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**PERFORMANCE
MEASUREMENT AND
MANAGEMENT CONTROL:
A COMPENDIUM
OF RESEARCH**

EDITED BY

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CONTENTS

LIST OF CONTRIBUTORS

INTRODUCTION

PREFACE

PART I: A NEW DI CONTROL AND PE

MEASURING THE PAYOFF THE USE OF FINANCIAL INDICATORS

Marc J. Epstein

MANAGEMENT CONTROL PARADIGM?

Jean-François Manzoni

PART II: MAN LARGE

LINKING STRATEGIC CHO ACCOUNTING SYSTEMS S ANALYSIS

Emilio Boulianne

THE ROLE OF TRANSFER CONTROL IN MULTINATI

Martine Cools

STRATEGY AND FINANCIAL RATIO PERFORMANCE

Mark L. Frigo, Belverd E. Needles, Jr.
and Marian Powers

ABSTRACT

This paper examines the connection between strategy, strategic performance drivers and financial ratios. We examine the strategy, strategic performance drivers and financial ratios of three companies: Dell Computer Corporation (Operational Excellence), Intel Corporation (Product Leadership), and Four Seasons Hotels and Resorts (Customer Intimacy). We also compare their performance with industry averages. The financial performance of Dell, Intel, and Four Seasons clearly reflects the expected performance characteristics of companies that emphasize value-creating strategies of operational excellence, product leadership, and customer intimacy, respectively. Our objective is to develop an approach that can be used for further study.

STRATEGY, VALUE CREATION AND PERFORMANCE MEASURES

How are strategy, value creation and performance measures interrelated? Porter (1996, p. 68) defines strategy as follows: "Strategy is the creation of a unique and valuable position, involving a different set of activities." Strategy is

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fundamentally about choice. Strategic choices relate to the value proposition and activities of an organization to establish sustainable competitive advantage. Strategic choices are fundamental to strategy as described by Porter (1996, p. 77): "Strategy renders choices about what not to do as important as choices about what to do. Indeed, setting limits is another function of leadership. Deciding which target group of customers