industry in the latter half of the 1970s was mixed. While domestic demographic trends and a tight competitive environment implied reductions in the rates of soft-drink sales growth, the

[6] Shortly after Seven-Up management introduced Quirst, the company was sued by the Squirt Co. for trademark infringement. The outcome of the case had not been determined by April 1978.

international market appeared to be wide open. According to certain security analysts, "Foreign markets continue to hold great potential for the major producers. Per-capita soft-drink consumption in most overseas nations is only a small fraction of the U.S. rate. Although it is highly unlikely that consumption in Third World nations will ever match the U.S. level, there remains great room for growth." Taking the domestic and international markets together, industry analysts predicted a 5- to 6-percent growth rate in the industry over the next 5 years.

There was, however, the possibility that certain other forces might affect future sales levels. The soft-drink industry was under attack on several fronts at the end of 1977. Nutrition experts, alarmed at increasing per-capita soft-drink consumption, were vocal in their criticism of the product. Their concerns were reinforced by research into the possible toxic effects of heavy sugar ingestion. Saccharin, the sugar substitute used in diet soft drinks, was also a source of controversy. Saccharin's safety was under continuing study by the federal Food and Drug Administration. Caffeine, a component of most soft drinks but not of Seven-Up, had recently reemerged as a potential problem. The FDA had initiated a study on the safety of heavy caffeine consumption, particularly as it pertained to children and teenagers, the industry's primary market. Although the caffeine content of soft drinks was considerably less than that of comparable amounts of tea or coffee, the study represented an additional source of uncertainty for the industry.

Conclusion

Despite their uncertain futures, little about either the soft-drink industry or the Seven-Up Company reduced their attractiveness to PM management. On the contrary, Seven-Up appeared particularly attractive from both financial and operational points of view. Although the product was new to PM management, the problems of its merchandising were very familiar.

Unfortunately, however, the current status of the merger and acquisition market implied that the Seven-Up Company might well evoke interest among other acquisitive corporations. This realization put additional pressure on PM management to act quickly and provided an additional consideration in its initial tender offer. On its part, Seven-Up's management recognized that the company was not only attractive, but also potentially vulnerable to a takeover. Seven-Up management proposed and received approval of two actions at the company's April 1978 shareholders' meeting. First, dividends were increased, presumably to strengthen investor interest in and support of the stock. Second, and more telling, the shareholders approved amendments to the company's articles of incorporation providing for the establishment of three

classes of directors, each of which would serve a staggered three-year term.

Thus, it appeared that the conditions in the market, as well as the position of Seven-Up's management and shareholders, demanded a very careful, competitive tender offer.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 1 • Philip Morris: 5-Year Performance
(dollars in millions, except per-share amounts)

	1973	*1974*	*1975*	*1976*	*1977*
Operating Companies' Revenues (percent)					
Philip Morris U.S.A.	50.1%	49.9%	47.3%	45.7%	41.5%
Philip Morris International	31.6	29.5	28.6	25.2	25.9
Miller Brewing Co.	10.6	13.4	18.1	22.9	25.5
Philip Morris Industrial	5.1	5.2	4.2	3.9	4.2
Mission Viejo	2.6	2.1	1.9	2.2	2.8
Total percentage[a]	100.0%	100.0%	100.0%	100.0%	100.0%
Total dollars	$2,602.5	$3,011.0	$3,642.4	$4,293.8	$5,202.0
Operating Companies' Income (percent)					
Philip Morris U.S.A.	69.0%	70.9%	68.4%	63.3%	60.6%
Philip Morris International	28.0	23.3	22.9	20.5	19.6
Miller Brewing Co.	(1.0)	1.6	5.8	12.0	13.6
Philip Morris Industrial	2.5	3.0	1.6	1.7	1.9
Mission Viejo	1.3	1.2	1.2	2.6	4.2
Total percentage[a]	100.0%	100.0%	100.0%	100.0%	100.0%
Total dollars	$ 329.5	$ 403.6	$ 492.8	$ 634.5	$ 782.7
Other Expenses					
Interest expense	$ 51.0	$ 82.7	$ 99.0	$ 102.8	$ 101.6
Provision for income taxes	107.0	122.0	149.2	206.3	290.6
Net Earnings	$ 148.6	$ 175.5	$ 211.6	$ 265.7	$ 334.9
Per-Share Data					
Primary earnings	$ 2.71	$ 3.15	$ 3.62	$ 4.47	$ 5.60
Dividends declared	0.67	0.78	0.93	1.15	1.56
Book value	14.66	16.97	20.63	23.99	28.16
Market price of common: High	68.38	61.38	59.25	63.25	64.88
Low	48.75	34.13	40.88	49.75	51.50
Market price of common: End of year	$ 57.38	$ 48.00	$ 53.00	$ 61.75	$ 61.88
Operating Performance					
Pre-tax profit margin	9.80%	9.90%	9.90%	11.00%	12.00%
Return on average equity	19.70%	19.60%	19.20%	20.00%	21.50%
Total debt/equity[b]	1.16	1.27	1.18	1.07	0.93
Net cash flow/capital expenditures[c]	0.81%	0.79%	0.85%	1.19%	1.19%
Beta	1.11	1.15	1.15	1.15	1.10
Date of beta estimate	11/30/73	11/1/74	10/31/75	10/29/76	10/28/77

[a] Numbers may not add up to 100 percent due to rounding.

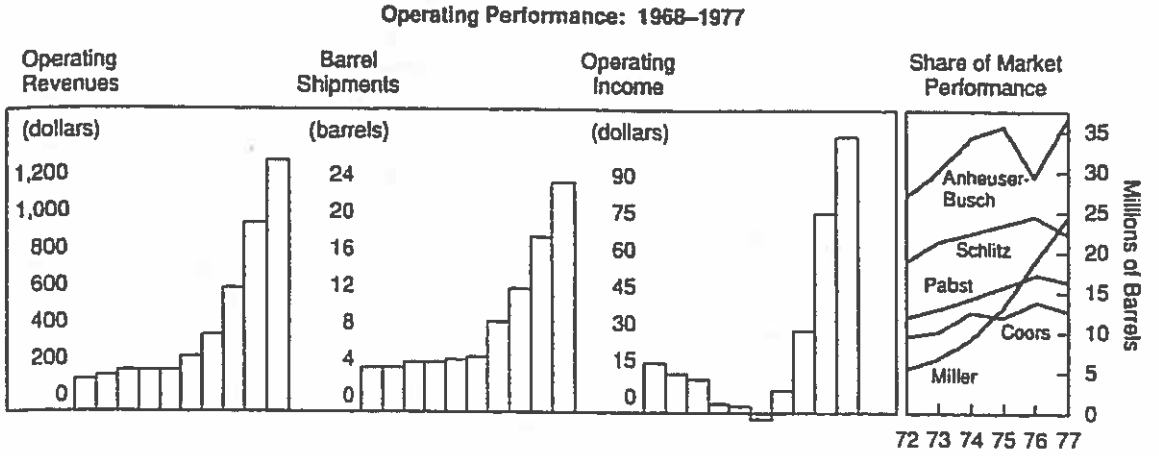
[b] Total debt = Long-term debt + Notes payable + Current portion of long-term debt.

[c] Net cash flow = Profit after tax + Depreciation − Dividends on common and preferred stock.

Source: Philip Morris, Inc., 1977 *Annual Report*; *Value Line*.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 2 • Miller Brewing Company, 1968–1977 (all data in millions)



Source: Philip Morris, Inc., *Annual Reports.*

Source: Robert J. Flaherty, "Philip Morris' Year of Decision," *Forbes,* July 10, 1978, p. 30.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 3 • Philip Morris Income Statements
(thousands of dollars, except per-share amounts)

	Results for Year Ending December 31		*Results for Three Months Ending March 31*	
	1976	*1977*	*1977*	*1978*
Operating revenues	$4,293,782	$5,201,977	$1,142,617	$1,390,709
Cost of sales				
Cost of products sold	(1,966,871)	(2,401,680)	(527,077)	(638,882
U.S. federal and foreign taxes on goods sold	(1,159,286)	(1,352,487)	(296,160)	(371,838
Gross profit	1,167,625	1,447,810	319,380	379,989
Marketing, administrative, and research	(547,287)	(676,772)	(150,475)	(178,478
Equity in net earnings of unconsolidated foreign subsidiaries and affiliates	14,201	11,694	2,911	2,303
Operating income of operating companies	634,539	782,732	171,816	203,814
Corporate expense	(35,229)	(38,523)	(11,089)	(12,491
Gross interest	(109,258)	(108,747)	(27,007)	(32,159
Capitalized interest	6,424	7,163	1,273	2,599
Net interest expense	(102,834)	(101,584)	(25,734)	(29,560
Net currency translation hedging costs	(15,520)	(11,633)	2,047	(2,645
Other deductions, net	(9,028)	(5,476)	(4,258)	1,944
Earnings before income tax	471,928	625,516	132,782	161,062
Provision for federal and other income tax	(206,253)	(290,590)	(61,365)	(73,541
Net earnings	265,675	334,926	71,417	87,521
Earnings per common share	$ 4.47	$ 5.59	$ 1.19	$ 1.46

Source: Philip Morris, Inc., *Annual Reports*.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 4 • Philip Morris Balance Sheets (thousands of dollars)

	Results for Year Ending December 31		*Results for Three Months Ending March 31*	
	1976	*1977*	*1977*	*1978*
Assets				
Cash and cash equivalents	$ 64,353	$ 72,231	$ 47,070	$ 75,026
Net receivables	267,943	316,723	310,260	332,138
Inventories				
Leaf tobacco	1,089,301	1,271,235	1,083,092	1,256,118
Other raw materials	125,620	142,231	125,855	143,436
Work in process and finished goods	379,446	314,519	393,322	385,699

Philip Morris, Inc.: Seven-Up Acquisition (A)
EXHIBIT 4 • *continued*

	Results for Year Ending December 31		*Results for Three Months Ending March 31*	
	1976	*1977*	*1977*	*1978*
Housing programs under construction	63,137	89,576	74,821	94,317
Total inventories	1,657,504	1,817,561	1,677,090	1,879,570
Prepaid expenses	15,945	14,505	21,582	22,585
Total current assets	2,005,745	2,221,020	2,056,002	2,309,319
Investments in and advances to unconsolidated foreign subsidiaries and affiliates	220,147	229,508	219,158	227,920
Land and offtrack improvements	58,766	69,576	59,648	70,464
Property, plant, and equipment, at cost	1,323,923	1,594,910	1,355,123	1,693,442
Less accumulated depreciation	330,044	392,478	340,157	409,696
Net property, plant, and equipment	993,879	1,202,432	1,014,966	1,283,746
Brands, trademarks, patents, and goodwill	211,570	222,492	211,594	222,183
Long-term receivables	66,463	64,762	65,047	67,073
Other assets	25,639	38,249	42,434	41,435
Total assets	$3,582,209	$4,048,039	$3,668,849	$4,222,140
Liabilities and Shareholders' Equity				
Notes payable	$ 260,131	$ 121,139	N.Av.	N.Av.
Accounts and notes payable	N.Av.	N.Av.	$ 396,581	$ 309,407
Accounts payable and accrued liabilities	402,775	503,767	N.Av.	N.Av.
Accrued liabilities	N.Av.	N.Av.	272,355	390,825
Current portion long-term debt	17,729	15,740	N.Av.	N.Av.
Federal and other income taxes	103,527	139,766	119,917	157,971
Dividends payable	19,359	24,741	19,463	30,737
Total current liabilities	803,521	805,153	808,316	888,940
Long-term debt	1,247,778	1,426,619	1,249,596	1,443,229
Deferred income taxes	77,714	104,429	87,449	119,519
Other liabilities	23,214	21,772	28,878	23,284
Total liabilities	2,152,227	2,357,973	2,174,239	2,474,972
Cumulative preferred stock ($100 par)	8,812	8,262	8,812	7,787
Common stock ($1 par)	59,490	59,922	59,806	59,928
Additional paid-in capital	294,225	300,538	292,947	301,055
Earnings reinvested in business	1,071,488	1,325,149	1,137,148	1,381,934
Less treasury stock, at cost	(4,033)	(3,805)	(4,103)	(3,536)
Total shareholders' equity	1,429,982	1,690,066	1,494,610	1,747,168
Total liabilities and shareholders' equity	$3,582,209	$4,048,039	$3,668,849	$4,222,140

Source: Philip Morris, Inc., *Annual Reports*.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 5 • Top Four Soft-Drink Companies: Performance, 1973–1977

Company and Year	*Primary EPS*	*Cash Flow per Share*	*Dividends per Share*	*Book Value per Share*	*Return on Equity*	*Market Price High–Low*[a]	*Average Annual P/E*	*Long-Term Debt/ Equity*
Coca-Cola[b] *Beta @ 3/10/78: 1.20*								
1973	$1.80	$2.29	$0.90	$ 7.44	22.7%	$75.0–57.8	38.9×	0.9%
1974	1.64	2.13	1.04	8.01	19.2	63.9–22.3	26.8	1.1
1975	2.00	2.55	1.15	9.45	19.5	46.8–26.6	19.9	0.7
1976	2.38	2.95	1.33	10.53	21.0	47.6–36.7	17.7	0.6
1977	$2.67	$3.33	$1.54	$11.92	21.0%	$40.9–35.5	14.3×	0.9%
PepsiCo, Inc.[b] *Beta @ 3/10/78: 1.15*								
1973	$1.12	$1.71	$0.38	$ 5.32	16.0%	$29.9–21.3	24.3×	44.7%
1974	1.23	1.90	0.43	6.12	15.7	23.9–9.8	13.9	62.7
1975	1.47	2.20	0.50	7.11	16.7	24.8–13.6	14.2	45.0
1976	1.85	2.68	0.63	8.44	18.1	29.2–23.2	14.0	37.0
1977	$2.15	$3.19	$0.83	$ 9.57	19.3%	$28.6–22.3	11.5×	44.0%
Seven-Up Co.[b] *Beta @ 3/10/78: 1.25*								
1973	$1.30	$1.47	$0.43	$ 5.08	21.4%	$37.3–21.8	23.6×	4.7%
1974	1.54	1.76	0.61	6.04	21.9	30.8–10.5	14.3	3.6
1975	1.88	2.14	0.75	7.54	23.0	36.0–15.5	16.0	2.4
1976	2.28	2.59	1.13	8.75	24.4	41.0–29.8	15.6	0.9
1977	$2.38	$2.70 est.	$1.25	$ 9.90 est.	23.0% est.	$32.8–23.8	11.7× est.	0.6% est.
Dr. Pepper[b] *Beta @ 3/10/78: 1.50*								
1973	$0.51	$0.60	$0.23	$ 1.99	25.5%	$30.0–18.8	49.2×	0.0%
1974	0.52	0.62	0.28	2.27	22.7	22.9–6.5	26.1	0.0
1975	0.62	0.74	0.32	2.58	24.0	15.1–7.0	18.1	0.0
1976	0.81	0.95	0.40	2.80	27.0	17.8–11.0	18.6	0.0
1977	$1.01	$1.23	$0.53	$ 3.42	26.5%	$17.3–11.0	13.3×	0.9%
S&P 500: Industry Composite[c]								
1973	$2.27[d]	$3.78[e]	$0.91	$17.26	13.5%	$ 38–24	13.7×[f]	48%
1974	2.46[d]	4.11[e]	0.98	18.55	13.7	31–16	9.7[f]	50
1975	2.29[d]	4.10[e]	1.01	19.71	12.0	30–18	10.0[f]	52
1976	2.85[d]	4.76[e]	1.14	21.37	13.7	34–24	10.0[f]	49
1977	$3.11[d]	$5.20[e]	$1.31	$23.07	13.8%	$ 32–24	9.4×[f]	48%

[a]All stocks traded on NYSE except Seven-Up, which trades in the OTC market.

[b]Source: *Value Line.*

[c]Source: *Standard & Poor's Compustat Services, Inc.*

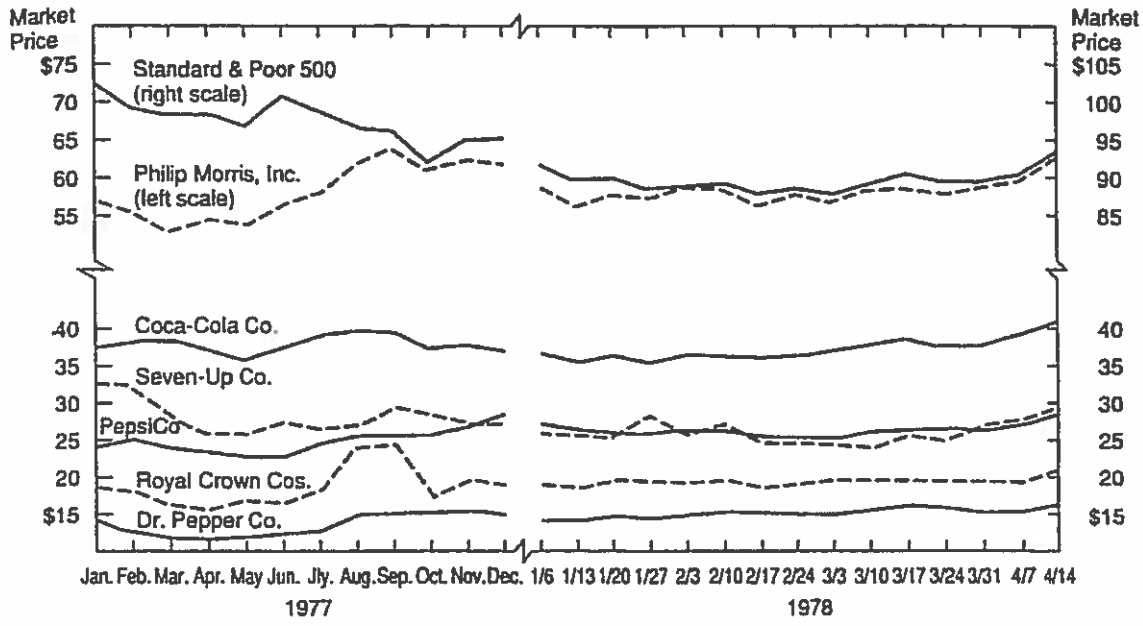
[d]Primary EPS includes extraordinary items and discontinued operations.

[e]Estimated by casewriter: [PAT + Depr. + Depl. + Amort.] ÷ Primary nos. of shares.

[f]Computed by casewriter.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 6 • Common Stock Movement, January 1977–April 1978
(closing price at end of month or at date shown)



Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 7 • Seven-Up Company Income Statements
(thousands of dollars, except per-share amounts)

	Results for Year Ending December 31		*Results for Three Months Ending March 31*[a]	
	1976	*1977*	*1977*	*1978*[b]
Net sales	$233,283	$250,998	$50,416	$60,271
Cost of products sold	(117,166)	(129,040)	(24,863)	(29,878)
Gross profit	116,117	121,958	25,553	30,393
Selling, administrative, and general expense	(71,482)	(76,815)	(17,184)	(20,004)
Interest expense	289	335	37	139
Other expenses, net of other income	2,800	2,401	579	799
Earnings before income tax	47,146	47,209	8,911	11,049
Income taxes	(22,394)	(21,420)	(4,047)	(5,278)
Net earnings	$ 24,752	$ 25,789	$ 4,864	$ 5,771
Earnings per common share	$ 2.28	$ 2.38	$ 0.45	$ 0.53
Dividends per common share	$ 1.13	$ 1.25	$ 0.30	$ 0.35

[a]Quarterly data are unaudited.

[b]Results for 1978 exclude operations of Oregon Freeze Dried Foods, acquired in February 1978. Had the company been included for the entire three-month period, sales at 3/31/78 would have been $62,015,000, net earnings, $5,830,000, and earnings per share, $0.54.

Source: Seven-Up Company, *Annual Reports.*

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 8 • Seven-Up Company Balance Sheets (thousands of dollars)

	Results for Year Ending December 31		*Results for Three Months Ending March 31*[a]	
	1976	*1977*	*1977*	*1978*[a]
Assets				
Cash	$ 5,462	$ 4,517	$ 9,707	$ 13,723
Short-term investments	34,589	42,616	29,704	22,534
Accounts and notes receivable	18,469	20,487	19,991	23,398
Allowance for doubtful accounts	(275)	(220)	(289)	(220)
Net receivables	18,194	20,267	19,702	23,178
Inventories				
Finished products (FIFO)	12,029	13,067	12,606	16,880
Extract and raw materials (sugar carried at LIFO)	14,025	14,088	16,454	17,515
Total inventories	26,054	27,155	29,060	34,395
Prepaid expenses and other current assets	2,547	2,635	2,861	2,679
Total current assets	86,846	97,190	91,034	96,509
Other assets	2,671	2,330	2,628	2,498
Property, plant, and equipment, at cost				
Land	6,527	6,407	6,464	6,537
Orchards	1,989	2,113	2,146	2,113
Buildings and improvements	15,739	18,866	15,626	19,254
Machinery and equipment	23,942	29,290	24,512	31,044
Orchards under development	1,535	1,706	1,446	1,752
Construction in progress	3,782	2,450	4,639	3,498
Depreciation (straight line)	(15,932)	(18,632)	(16,459)	(19,557)
Net property, plant, and equipment	37,582	42,200	38,374	44,641
Net intangible assets: trademarks, formulas, and goodwill	4,144	4,009	4,081	9,726
Total assets	$131,243	$145,729	$136,117	$153,374

continued

Philip Morris, Inc.: Seven-Up Acquisition (A)
EXHIBIT 8 • *continued*

	Results for Year Ending December 31		*Results for Three Months Ending March 31[a]*	
	1976	*1977*	*1977*	*1978[a]*
Liabilities and Shareholders' Equity				
Current liabilities				
Notes payable to foreign banks	$ 489	$ 2,189	$ 2,302	$ 1,998
Accounts payable	7,933	8,653	9,366	9,874
Employee compensation	1,981	2,261	1,785	2,264
Accrued advertising	8,774	9,949	7,761	10,513
Other accrued liabilities	2,317	2,932	2,101	3,425
Income taxes	4,396	3,385	6,308	6,333
Current portion of long-term debt	354	259	352	419
Total current liabilities	26,244	29,628	29,975	34,826
Other liabilities				
Long-term debt (excluding current portion)	943	689	842	703
Deferred income taxes	2,504	1,979	2,539	2,390
Total liabilities	29,691	32,296	33,356	37,919
Shareholders' equity				
6-percent cumulative preferred stock	3,588	3,076	3,076	3,076
Common stock ($1 par value)[b]	10,720	10,722	10,720	10,725
Additional capital	11,150	11,345	11,277	11,389
Retained earnings	76,094	88,290	77,688	90,265
Total shareholders' equity	101,552	113,433	102,761	115,455
Total liabilities and shareholders' equity	$131,243	$145,729	$136,117	$153,374

[a]Quarterly data are unaudited.

[b]The descendants of the Seven-Up Company's three original founders owned 45 percent of Seven-Up's common stock, roughly half of which was held in beneficiary trusts for future generations. Common stock held by unrelated members of management increased the total controlled by the company to about 51 percent. Twenty-one percent of the stock was held by a group of 53 institutional investors, and the remainder was owned by unrelated parties. Although members of the founding families had not taken a particularly active role in the management of the company in recent years, two grandsons of the original founders were elected directors of the company at the April 1978 shareholders' meeting. This brought the total number of family representatives on the board to three and was interpreted as an apparent attempt to strengthen the families' hands in the business.

Source: Seven-Up Company, *Annual Reports.*

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 9 • Seven-Up Company Historical Data (millions of dollars, except per-share amounts)

	1969	*1970*	*1971*	*1972*	*1973*	*1974*	*1975*
Earnings Data							
Net sales	$103.0	$111.6	$124.4	$132.5	$146.7	$190.9	$213.6
Gross profit	48.0	51.6	58.1	62.8	71.0	80.8	101.2
Selling, general, and administrative	(30.0)	(32.5)	(36.6)	(40.2)	(45.2)	(51.2)	(61.3)
Operating profit	18.0	19.1	21.5	22.6	25.8	29.6	39.9
Net miscellaneous income	0.2	0.5	0.7	0.6	1.3	2.5	(0.1)
Profit before tax	18.2	19.6	22.2	23.2	27.1	32.1	39.8
Income taxes	(9.6)	(9.8)	(10.9)	(11.2)	(13.0)	(15.5)	(19.5)
Profit after taxes and extraordinary items	8.6[d]	9.8	11.3	12.0	14.1	16.6	20.3
Depreciation and amortization	1.1	1.2	1.1	1.3	1.8	2.3	2.9
Capital expenditures	2.9	1.9	2.6	3.1	7.5	6.8	6.8
Per-Share Data							
Earnings[a]	0.75	0.89	1.03	1.10	1.30	1.54	1.88
Dividends[b]	0.24	0.33	0.40	0.42	0.43	0.61	0.75
Book value[c]	2.50	3.08	3.72	4.62	5.50	6.45	7.93

continued

Market-price range[c]	$22¾–14¼	$30¾–17¾	$36⅛–26¾	$50⅛–33⅜	$37¼–21¼	$30¾–10½	$36–14¼
Average number of shares[a]	10,326,961	10,335,038	10,345,034	10,378,538	10,457,812	10,467,739	10,636,841
Balance-Sheet Data							
Current assets	$ 35.4	$ 40.7	$ 45.8	$ 52.3	$ 58.8	$ 67.3	$ 86.6
Plant, property, and equipment	14.8	16.0	17.2	19.3	24.6	29.1	32.7
Other	5.2	4.5	4.4	5.8	6.2	7.3	6.7
Total assets	55.4	61.2	67.4	77.4	89.6	103.7	126.0
Current liabilities	14.7	15.2	15.9	17.7	20.1	24.9	34.8
Long-term debt	3.2	2.8	1.7	2.4	3.1	2.7	2.1
Other	0.7	0.4	0.4	0.4	0.4	0.4	0.6
6-percent cumulative preferred stock	3.6	3.6	3.6	3.6	3.6	3.6	3.6
$5.71 convertible Class A preferred stock	7.4	7.4	7.3	5.1	4.9	4.6	—
Owners' equity	25.8	31.8	38.5	48.2	57.5	67.5	84.9
Total liabilities and owners' equity	$ 55.4	$ 61.2	$ 67.4	$ 77.4	$ 89.6	$103.7	$126.0

[a]Based on the weighted-average number of shares outstanding during the year. Data have been adjusted to reflect stock splits in 1969 and 1972 and to reflect those shares issuable upon the exercise of stock options.

[b]Adjusted retroactively for two-for-one stock splits in 1969 and 1972.

[c]High–low bid prices, OTC.

[d]Extraordinary loss of $0.2.

Source: Seven-Up Company, *Annual Reports*. All data have been restated on pooling-of-interest basis to reflect the operations of the Warner Jenkinson Co. and Ventura Coastal Corp., acquired in 1970 and 1973, respectively. Numbers may not add up due to rounding.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 10 • Volume Sales and Share-of-Market Data: Top Five Soft-Drink Companies

	1975	1976	1977
Coca-Cola Co.			
Coca-Cola	24.2%	24.3%	24.5%
Sprite	2.5	2.7	2.8
Tab	2.5	2.6	2.6
Fanta	2.1	2.3	2.3
Mr. Pibb	0.8	0.7	0.9
Fresca	0.6	0.6	0.5
Others	0.1	0.2	0.3
Total	32.7%	33.4%	33.9%
PepsiCo, Inc.			
Pepsi-Cola	17.4%	17.0%	17.2%
Mountain Dew	1.1	1.5	1.9
Diet Pepsi	1.6	1.9	2.1
Pepsi Light	0.1	0.5	0.5
Teem	0.3	0.2	0.2
Others	0.3	0.3	0.4
Total	20.8%	21.4%	22.3%
Seven-Up Company[a]			
7-Up	6.6%	6.3%	6.0%
Diet 7-Up	1.0	1.2	1.2
Total	7.6%	7.5%	7.2%
Royal Crown Cos.			
Royal Crown	3.4%	3.3%	3.2%
Diet Rite Cola and RC 100	0.8	0.8	0.8
Nehi and others	1.2	1.2	1.0
Total	5.4%	5.3%	5.0%
Dr. Pepper Co.			
Dr. Pepper	4.9%	5.0%	5.3%
Sugar Free Dr. Pepper	0.6	0.8	1.0
Total	5.5%	5.8%	6.3%
Total share of market, top 5	72.0%	73.4%	74.7%
Millions of cases sold, top 5[b]	3,208.5	3,587.9	3,925.5

[a]Sales of Seven-Up's Howdy Flavors were a negligible proportion of total soft-drink sales in the years shown, case sales are included in the total of the cases sold by the top five companies.

[b]1 case = 24 8-oz. containers or 16 12-oz. cans.

Source: Lehman Brothers Kuhn Loeb Research, as printed in *Beverage Industry*, April 24, 1981. Copyright: John C. Maxwell and *Beverage Industry*. Reprinted by special permission of John C. Maxwell.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 11 • Trends in the Soft-Drink Industry

A. Estimated Share of Soft-Drink Market by Flavor Category[a]

	Cola	*Lemon-Lime*	*Pepper Type*	*Orange*	*Root Beer*	*Other*
1970	63.0%	12.0%	3.9%	8.3%	4.5%	8.4%
1971	63.0	12.0	3.9	8.4	5.0	7.7
1972	63.0	12.0	4.6	8.4	5.0	7.0
1973	62.5	12.5	5.0	8.2	5.0	6.8
1974	61.7	12.8	5.2	8.0	5.2	7.1
1975	62.1	12.9	5.3	7.9	5.2	6.6
1976	62.2	12.7	6.7	7.8	5.2	5.4
1977	62.4%	12.4%	7.3%	7.4%	5.3%	5.2%

B. Composition of U.S. per-Capita Annual Liquid Consumption[b]

	Soft Drinks	*Beer*	*Wine and Distilled Spirits*	*Coffee*[c] *and Tea*	*Milk*[d]	*Other*[d]
1970	14.8%	10.1%	1.7%	22.6%	12.7%	38.1%
1971	15.8	10.6	1.9	22.5	12.6	36.7
1972	16.6	10.8	1.9	22.5	12.7	35.4
1973	17.4	11.3	2.0	22.7	12.5	34.1
1974	17.4	11.8	2.0	21.9	12.2	34.7
1975	17.1	12.0	2.0	21.5	12.4	35.0
1976	18.7	12.1	2.1	19.9	12.3	34.9
1977	20.0%	12.5%	2.1%	19.2%	12.2%	34.0%

[a]Source: *Beverage Industry*, April 24, 1981; Copyright: John C. Maxwell and *Beverage Industry* Based on data from Lehman Brothers Kuhn Loeb Research. Figures include diet drinks in the appropriate flavor category.

[b]Source: *Beverage Industry*, May 22, 1981, p. 19. Data are based on USDA, DSI, USBA, American Bottled Water Assoc., and Lehman Brothers Kuhn Loeb Research estimates.

[c]Coffee data are based on three-year moving average to counterbalance inventory savings.

[d]Data for milk and juice (the latter is included in *Other* category) reflect USDA revisions as of 7/1/80.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 12 • Major Media Spending by Top Five Soft-Drink Competitors (thousands of dollars)

	1973	*1974*	*1975*	*1977*
Coca-Cola Co.				
Coca-Cola	$24,013.4	$22,122.1	$20,261.3	$24,227.1
Tab	5,315.8	5,099.3	6,369.5	4,195.5
Fresca	2,589.9	2,544.5	2,381.3	1,273.0
Sprite	1,738.0	2,463.1	2,542.3	4,188.3
Diet Sprite	N.Av.	N.Av.	10.2	293.4
Fanta beverages	391.8	147.2	74.5	117.6
Mr. Pibb	264.3	911.1	1,297.4	1,208.2
Mr. Pibb Diet	N.Av.	N.Av.	13.0	11.2
Other, general[a]	412.7	817.8	407.4	790.9
Total	34,725.9	34,105.1	33,356.9	36,305.2
Company total[b]	$40,980.9	$41,605.6	$41,931.8	$52,385.8
PepsiCo, Inc.				
Pepsi-Cola	$13,383.2	$14,795.4	$14,557.1	$24,410.0
Diet Pepsi	4,097.5	4,138.8	3,673.1	6,387.5
Mountain Dew	349.5	634.6	2,577.3	4,457.5
Pepsi-Light	N.Av.	N.Av.	918.2	6,565.0
Teem	0.8	N.Av.	61.2	248.8
Other[a]	466.7	60.8	366.8	1,225.6
Total	18,297.7	19,629.6	22,153.7	43,294.4
Company total[b]	$36,040.1	$37,607.0	$42,447.6	$77,851.8
Seven-Up				
7-Up	$10,430.6	$10,185.0	$ 9,230.5	$12,897.9
Diet 7-Up	2,068.4	1,967.1	743.3	N.Av.
Sugar Free 7-Up	N.Av.	N.Av.	2,482.6	1,489.1
Other[a]	218.4	252.6	949.4	327.2
Total	12,717.4	12,404.7	13,405.8	14,714.2
Company total[b]	$13,048.8	$12,911.6	$14,013.9	$14,714.2

Philip Morris, Inc.: Seven-Up Acquisition (A)
EXHIBIT 12 • *continued*

	1973	*1974*	*1975*	*1977*
Dr. Pepper Co.				
Dr. Pepper	$5,245.8	$5,401.9	$ 4,574.5	$ 6,871.0
Sugar Free Dr. Pepper	95.7	1,739.1	1,547.6	1,771.5
Diet Dr. Pepper	1,113.4	N.Av.	N.Av.	N.Av.
Other[a]	30.8	20.1	297.3	155.4
Total	6,485.7	7,161.1	6,419.4	8,797.9
Company total[b]	$6,604.2	$7,279.5	$ 6,506.1	$ 8,881.5
Royal Crown Cos.				
Royal Crown Cola	$1,279.9	$ 579.9	$ 486.1	$ 7,418.8
Diet Rite Cola	626.4	2,130.6	3,388.6	2,289.3
Diet Rite beverages	2,351.2	133.5	108.8	4.8
Other[a]	3,605.7	5,116.8	10,088.3	245.5
Total	7,863.2	7,960.8	14,071.8	9,958.4
Company total[b]	$8,064.3	$8,094.2	$14,784.8	$17,589.2

[a]Figures in this category are an aggregate of all nonproduct-specific expenditures, e.g., general company promotions, promotional tie-ins between products (Tab and Fresca or Diet and Regular Dr. Pepper), sweepstakes, youth sports programs, etc. The numbers are included inasmuch as the expenditures are likely generally to support specific products. Expenditures for lower volume products, such as the Dr. Pepper Co.'s Big Red Soft Drink or PepsiCo's Rebel beverage, are not included in the *Other* category.

[b]Represents total media spending by the company for all products.

Source: Leading National Advertisers, New York, January–December 1973–1975 and 1977. Figures represent total expenditures in 6 media areas: magazines, newspaper supplements, network television, spot television, network radio, and outdoor advertising. All numbers are estimates.

Philip Morris, Inc.: Seven-Up Acquisition (A)

EXHIBIT 13 • Five Leading Concentrate Manufacturers: Analysis of Sales, 1976–1977 (millions of dollars)

	1976		1977	
Company and Product Line	*Sales*	*Earnings*	*Sales*	*Earnings*
Coca-Cola Co.	$3,033	$586	$3,560	$678
Soft drinks	77%	87%	75%	87%
Other (juices, tea, coffee, wine, etc.)	23	13	25	13
Total	100%	100%	100%	100%
PepsiCo, Inc.	$3,109	$360	$3,649	$412
Beverages	37%	40%	38%	44%
Food products	30	30	29	28
Food service	12	17	14	18
Transportation	13	6	12	6
Sporting goods	8	7	7	5
Total	100%	100%	100%	100%
Seven-Up Company[a]	$ 233	$ 44	$ 251	$ 45
Soft drinks	79%	90%	78%	90%
Lemon products	13	2	14	5
Flavors/colors	8	8	8	4
Total	100%	100%	100%	100%
Dr. Pepper Co.	$ 187	$ 32	$ 227	$ 37
Beverages (total)	100%	100%	100%	100%
Royal Crown Cos.	$ 287	$ 38	$ 350	$ 39
Soft drinks	61%	61%	58%	56%
Citrus	16	17	15	21
Home decorating	21	20	16	12
Fast food	2	2	11	12
Total	100%	100%	100%	100%

[a]Diversification within the Seven-Up Company had occurred fairly steadily in the period from 1970 to 1978, as shown below:

1970 Acquired Warner-Jenkinson Co., the dominant source of Seven-Up extract for over 50 years and a highly respected technical leader in the manufacture of flavors, colors, and fragrances.

1972 Acquired the first company-owned bottling company, subsequently named the Seven-Up Bottling Co. of Phoenix, Ariz.

1973 Acquired Ventura Coastal Corp., which grew, processed, and sold fresh lemons and lemon products, including frozen concentrate for lemonade. Ventura supplied roughly one-third of the lemonade market and provided the Seven-Up Co. with one-fifth of its lemon oil needs. Warner-Jenkinson acquired a small company with operations related to its own.

1974 Ventura Coastal Corp. acquired the Golden Crown Citrus Co., a manufacturer of juices. Golden Crown's product line was subsequently expanded to handle the frozen concentrates being produced by Ventura, and a new powdered lemonade was developed and put into test marketing. Warner-Jenkinson acquired a second small company with related operations.

1978 Oregon Freeze Dried Foods was acquired in February for $9.8 million in cash. The company, which had sales of $10.5 million in the year ending 6/30/77, was touted as the world's leading processor of freeze-dried goods.

Source: Company reports and *Value Line*.

Case

Dozier Industries (A)

Richard Rothschild, the chief financial officer of Dozier Industries, returned to his office after a meeting with two officers of Southeastern National Bank. He had requested the meeting to discuss financial issues related to Dozier's first major international sales contract, which had been confirmed the previous day, January 13, 1986. Initially, Rothschild had contacted Robert Leigh, a vice president at the bank who had primary responsibilities for Dozier's business with Southeastern National. Leigh had in turn suggested that John Gunn of the bank's International Division be included in the meeting since Leigh felt that he, himself, lacked the international expertise to answer all the questions Rothschild might raise.

The meeting had focused on the exchange risk related to the new sales contract. Dozier's bid of £1,175,000 for the installation of an internal security system for a large manufacturing firm in the United Kingdom had been accepted. In accordance with the contract, the British firm had transferred by cable £117,500 (i.e., 10 percent of the contract amount) as deposit on the contract, with the balance due at the time the system was completed. Dozier's production vice president, Mike Miles, had assured Rothschild that there would be no difficulty in completing the project within the 90-day period stipulated in the bid. As a result, Rothschild was planning on receiving £1,057,500 on April 14, 1986.

History of the Company

Dozier Industries was a relatively young firm specializing in electronic security systems. It had been established in 1973 by Charles L. Dozier, who was still president and the owner of 78 percent of the stock. The remaining 22 percent of the stock was held by other members of management. Dozier had formerly been a design engineer for a large electronics firm. In 1973 he began his own company to market security systems and

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This case was prepared by Professor Mark R. Eaker as a basis for classroom discussion.

began by concentrating on military sales. The company experienced rapid growth for almost a decade. However in 1982, as Dozier faced increased competition in this market, management attempted to branch out to design systems for the private sector, namely small firms and households. Dozier's inexperience in this market, combined with poor planning efforts, slowed sales growth and led to a severe reduction in profits (see Exhibit 1). The company shifted its focus to larger corporations and met with better success. In 1985 the company showed a profit for the first time in three years, and management was confident that the company had turned the corner. Exhibit 2 contains the balance sheet at the end of 1985.

The company's management believed that sales to foreign corporations represented good prospects for future growth. Consequently, in the spring of 1985, Dozier had launched a marketing effort overseas. The selling effort had not met with much success until the confirmation of the contract discussed previously. The new sales contract, although large in itself, had the potential of being expanded in the future since the company involved was a large multinational firm with manufacturing facilities in many countries.

Foreign Exchange Risk and Hedging

On January 13, the day the bid was accepted, the value of the pound was $1.4480. However, the pound had weakened over the past six weeks (see Exhibit 5). Rothschild was concerned that the value of the pound might depreciate even further during the next 90 days, and it was this worry that prompted his discussion at the bank. He wanted to find out what techniques were available to Dozier to reduce the exchange risk created by the outstanding pound receivable.

Gunn, the international specialist, had explained that Rothschild had several alternatives. First, of course, he could do nothing. This would leave Dozier vulnerable to pound fluctuations that would entail losses if the pound depreciated, or gains if it appreciated versus the dollar. On the other hand, Rothschild could choose to hedge his exchange risk.

Gunn explained that a hedge involved taking a position opposite to the one that was creating the foreign exchange exposure. This could be accomplished either by engaging in a forward contract or via a spot transaction. Since Dozier had an outstanding receivable in pounds, the appropriate hedging transactions would be to sell pounds forward 90 days or to secure a 90-day pound loan. By selling pounds forward, Dozier would incur an obligation to deliver pounds 90 days from now at the rate established today. This would insure that Dozier would receive a set dollar value for its pound receivable, regardless of the spot rate that existed in the future.

The spot hedge worked similarly in that it also created a pound obligation 90 days hence. Dozier would borrow pounds and exchange the pro-

ceeds into dollars at the spot rate. On April 13, Dozier would use its pound receipts to repay the loan. Any gains or losses on the receivable due to a change in the value of the pound would be offset by equivalent losses or gains on the loan payment.

Leigh assured Rothschild that Southeastern National would be able to assist Dozier in implementing whatever decision Rothschild made. Dozier had a $3 million line of credit with Southeastern National. John Gunn indicated that there would be no difficulty for Southeastern to arrange the pound loan for Dozier through its correspondent bank in London. He believed that such a loan would be priced 1½ percent above the U.K. prime rate. In order to assist Rothschild in making his decision, Gunn provided him with information on interest rates and spot and forward exchange rates (see Exhibits 4 and 5).

Rothschild was aware that in preparing the bid Dozier had allowed for a profit margin of only 6 percent in order to increase the likelihood of winning the bid and, hence, developing an important foreign contact. The bid was submitted on December 3, 1985. In arriving at the bid, the company had estimated the cost of the project, added an amount as profit, but kept in mind the highest bid that could conceivably win the contract. The calculations were made in dollars and then converted to pounds at the spot rate existing on December 3 (see Exhibit 3), since the U.K. company had stipulated payment in pounds.

Rothschild realized that the amount involved in the contract was such that an adverse move in the pound exchange rate could put Dozier in a loss position for 1986 if the transactions were left unhedged. On the other hand, he also became aware of the fact that hedging had its own costs. Still, a decision had to be made. He knew that no action implied that an unhedged position was the best alternative for the company.

Dozier Industries (A)

EXHIBIT 1 • Sales and Income Summary (in thousands)

Year Ended December 31	*Sales*	*Net Income*
1973	$ 456	$ 41
1974	631	54
1975	890	73
1976	1,610	151
1977	3,860	324
1978	7,242	760
1979	11,338	1,162
1980	15,138	1,488
1981	20,371	1,925
1982	21,455	712
1983	22,501	(242)
1984	23,986	(36)
1985	$25,462	$ 309

Dozier Industries (A)

EXHIBIT 2 • Balance Sheet as of December 31, 1985

Assets		
Current assets		
Cash and securities		$ 294,572
Accounts receivable		1,719,494
Inventories		2,227,066
Total current assets		$ 4,241,132
Property, plant, and equipment:		
At cost	8,429,812	
Less accumulated depreciation	2,633,404	
Net plant		5,796,408
Other assets		
Investments and loans		450,000
Total assets		$10,487,540
Liabilities and Equity		
Current liabilities		
Accounts payable		$ 934,582
Notes payable—bank		652,800
Total current liabilities		1,587,382
Long-term liabilities		
Notes payable		550,000
Common equity		
Common stock		2,253,410
Reserves		627,244
Retained earnings		5,469,504
Total equity		8,350,158
Total liabilities and equity		$10,487,540

Dozier Industries (A)

EXHIBIT 3 • Bid Preparation

Materials	$ 847,061
Direct Labor	416,820
Shipping	70,000
Direct overhead[a]	208,410
Allocation of indirect overhead	100,492
Total cost	1,642,783
Profit factor	98,567
Total	$1,741,350
Spot pound rate on December 3: 1.4820	
Pound value of the bid: £1,175,000	

[a]Based on 50% of direct labor.

Dozier Industries (A)

EXHIBIT 4 • Interest and Exchange Rate Comparisons—January 14, 1986

	United States	*United Kingdom*
Three-month money[a]	7.65%	13.41%
Prime lending rate	9.50	13.50
Three-month deposits (large amounts)	8.00	12.90
Euro $ 3 month (LIBOR)	N.Ap.	8.3
Euro £ 3 month (Paris)	13.2	N.Ap.
Three-month treasury bills in London		12.2
The spot rate for the pound:	1.4370	N.Ap.
Three-month forward pound:	1.4198	N.Ap.

N.Ap. = not applicable.

[a]Prime commercial paper in the United States; interbank rates in the United Kingdom.

Source: *The Economist*

Dozier Industries (A)

EXHIBIT 5 • Historical Spot and Forward Pound Rates in U.S. Dollars

Date	*Spot*	*Three-month Forward Rate*
7/9/85	$1.3640	$1.3490
7/16	1.3880	1.3744
7/23	1.4090	1.3963
7/30	1.4170	1.4067
8/6	1.3405	1.3296
8/13	1.3940	1.3828
8/20	1.3900	1.3784
8/27	1.3940	1.3817
9/4	1.3665	1.3553
9/10	1.3065	1.2960
9/17	1.3330	1.3226
9/24	1.4200	1.4089
10/1	1.4120	1.4005
10/8	1.4155	1.4039
10/15	1.4120	1.4007
10/22	1.4290	1.4171
10/29	1.4390	1.4270
11/5	1.4315	1.4194
11/12	1.4158	1.4037
11/19	1.4320	1.4200
11/26	1.4750	1.4628
12/3	1.4820	1.4704
12/10	1.4338	1.4214
12/17	1.4380	1.4249
12/23	1.4245	1.4114
12/30	1.4390	1.4260
1/7/86	1.4420	1.4284
1/14/86	$1.4370	$1.4198

Source: *Chicago Mercantile Exchange Statistical Yearbook.*

Case

Dozier Industries (B)

Richard Rothschild, the chief financial officer of Dozier Industries, was still contemplating how best to manage the exchange risk related to the company's new sales contract. The £1,057,500 balance of the contract was due in three months on April 14, 1986, creating a long position in British pounds. Rothschild had spoken previously to John Gunn, an officer in the International Division of Southeastern National Bank, about hedging his long pound exposure. Gunn had explained two alternatives available to Dozier to reduce the exchange risk: a forward contract or a spot transaction. Either transaction would ensure that Dozier would receive a set dollar value for its pound receivable, regardless of any change in the value of the pound. Given his previous analysis of the foreign exchange market, Rothschild was concerned that both of these hedging alternatives would "lock in" a profit margin below the 6 percent he had originally anticipated for the contract. He wondered if there were some way to get the upside potential without all the risk.

The pound had weakened since his bid submission date on December 3 (See Exhibit 1), but he was not entirely convinced it would continue to fall, or at least not as much as the forward rate indicated. If the future spot rate were greater than the current forward rate, an unhedged position could lead to a gain, whereas a hedged position would create an opportunity lost. Rothschild wondered if other alternatives were available, and he again called John Gunn at the bank for advice.

Gunn explained that Rothschild could also use currency options to hedge against his uncertain foreign exchange exposure. Options provide a means of hedging against volatility without taking a position on expected future rates. Gunn explained that there are two basic varieties of options contracts: puts and calls. A put gives the holder the right, but not the obligation, to sell foreign currency at a set exercise or "strike" price within a specified time period. A call gives the holder the right to buy foreign currency at a set price. In comparison with a forward or futures contract,

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the holder of an option does not have to transact at the agreed-on price, but has the choice or option to do so. Gunn told Rothschild that options are complicated and increase the front-end cost of hedging in comparison with a forward hedge. He said Rothschild could find the prevailing option contract prices in *The Wall Street Journal* (See Exhibit 2).

It appeared to Rothschild that options contracts might provide some benefit. He wondered if options contracts were the best alternative for Dozier right now. He also wondered whether he could have used options contracts when preparing his bid.

Dozier Industries (B)

EXHIBIT 1 • Historical Spot and Forward Pound Rates in U.S. Dollars

Date	*Spot*	*Three-month Forward Rate*
7/9/85	$1.3640	$1.3490
7/16	1.3880	1.3744
7/23	1.4090	1.3963
7/30	1.4170	1.4067
8/6	1.3405	1.3296
8/13	1.3940	1.3828
8/30	1.3900	1.3784
8/27	1.3940	1.3817
9/4	1.3665	1.3553
9/10	1.3065	1.2960
9/17	1.3330	1.3226
9/24	1.4200	1.4089
10/1	1.4120	1.4005
10/8	1.4155	1.4039
10/15	1.4120	1.4007
10/22	1.4290	1.4171
10/29	1.4390	1.4270
11/5	1.4315	1.4194
11/12	1.4158	1.4037
11/19	1.4320	1.4200
11/26	1.4750	1.4628
12/3	1.4820	1.4704
12/10	1.4338	1.4214
12/17	1.4380	1.4249
12/23	1.4245	1.4114
12/30	1.4390	1.4260
1/7/86	1.4420	1.4284
1/14/86	$1.4370	$1.4198

Source: *Chicago Mercantile Exchange Statistical Yearbook.*

Dozier Industries (B)

EXHIBIT 2 • Foreign Currency Options on January 14, 1986

Options and Underlying	*Strike Price*	*Calls-Last*			*Puts-Last*		
		Jan.	*Feb.*	*Mar.*	*Jan.*	*Feb.*	*Mar.*
12,500 British Pounds—cents per unit							
British Pound	.130	s	r	13.50	s	r	r
144.41	.135	s	r	9.20	s	0.20	0.50
144.41	.140	s	4.50	4.75	s	0.80	1.55
144.41	.145	s	1.55	2.50	s	3.10	4.40
144.41	.150	s	0.40	0.90	s	r	r

r—not traded; s—no option offered

Last is premium (purchase price).

Source: *The Wall Street Journal.* Foreign Currency Options listed on the Philadelphia Exchange.

Dozier Industries (B)

EXHIBIT 3 • Foreign Currency Options on December 3, 1985

Options and Underlying	*Strike Price*	*Calls-Last*			*Puts-Last*		
		Dec.	*Jan.*	*Mar.*	*Dec.*	*Jan.*	*Mar.*
12,500 British Pounds—cents per unit							
British Pound	.120	29.00	s	28.95	r	s	r
148.86	.130	19.10	r	r	r	r	r
148.86	.135	13.80	r	14.60	0.05	r	r
148.86	.140	8.80	r	10.00	0.05	r	s
148.86	.145	4.00	4.50	5.70	0.20	1.05	3.20
148.86	.150	0.65	1.65	3.35	r	r	5.60
148.86	.155	r	0.50	1.70	r	r	r

r—not traded; s—no option offered

Last is premium (purchase price).

Source: *The Wall Street Journal.* Foreign Currency Options listed on the Philadelphia Exchange.

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BIDDING FOR HERTZ: LEVERAGED BUYOUT

Overview

In late summer 2005, Greg Ledford, managing director and head of automotive and transportation buyouts at the Carlyle Group, found himself examining his BlackBerry atop the Great Wall of China. Though he had planned to be sightseeing with his daughter, his immediate focus was to finalize the terms of the second-largest leveraged buyout in history. The target in question was Hertz, a subsidiary of the Ford Motor Company, which was up for sale. Ledford needed to decide the price he and his co-investors would offer for Hertz as well as assess the potential returns and risks of the deal. Already months of work, many dollars of due diligence, and arrangement of tentative financing had gone into the bid. Complicating matters, he knew he faced tough competition from a rival buyout group, no doubt engaged in a similar process.

The race to win Hertz had been set in motion several months earlier, when William Clay Ford Jr., the chairman and CEO of Ford, announced plans to explore "strategic alternatives" for Hertz in April 2005. That announcement was followed in June 2005 by the filing of an S-1 registration statement setting up a "dual track process" that would result in a Hertz IPO should other sale prospects fail. Ledford, who spoke to senior Ford managers on a regular basis, had gleaned that there was interest on Ford's part for an outright sale of Hertz. He believed a private sale that was competitive with an IPO would be viewed favorably by Ford due to its greater up-front cash proceeds and certainty of execution. When no strategic buyer surfaced, Carlyle, Clayton, Dubilier & Rice (CD&R), and Merrill Lynch Global Private Equity (collectively "Bidding Group") joined forces to bid on Hertz. It faced competition from another buyout consortium that included Texas Pacific Group, Blackstone, Thomas H. Lee Partners LP, and Bain Capital LLC.

This case was prepared by Susan Chaplinsky, Professor of Business Administration, Darden Graduate School of Business, and Felicia Marston, Professor, McIntire School of Commerce. It was written as a basis for class discussion rather than to illustrate effective or ineffective handling of an administrative situation.

Hertz Ownership History

Hertz's ownership history was characterized by a series of sales, public offerings, and leveraged buyouts (**Exhibit 1**).[1] The company was first established in 1918 by 22-year-old Walter L. Jacobs as a car rental operation with a modest inventory of 12 Model T Fords that Jacobs personally had repaired and repainted. The venture was immediately successful, leading Jacobs to expand and generate annual revenues of approximately $1 million within five years. At the $1 million mark, in 1923, Jacobs sold his company to John Hertz, president of Yellow Cab and Yellow Truck and Coach Manufacturing Company, who gave his name to the company, creating "Hertz Drive-Ur-Self System" and a brand name that had endured ever since.

John Hertz sold his investment three years later to General Motors (GM). In 1953, GM in turn sold the Hertz properties to the Omnibus Corporation, which simplified the company's name to "The Hertz Corporation" in connection with a public stock offering on the New York Stock Exchange (NYSE). In late 1987, together with Hertz management, Ford Motor Company participated in a management buyout of the company. Hertz later became an independent, wholly owned subsidiary of Ford in 1994. Less than three years later, Ford issued a minority stake of shares through a public offering on the NYSE on April 25, 1997. In early 2001, Ford reacquired the outstanding shares of Hertz and the company again became a wholly owned subsidiary of the Ford Motor Company.

Hertz Financial History and Business Segments[2]

The large investor interest in Hertz over time was due in part to the company's proven financial ability. In fact, the company had produced a pretax profit each year since 1967. During the period 1985 to 2005, revenues had grown at a compound annual growth rate of 7.6% with positive year-over-year growth in 18 of those 20 years. Over the past same period, Hertz had emerged as a truly global enterprise; it had car rental operations in 145 countries, and more than 30% of its total revenues were from outside of the United States. Hertz was among the most globally recognized brands and had been listed in *BusinessWeek*'s "100 Most Valuable Global Brands" (limited to public companies) in 2005 and every year since it was eligible for inclusion.

Hertz currently operated in two business segments: car rental ("Hertz Rent A Car" or "RAC") and equipment rental ("Hertz Equipment Rental Company" or "HERC"). In 2005, it was estimated that RAC would comprise 81% of company revenues and HERC 19%. RAC was supported by a network of franchises that together with company-owned facilities operated in more than 7,600 airport and local locations throughout the world. The company led its competition in the airport car rental market in Europe with operations at 69 major airports. Hertz owned and leased cars from more than 30 manufacturers, most of which it had long-term leasing

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[1] Information on company history was obtained from the company Web site: http://www.hertz.com (accessed July 31, 2008).

[2] Information on business segments is from Hertz Global Holdings, Inc, 3/30/2007 Form 10-K (Annual Report) (Park Ridge, NJ: Hertz Global Holdings, Inc., 2007).

and replacement agreements with. The equipment rental segment offered a wide range of earthmoving, material handling, and electrical equipment; air compressors; generators; and other equipment. Hertz rented equipment through 360 branches in the United States, Canada, France, and Spain and had an extensive network of international licensees outside these markets.

For the year ended December 31, 2005, Hertz was expected to generate revenues of $7,410 million and EBITDA of $2,759 million. Hertz's most recent income statements and balance sheets are shown in **Exhibit 2** and **Exhibit 3**, along with pre-LBO projections for the full year 2005.

The Car Rental Market

U.S. rental car revenues in 2004 totaled approximately $17.4 billion, an improvement of 5.5% over 2003 (**Exhibit 4**). U.S. industry-wide revenues were, in turn, approximately two-thirds of global revenues. Competition within the global car rental industry was keen and highly concentrated among a few companies. In the United States, the top three competitors, Enterprise Rent-A-Car, Hertz, and Avis Rent A Car (owned by Cendant Corp.), captured approximately 68% of the estimated 2006 market revenues and the top six captured almost 94% of the total. Hertz led in the airport rental segment of the industry while Enterprise dominated the nonairport rental segment. In 2005, it was estimated that approximately 79% of the U.S. RAC revenues would be airport-related rentals. Hertz's market-leading share of the airport rental market was attributed in part to its "Hertz #1 Club Gold" program. About 50% of RAC's vehicle rentals came from Club Gold members.

The car rental business was affected by general economic conditions and more particularly by conditions in the travel industry, especially airline traffic. There was a high correlation between airline traffic (number of enplanements) and industry-wide rental revenues. Following the September 11 terrorist attacks on the United States, there was a sharp downturn in enplanements, but they finally seemed to be rebounding in 2004. The U.S. Department of Transportation predicted enplanements would grow at an annual rate of 3.7% from 2004 to 2010.[3]

Partially due to 9/11, off-airport rentals, which consisted primarily of insurance replacement (rentals provided by insurance companies while the policyowner's automobile was out of service), local business travel, and leisure travel, had recently grown at a faster pace than had airport rentals.

[3] U.S. Department of Transportation.

The Equipment Rental Market

As of August 2005, the size of the North American equipment rental market in revenues was believed to be $25 billion, while that of France and Spain were approximately $4 billion and $2 billion, respectively. But because HERC only offered certain types of equipment, Hertz's applicable market was somewhat smaller.

The equipment rental market was more variable than the car rental market and depended mostly on industrial productivity, particularly commercial and residential construction. Over the past 15 years, the best estimates of growth suggested the market had grown at an annual rate of approximately 9.7%. During this time, there was a trend toward companies in need of equipment renting rather than owning it, which was expected to continue. The market had experienced rapid growth in the 1990s but had slowed considerably between 2000 and 2003 with the decline in the economy. The equipment rental market had recently started to rebound from the 2000–03 levels, a rebound which was expected to continue.

Unlike the car rental market, the U.S. equipment rental industry was highly fragmented with few national competitors. Other major national scale operators like Hertz included United Rentals, Inc., and RSC Equipment Rentals, a division of the Atlas Copco Group. The equipment rental business was highly competitive, and rental prices had started declining in 2001 and did not improve in North America until 2004. Prices in France and Spain had yet to stop declining.[4]

Instead of a concentrated source of revenues (U.S. airports), customers of the equipment rental industry were widely scattered throughout the country. This complicated the distribution of equipment and reduced the opportunity to achieve scale in operations, encouraging local players to compete with large businesses. Nonetheless, Hertz was a top player in the industry, ranking third based on 2005 revenues. Hertz's diverse customer base also helped to alleviate some of the risks of cyclicality and seasonality present in the industry.

Tough Times at Ford

Ford's acquisition of Hertz in January 2001 reflected the strategy of its then CEO and president, Jacques A. Nasser. Nasser had been promoted from president of Ford's worldwide automotive operations to become CEO in December 1998.[5] At the same time, Bill Ford Jr., a great-grandson of Henry Ford, assumed the role of company chairman. Nasser's strategy was to turn Ford into something, anything, other than a traditional car company. He attempted to shrink Ford's mainstream automotive divisions and remake it into a leading consumer company in automotive products and services. Known for his abrasive style, Nasser frenetically pursued his strategy, jetting around the world and working 20-hour days. He acquired Volvo, Land Rover,

[4] Consortium internal documentation on Hertz LBO.
[5] Keith Bradsher, "The Top Spot at Ford is Returning to a Ford," *New York Times*, September 12, 1998.

Hertz, and spent billions pursuing noncore operations. During Nasser's three-year tenure, Ford's once-impressive $15 billion cash reserve dwindled to less than $1 billion by 2001.[6]

In November 2001, Bill Ford Jr. assumed the CEO role at Ford replacing Nasser. After the turbulent years of Nasser, Bill Ford's ascension to CEO was greeted enthusiastically.[7] But Ford inherited a company that had lost $5.5 billion the previous year and whose future held great uncertainty. While Ford had a strong line of trucks, its passenger car line was lagging. By mid-2002, Ford was losing $190 per vehicle because of its bloated cost structure and intense pricing pressure from competitors.

Although Ford proposed several restructuring plans that would reduce costs and reenergize its passenger car line, his plans were not enough to stem the company's decline. By the time he announced the company's intentions to explore strategic options for Hertz in April 2005, Ford's stock price had fallen to less than $10 per share. The company continued to lose money, especially in its North American operations.[8] Rumored to be facing a potential downgrade in its bond rating, Hertz looked to be a viable candidate for Ford to raise some much-needed cash to shore up its bond rating and attempt to return its car operations to profitability.

Hertz as an LBO candidate

Although Ford owned 100% of Hertz, Hertz had operated largely without oversight by or obligation to Ford.[9] Members of the Bidding Group had individually evaluated Hertz and believed it to be an attractive leveraged buyout candidate.

Operating Synergies

Hertz's two business segments presented large opportunities for operational improvement. The key drivers of the rental car business included the number of transactions, the length of each rental, revenue per rental day, and fleet utilization. Transaction volume, which was a good indicator of market demand, typically followed growth in the general economy and enplanements. Rental length was largely dependent on customer and end-product mix. Leisure and insurance renters generally rented cars for longer periods than business travelers. Another major driver of revenues was price, or revenue per rental day. Utilization of the fleet also played an important role in determining profitability and return on assets.

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[6] Kathleen Kerwin, "Ford's Long, Hard Road," *BusinessWeek* (October 7, 2002).

[7] Tim Burt and Nikki Tait, "The King of Detroit: Man in the News: Bill Ford," *Financial Times*, November 3, 2001.

[8] Bernard Simon, "Ford Hit by Falling North American Sales," *Financial Times*, July 19, 2005.

[9] In January 2001 when Nasser repurchased Hertz outstanding shares, Ford paid $710 million for the 18.5% of the company it did not already own. It paid $35.50 per share or an 18% premium for Hertz's shares. The acquisition implied a value of approximately $3.8 billion for Hertz equity at the time.

Improvement in any of these drivers had the potential to yield substantial increases in revenue. With travel finally beginning to rebound after the events of 9/11, the near-term market trends appeared favorable, and management had projected transaction volume to grow 6.9% in 2005. With respect to price, the Hertz brand was exceptionally strong and recognized worldwide. Hertz had shown an ability to sustain a premium pricing strategy, which was in part due to its loyal customer base. Although Hertz was the price leader in the market, it could not impose higher rates if competitors chose not to follow.

Hertz was one of the largest private-sector purchasers of new cars in the world. In 2004, the company operated a peak fleet of 300,000 cars in the United States and approximately 169,000 in its international operations. Fleet usage was highly seasonal—it peaked in the second and third quarters of the year and declined in the first and fourth quarters as leisure travel waned. Significant cost savings could arise from right sizing the fleet (purchasing and disposing of cars) to match seasonal demand. Historically, Hertz had purchased the majority of its cars from Ford, but in recent years, it had moved to decrease its reliance on Ford vehicles. In part, this was in response to U.S. auto manufacturers' decision to reduce fleet sales to bolster their own profitability. This had two effects on Hertz and its competitors. First, it increased vehicles costs and second, it increased the proportion of "at risk" vehicles potentially subject to declining residual values.[10] An increase in vehicle costs in 2006 was expected to increase Hertz's acquisition costs and hence fleet capital spending by proportionately more than the previous year.

The Bidding Group compared Hertz with peer firms and with its own historical results to identify the following operational savings.[11]

1. Current adjusted EBITDA margins were approximately 400 basis points (bps) below 2000 levels and were 100 to 200 bps below those of Avis.
2. From 2002 to 2005E non-fleet-related operating expenses had increased by 38% and had outpaced revenue growth by 6%.
3. Hertz's off-airport growth strategy had resulted in significant losses. The Bidding Group would look to rationalize this strategy.
4. U.S. RAC's nonfleet capital expenditures (CAPEX) as a percentage of sales were considerably higher than Avis's long-term CAPEX levels.
5. Europe RAC's SG&A as a percentage of sales and on a per-day basis were three times higher than those in the United States.

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[10] During 2004, Hertz purchased 85% of its U.S. and 74% of its international cars under fleet-repurchase programs with automobile manufacturers. Under these programs, automobile manufacturers agreed to repurchase the cars at a specified price subject to certain car conditions and mileage requirements. The repurchase programs limited the residual risk that Hertz bore on "program cars." The average holding period for a new car was 11 months in the United States and 8 months in its international operations.

[11] Consortium internal documentation for Hertz LBO.

6. HERC's return on assets lagged that of competitors, reflecting an inefficient use of capital. In 2005, HERC's rental revenue on fleet assets was projected to be 70.5%. By comparison, the returns for RSC and United Rentals were expected to be 85% and 116%, respectively.

All told, the Bidding Group believed that an amount between $400 million and $600 million in annual EBITDA savings (relative to 2005 levels) was attainable by 2009. These estimates of operational improvements were confirmed by external industry advisors who had been hired as part of due diligence.

The Bidding Group had also carefully evaluated Hertz's management team. The current management team had considerable industry experience but, partially as a result of Ford's hands-off management style, they operated in an insular manner and had not been pressured to excel. The existing compensation structure was based on market share, and new incentive plans were planned that would target cash flow and capital usage metrics. If removal of the current CEO, Craig Koch, proved necessary, an experienced manager, George Tamke, had been identified to step in. Tamke, who was currently a partner at CD&R, was formerly vice chair and co-CEO of Emerson Electric, and had successfully led CD&R's Kinko's transaction.

Financial Synergies

In addition to operational savings, the Bidding Group had identified several sources of financing value, most notably debt that could be backed by Hertz's fleet of rental cars (asset-backed securitized debt). By contrast, Ford had opted to rely mainly on more expensive unsecured financing.

Asset-backed securitized (ABS) debt was a form of financing commonly used by financial institutions to remove illiquid assets from their balance sheets (such as mortgages or credit card receivables) and raise cash from them. ABS financing required the creation of a special purpose vehicle (SPV) to facilitate its issuance. An SPV was set up to achieve legal isolation of the assets from the original holder of the assets or "originator." The originator conveyed the assets to the SPV (or trust), which transferred ownership of the assets from the originator to the trust. The SPV would then issue securities backed by the assets of the trust. The interest and principal on the securities were paid from the receipt of cash flows that arose from the trust assets. Because the debt issued by the trust was nonrecourse to the originator, an important benefit of ABS was that the credit rating on the debt was based on the trust assets rather than the originator's assets. The proceeds raised from the sale of asset-backed securities to investors were returned to the originator, thereby enabling illiquid assets of the originator to be turned into cash. Although ABS financings were commonplace, this form of financing had never been used in a buyout before Hertz.

In Hertz's case an SPV ("RAC Fleet") would be set up to retain legal ownership of the rental car fleet and its associated debt. Hertz would make payments in the amount of the fleet

depreciation and interest to RAC Fleet, such that it effectively sold the fleet to the SPV and then leased it back (i.e., the depreciation and interest payments effectively represented the operating lease payments). Furthermore, as Hertz acquired (deposed of) cars, it had agreements to increase (decrease) the ABS debt. Investors who purchased ABS debt would be paid through the lease payments Hertz remitted to RAC Fleet. Through a combination of these payments and credit enhancement (including the purchase of insurance for the ABS assets), Hertz hoped to be able to raise $6.1 billion in secured debt at an AAA rating, which was considerably higher than Hertz's current rating of BBB−. The ABS debt carried a low interest rate for LBO-type financing, estimated at about 4.5%.[12]

The Bidding Group believed it held a distinct advantage with respect to financing. Early in the process, it had entered into a financing arrangement with Lehman Brothers and Deutsche Bank to provide ABS debt financing for the transaction. Lehman Brothers and Deutsche Bank held a 90% market share in the ABS market for rental car financing. Not only was the ABS debt less expensive but it also provided a more flexible financing arrangement that allowed for the debt to increase and decrease with fleet size.

Deal Structure

Given the large deal size, the ABS debt was not the only source of financing needed to finance the buyout. **Exhibit 5** shows the proposed financing for the transaction. Although $1,400 million of existing debt would roll over, for the most part, Carlyle and the consortium members planned to raise new debt to finance the deal. In total, the nonequity funding for the transaction was approximately $12.5 billion.[13]

In the summer of 2005, the debt and LBO market had recovered from the lows following the 2001 slowdown. Senior debt, which had fallen to 2.38× EBITDA in 2002, had since recovered to 3.24× EBITDA in 2004. Further relaxation of lending standards had occurred over the course of 2005 and senior debt multiples were expected to close above 4× EBITDA by year end 2005. Deal valuation had followed suit—purchase-price multiples, which had fallen to around 6× EBITDA in 2001, had expanded to more than 8× EBITDA in 2005. **Exhibit 6** shows the recent history of debt and purchase price multiples.

[12] Although the ABS debt was floating rate, there were swap agreements to hedge interest-rate risk such that a good portion of the interest payments would be at a fixed rate rather than a floating rate. The case assumes fixed-rate payments. The international ABS debt was estimated to have a higher interest rate of 4.9%.

[13] There were several iterations of the estimated financing for the transaction. The financing shown in **Exhibit 5** is closer to the actual financing used. Flexibility was built into the financing through the term loan facility and a fleet financing facility (which was unfunded at close).

Valuation of Hertz

The Bidding Group planned to set up both RAC and HERC as separate legal entities within a holding company named "Hertz Corporation" or "HertzCo"—in part due to the decision to use ABS financing, and because later it might facilitate separate disposals of the properties. HertzCo consisted of the two business segments: RAC and HERC. RAC was made up of RAC Operating Company (OpCo), which held claim to the cash flows and nonfleet assets of the car rental company, and RAC Fleet, the subsidiary which housed the rental car fleet. HERC held claim to the cash flows and assets of the equipment rental business. This structure was key to valuing HertzCo—the value of RAC and HERC could be determined separately and then added together to determine the total enterprise value of HertzCo. The value of equity in turn could be determined by subtracting the total operating company and fleet debt from enterprise value. See **Exhibit 7** for a detailed representation.

RAC could be valued by applying an appropriate multiple to RAC OpCo's operating flows and then adding the net book value of the fleet.[14] Due to its relatively short life, the fleet had a fairly transparent market value, which was well approximated by its book value. Because of the ABS debt, the operating company's flows had to be adjusted to reflect the depreciation and interest payments made to RAC Fleet. In essence, the service obligations on the fleet had to be met before the providers of LBO financing were paid. RAC Adjusted EBITDA was therefore RAC Gross EBITDA less fleet depreciation and fleet interest. HERC could be valued by applying an appropriate multiple to HERC Gross EBITDA (Revenues less Direct Operating and SG&A Expenses).[15] HERC did not utilize ABS debt because the market value of equipment rentals was less transparent (due to longer lives and diverse usages).

Exhibits 8 and **9** contain a base-case pro forma income statement and balance sheet with projections for 2006–10. Given projected enplanements, car-rental growth was estimated to slow to 4.5% by 2009 and stabilize at that level. Though the equipment rental market had started to rebound from a cyclical slowdown, equipment rental growth at Hertz had been much more variable, and it was eventually expected to decline over time and to stabilize at 3% by 2010. The base-case estimates build in the low end of $400 million in operational savings over time and incorporate the segment revenue growth rates noted above. RAC fleet expenditures (and ABS debt) were expected to increase as a percentage of sales due to higher vehicle costs, leading to corresponding increases in RAC depreciation.[16]

Exhibit 10 combines the operating cash flows of the two divisions and provides cash-flow projections for 2006–10. Although it was not possible to directly estimate a beta for Hertz,

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[14] It was common industry practice to value the rental fleet separately from the operating company.

[15] Purchase price and other deal metrics were based on Hertz Corporate EBITDA, which was the total of the operating flows of its two business units (i.e., the sum of RAC Adjusted EBITDA + HERC Gross EBITDA).

[16] Working capital (net of cash) was assumed to be maintained at 2005 percentages for the most part, though receivables arising from repurchases of cars by manufacturers were projected to decline as a percentage of sales. Necessary cash (cash and cash equivalents line item) was set at 2% of sales. The projections also built in a small increase in HERC equipment efficiency. PPE, net (nonfleet PPE), was expected to decline more significantly as a percentage of sales.

comparable company equity betas were around 1.5, which, when de-levered, yielded unlevered betas of approximately 0.60. But there was a wide range to these estimates. Interest rates as of August 2005 and market multiples are shown in **Exhibit 11**.

The Decision

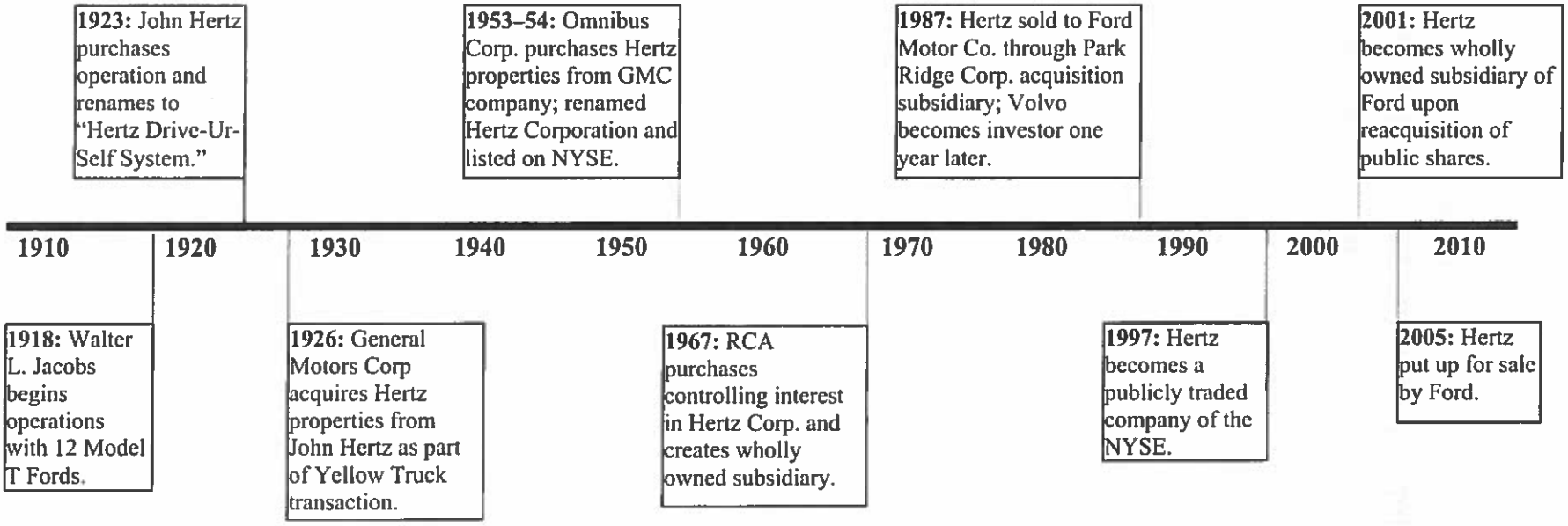
Any bid put forth by the Bidding Group for Hertz would have to satisfy three critical tests. First, it would have to provide adequate returns to the sponsors' limited partners. Second, it would have to be higher than Ford could receive from an IPO. Third, the bid would have to best that of the rival bidding group.

Time was drawing to a close, and Carlyle and its partners needed to finalize their bid. Ledford knew that his investment committee would not only be keenly interested in the possible returns they could expect from Hertz, but also in his views on the risks of the deal and bidding strategy. Although much work had been done, much more lay ahead. It was not turning out to be the vacation he planned.

Exhibit 1

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Hertz Ownership History



Source: Hertz Corporation.

Exhibit 2

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Hertz Historical Consolidated Income Statement
($ millions)

	2002	2003	2004	2005E[1]
RAC				
Revenue	$4,542.7	$4,852.2	$5,490.1	$6,051.7
Direct op ex & SG&A	2,676.3	2,943.9	3,393.9	3,845.2
Gross EBITDA	1,866.4	1,908.3	2,096.2	2,206.5
Fleet depreciation	1,216.7	1,256.4	1,231.9	1,362.2
Fleet interest	270.9	276.2	310.2	380.1
Adjusted EBITDA	378.8	375.7	554.1	464.2
HERC				
Revenue	1,095.7	1,081.5	1,185.9	1,358.0
Direct op ex & SG&A	722.2	717.9	749.6	805.1
Gross EBITDA	373.5	363.6	436.3	552.9
Fleet depreciation	282.8	267.0	231.4	228.0
Fleet interest	95.4	78.9	74.3	96.6
Adjusted EBITDA	-4.7	17.7	130.6	228.3
Total adjusted EBITDA	374.1	393.4	684.7	692.5
Nonfleet depreciation	157.6	156.0	182.7	184.7
Operating company interest expense	0.0	0.0	0.0	0.0
Pretax Income	216.5	237.4	502.0	507.8
Book taxes	77.9	85.5	180.7	182.9
Minority interest	0.0	0.0	3.2	9.7
Net Income	**$138.6**	**$151.9**	**$321.3**	**$324.9**

[1] Reflects pre-LBO estimated net income for 2005.

Data source: Consortium internal documentation.

Exhibit 3

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Hertz Historical Consolidated Balance Sheet
($ millions)

	2002	2003	2004	2005E[1]
Assets				
Cash and equivalents	601.3	1,110.1	1,237.9	1,102.9
Fleet cash enhancement	0.0	0.0	0.0	0.0
Accounts receivable	799.1	1,308.2	1,225.1	1,004.2
Manufacturer receivables	473.8	511.9	600.1	629.7
Inventories	71.8	73.4	83.3	92.7
Prepaid expenses	83.8	90.3	100.1	113.1
Other assets	42.3	45.6	44.1	36.5
Total current assets	2,072.1	3,139.5	3,290.6	2,979.1
Fleet, net	7,425.8	7,793.3	9,122.9	9,767.3
PP&E net	1,111.8	1,169.8	1,236.2	1,354.6
Existing coodwill & intangibles	519.0	536.9	544.4	534.6
New goodwill & intangibles	0.0	0.0	0.0	0.0
Total assets	11,128.7	12,639.5	14,194.1	14,635.6
Liabilities & Stockholders' Equity				
Accounts payable	506.2	757.9	786.0	758.0
Accrued liabilities	789.4	736.4	835.7	819.7
Accrued taxes	52.8	111.4	130.1	129.3
Total current liabilities	1,348.4	1,605.7	1,751.8	1,707.0
Total long-term debt	7,043.2	7,627.9	8,428.0	9,180.3
Public liability & property damage	353.5	398.8	391.7	374.3
Deferred taxes	462.1	721.2	849.7	636.0
Commitments & contingencies	0.0	0.0	0.0	0.0
Minority interest	0.0	0.0	4.9	12.7
Total liabilities	9,207.2	10,353.6	11,426.1	11,910.3
Total equity	1,921.8	2,285.8	2,767.9	2,725.9
Total liabilities & equity	11,129.0	12,639.4	14,194.0	14,636.2

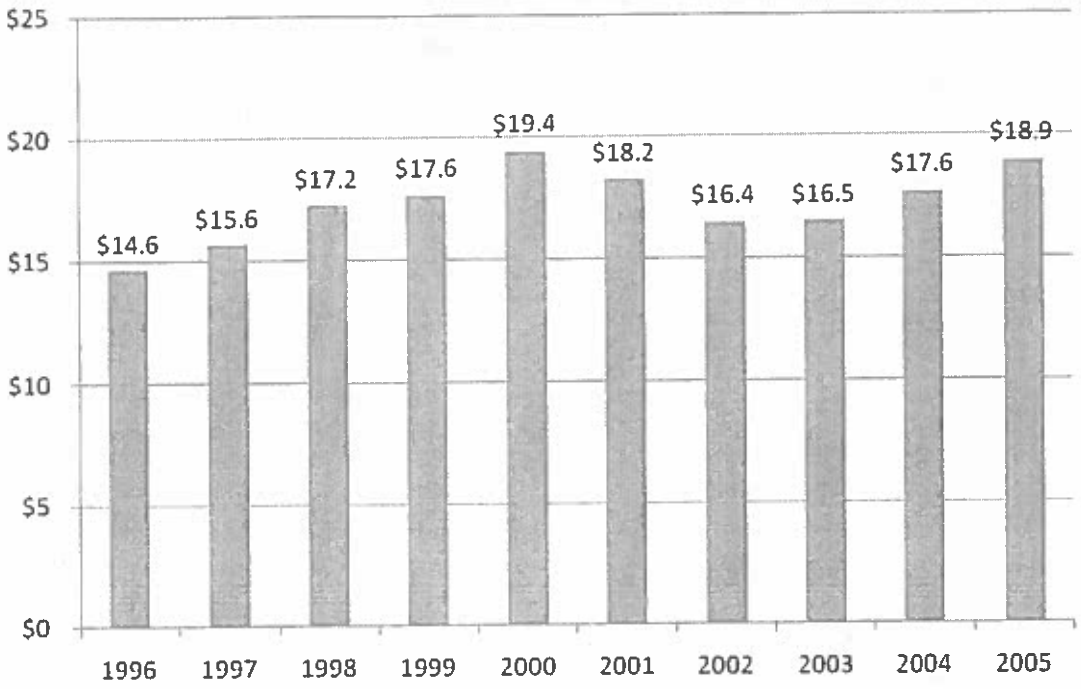
[1] Reflects pre-LBO estimated balance sheet for 2005. Small differences in historical total assets and total liabilities and equity in 2002–04 are due to rounding.

Data source: Consortium internal documentation.

Exhibit 4

BIDDING FOR HERTZ: LEVERAGED BUYOUT

U.S. Rental Car Market Revenues (1996–2005)
($ billions)



Data source: *Auto Rental News*, 2006.

Exhibit 5

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Proposed Financing for the Hertz Buyout

Amount ($ millions)	Type of Security	Rate	Terms
$4,300	U.S. ABS secured notes	4.50%	Could increase with new car purchases, subject to fleet equity requirement[1]
$1,800	International ABS secured notes	4.90%	Could increase with new car purchases, subject to fleet equity requirement[1]
$ 600	Existing ABS debt	4.00%	
$6,700	Total Estimated RAC Fleet/ABS debt		
$1,800	Term Loan Facility	8.00%	Estimated (floating) rate; 7-year term; repay or refinance in 7 years
$ 400	Senior ABL Facility	7.00%	Estimated (floating) rate
$ 200	Senior Euro notes	7.88%	Bullet amortization, due in 2014
$2,000	Senior Unsecured notes	8.875%	Bullet amortization, due in 2014
$ 800	Existing Senior Notes	7.0%	Varying maturities to 2028
$ 600	Senior Subordinated notes	10.50%	Bullet amortization, due in 2016
$12,500	Total Debt		
Other Sources			
$2,300	Sponsor equity		
$14,800	Total payment for assets[2]		

(1) There was a 10% to 20% fleet equity requirement, dependent on the financial strength of the vehicle supplier. The fleet equity requirement was assumed to average 13% of the book value of the fleet.

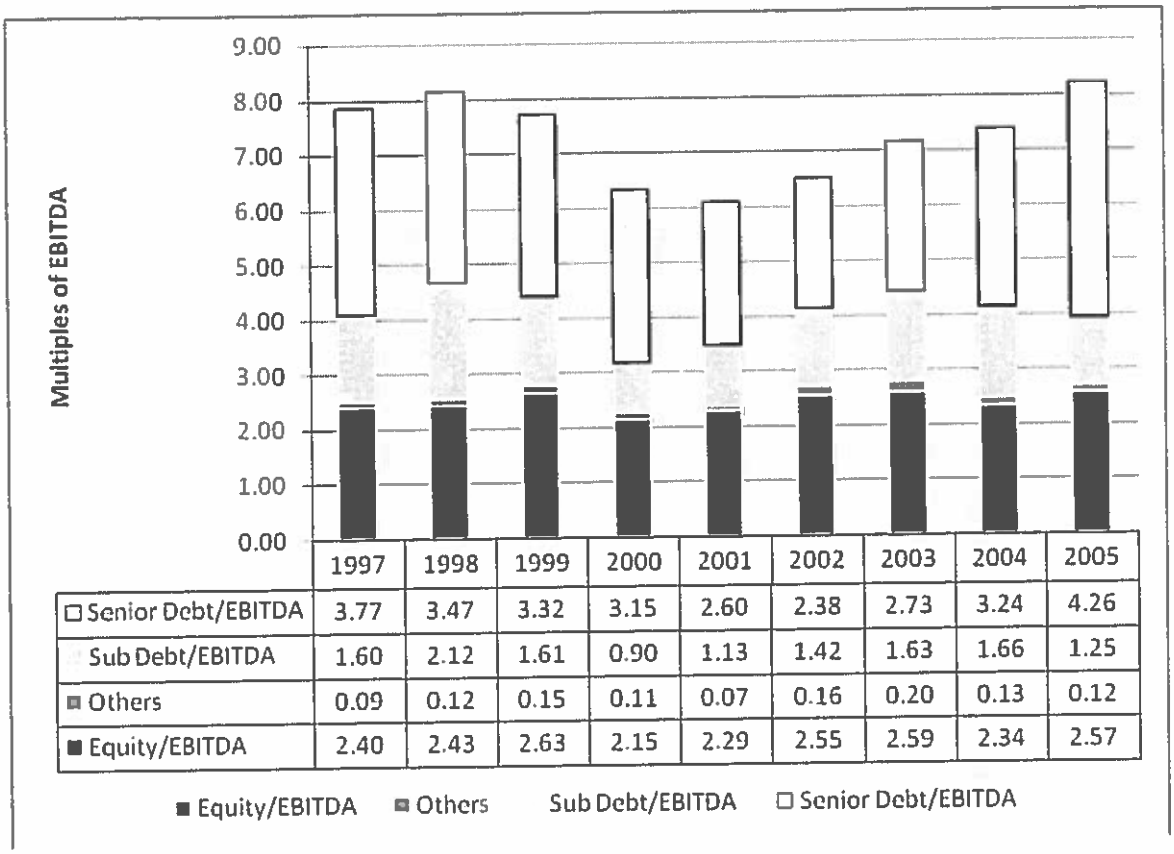
(2) The expected transaction fees approximated the amount of estimated excess cash and hence both net to zero and are ignored for simplicity in the case.

Source: Consortium documentation, Hertz Global Holdings, Inc. form S-1 A, 11/13/2006, and case writer estimates.

Exhibit 6

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Debt and Purchase-Price Multiples for Leveraged Buyouts Greater than $50 Million[1]



	1997	1998	1999	2000	2001	2002	2003	2004	2005
Senior Debt/EBITDA	3.77	3.47	3.32	3.15	2.60	2.38	2.73	3.24	4.26
Sub Debt/EBITDA	1.60	2.12	1.61	0.90	1.13	1.42	1.63	1.66	1.25
Others	0.09	0.12	0.15	0.11	0.07	0.16	0.20	0.13	0.12
Equity/EBITDA	2.40	2.43	2.63	2.15	2.29	2.55	2.59	2.34	2.57

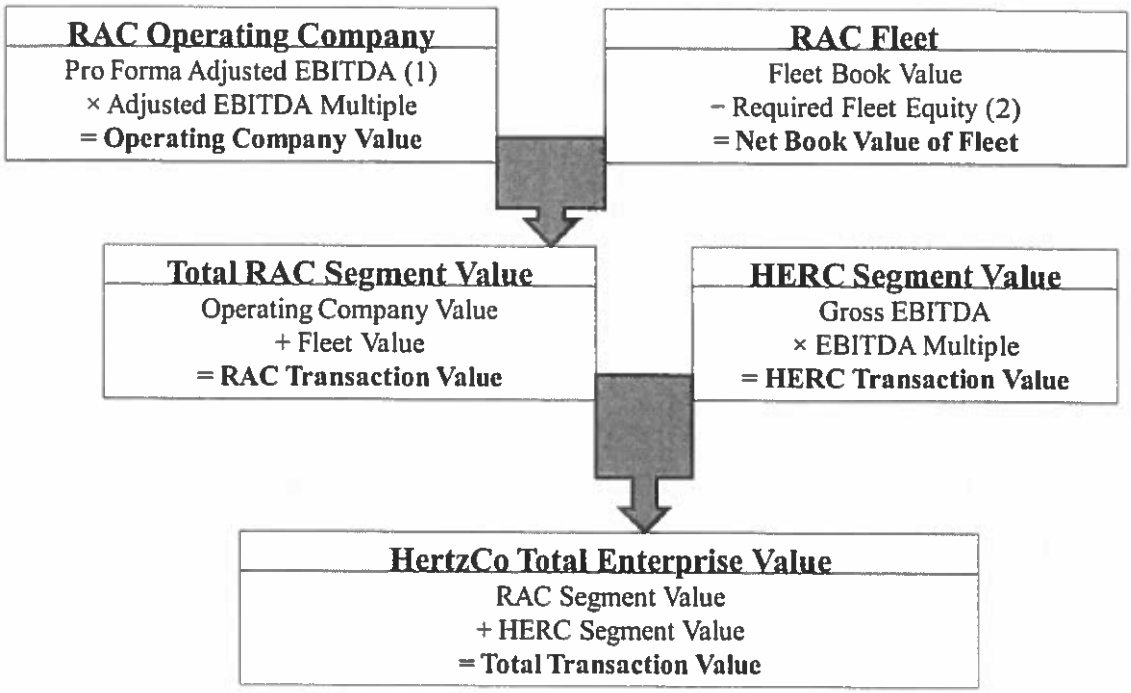
[1] Purchase Price Multiple equals the sum of Senior, Sub Debt, Others, and Equity multiples.

Data source: Standard & Poor's, a division of the McGraw-Hill Companies, Inc.

Exhibit 7

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Valuation Schematic for Hertz Transaction



(1) Pro Forma Adjusted EBITDA = Gross EBITDA – Fleet Depreciation and Fleet Interest

(2) There was a 10% to 20% fleet equity requirement, dependent on the terms of the vehicle supplier. The fleet equity requirement was assumed to average 13% of the book value of the fleet.

Source: Consortium internal documentation, adapted by case writer.

Exhibit 8

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Projected Income Statement
($ millions)

	2005 PF[1]	2006	2007	2008	2009	2010
Business Segments:						
RAC						
Revenue	6,051.7	6,535.8	6,993.3	7,412.9	7,783.6	8,133.9
Direct op ex & SG&A	3,845.2	4,025.3	4,231.0	4,455.1	4,605.6	4,828.2
Gross EBITDA	2,206.5	2,510.5	2,762.3	2,957.8	3,178.0	3,305.7
Fleet depreciation	1,362.2	1,544.7	1,652.9	1,752.0	1,839.6	1,922.4
Fleet interest[2]	366.0	408.1	449.5	479.0	505.6	529.9
Adjusted EBITDA	478.3	557.7	660.0	726.8	832.7	853.4
HERC						
Revenue	1,358.0	1,493.8	1,613.3	1,710.1	1,787.1	1,840.7
Direct op ex & SG&A	805.1	863.1	919.0	968.8	999.5	1,031.3
Gross EBITDA	552.9	630.7	694.3	741.3	787.6	809.4
Fleet depreciation	228.0	249.5	269.5	285.7	298.5	307.5
Fleet interest	0.0	0.0	0.0	0.0	0.0	0.0
Adjusted EBITDA	324.9	381.1	424.8	455.6	489.1	501.9
Hertz Corporation (HertzCo)						
Total adjusted EBITDA	803.2	938.8	1,084.8	1,182.3	1,321.8	1,355.3
RAC nonfleet depreciation	145.9	154.4	159.0	161.0	163.0	165.0
HERC nonfleet depreciation	38.8	41.8	43.0	45.0	46.0	47.0
Operating company (total) EBIT	618.5	742.6	882.8	976.3	1,112.8	1,143.3
OpCo interest expense:						
Term loan facility (RAC),8.0%		144.0	148.1	149.7	141.8	125.0
Senior ABL facility, 7%		28.0	28.0	28.0	28.0	28.0
Euro notes, 7.875%		15.8	15.8	15.8	15.8	15.8
Senior unsecured notes, 8.875%		177.5	177.5	177.5	177.5	177.5
Existing senior notes, 7.00%		56.0	56.0	56.0	56.0	56.0
Senior subordinated notes, 10.5%		63.0	63.0	63.0	63.0	63.0
Total OpCo interest expense	460.8	484.3	488.4	490.0	482.1	465.2
Pretax income	157.7	258.3	394.4	486.4	630.7	678.1
Book taxes (36%)	56.8	93.0	142.0	175.1	227.0	244.1
Net income	100.9	165.3	252.4	311.3	403.6	434.0
Corporate EBITDA[3]	1,031.2	1,188.4	1,354.3	1,468.0	1,620.3	1,662.8

[1] Reflects 2005PF income statement in **Exhibit 2** adjusted for LBO capital structure (and associated increase in total interest expense). Transaction costs are excluded for simplicity.

[2] Fleet interest exceeds the interest rate times the average year-end balances on the fleet debt due to additional ABS debt incurred intra-year to meet seasonal peaks in automobile rentals.

[3] Sum of RAC Adjusted EBITDA and HERC Gross EBITDA.

Source: Case writer estimates from consortium documents and Hertz Global Holdings,Inc. form S-1 A, 11/13/2006.

Exhibit 9

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Projected Balance Sheet [1]
($ millions)

	2005 PF[2]	2006	2007	2008	2009	2010
Assets						
Cash and equivalents	300	161	172	183	191	200
Fleet cash enhancement	317	342	366	388	407	425
Accounts receivable	1,004	1,088	1,166	1,236	1,297	1,352
Manufacturer receivables	630	667	713	756	794	829
Inventories	93	100	108	114	120	125
Prepaid expenses	113	123	131	139	146	152
Other assets	37	40	42	45	47	49
Total current assets	2,493	2,520	2,699	2,861	3,002	3,132
Fleet	9,767	10,960	11,750	12,455	13,065	13,613
RAC fleet	7,701	8,733	9,344	9,905	10,400	10,868
HERC fleet	2,066	2,227	2,405	2,550	2,665	2,745
PP&E, net	1,355	1,445	1,463	1,460	1,474	1,516
Goodwill & intangibles	3,915	3,915	3,915	3,915	3,915	3,915
Total assets	17,530	18,841	19,827	20,691	21,456	22,177
Liabilities & Stockholders' Equity						
Accounts payable	758	821	880	933	979	1,020
Accrued liabilities	820	888	952	1,009	1,059	1,103
Accrued taxes	129	140	150	159	167	174
Total current liabilities	1,707	1,850	1,983	2,102	2,205	2,298
Long-term debt:						
Term loan facility, 8.0%	1,800	1,852	1,872	1,773	1,562	1,314
U.S. ABS notes, 4.5% [3]	4,300	4,902	5,258	5,585	5,873	6,146
International ABS notes, 4.9%[3]	1,800	2,096	2,272	2,433	2,575	2,709
Existing ABS debt, 4.0%	600	600	600	600	600	600
Fleet (ABS) financing facility	0	0	0	0	0	0
Senior ABL facility, 7%	400	400	400	400	400	400
Senior euro notes, 7.88%	200	200	200	200	200	200
Senior unsecured notes, 8.875%	2,000	2,000	2,000	2,000	2,000	2,000
Existing senior notes, 7.0%	800	800	800	800	800	800
Senior subordinated notes, 10.5%	600	600	600	600	600	600
Total long-term debt	12,500	13,450	14,001	14,390	14,611	14,769
Public liability & property damage	374	374	374	374	374	374
Deferred taxes	636	689	739	783	821	856
Minority interest	13	13	13	13	13	13
Total liabilities	15,230	16,376	17,110	17,662	18,024	18,310
Total equity	2,300	2,465	2,718	3,029	3,433	3,867
Total liabilities & equity	17,530	18,841	19,827	20,691	21,456	22,177

(1) Small differences in the totals and the sum of individual line items are due to rounding.
(2) Reflects 2005 balance sheet in **Exhibit 3** adjusted for LBO capital structure.
(3) ABS debt balances increase over time due to increases in RAC fleet from growth and rising vehicle costs.

Source: Case writer estimates from consortium documents and Hertz Global Holdings,Inc. form S-1 A, 11/13/2006.

Exhibit 10

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Projected Cash Flows to Operating Company[1]
($ millions)

	2006	2007	2008	2009	2010
Net Income	165.3	252.4	311.3	403.6	434.0
Add: increase in deferred taxes	53.2	49.5	44.3	38.4	34.7
Add: HERC fleet depreciation	249.5	269.5	285.7	298.5	307.5
Add: total nonfleet depreciation	196.2	202.0	206.0	209.0	212.0
Less: HERC fleet CAP EX	410.7	447.7	430.0	413.3	387.4
Less: total nonfleet CAP EX	287.0	219.8	202.6	223.2	254.2
Less: increase in NWC	–115.8	46.3	43.0	38.3	37.0
Less: net fleet equity requirement	134.2	79.5	72.9	64.4	60.8
Cash Flow available to pay down debt[2]	–51.7	–19.8	98.8	210.4	248.6
Add: operating company interest after tax	309.9	312.6	313.6	308.5	297.8
Free Cash Flow to Capital (unlevered)	258.2	292.8	412.4	518.9	546.3

[1] Depreciation and capital expenditures associated with RAC fleet are not added back/subtracted from projections because the RAC fleet is valued separately from the operating company.
[2] The sponsors would use the available cash flow to pay off the 8% term loan facility.

Source: Case writer estimates from consortium documents and and Hertz Global Holdings,Inc. form S-1 A, 11/13/2006.

Exhibit 11

BIDDING FOR HERTZ: LEVERAGED BUYOUT

Comparable Company Analysis
($ millions)

Company[1]	Stock Price (8/15/05)	Equity Value	Enterprise Value (EV)[2]	LTM Financials			Price Earnings		Enterprise Value/LTM	
				Revenue	EBITDA	EBITDA Margin	2005E	2006E	Revenue	EBITDA
Car Rental										
Amerco	$58.01	$1,236	$1,929	$2,047	$298	14.60%	19.1	15.7	0.94	6.47
Cendant	$20.54	$22,117	$26,417	$20,454	$3,119	15.20%	14.6	12.3	1.29	8.47
Dollar Thrifty	$32.30	$846	$661	$1,481	$107	7.20%	15	13.7	0.45	6.18
Equipment Rental										
United Rentals	$18.49	$1,440	$4,212	$3,013	$785	26.10%	10.8	8.7	1.4	5.37
Ashtead Group	$2.04	$675	$1,567	$1,144	$246	21.50%	16.9	11.8	1.37	6.37
Atlas Copco	$18.02	$10,942	$11,823	$6,270	$1,495	23.80%	16.8	15.2	1.89	7.91

(1) Cendant held Avis and other travel related businesses. RSC Equipment Rentals was a division of Atlas Copco.

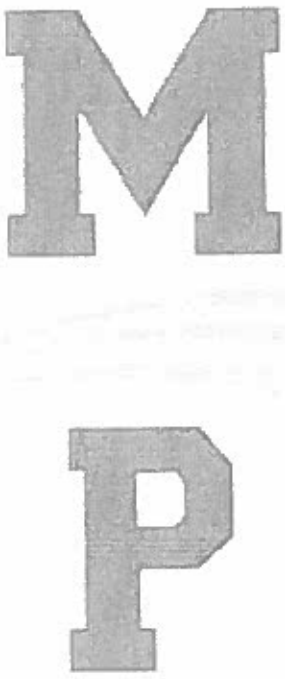
(2) Enterprise Value for car and truck rental represents the value of the operating company, such that the associated multiples represent the multiples for the operating company. Similarly, EBITDA for car rental represents adjusted EBITDA. Dollar Thrifty Automotive Group, Inc.'s enterprise value is less than equity value because all of its debt is fleet-based (there is no operating company debt) and because Dollar Thrifty has $185 million in excess cash.

Source: Consortium internal documentation on LBO.

Treasury and Corporate Rates—August 2005

3-month T-bill	3.44%
5-year Treasury Bond	4.12%
10-year Treasury Bond	4.26%
Corporate BBB Bonds	5.98%

Source: http://research.stlouisfed.org/fred2/ (accessed October 30, 2008).



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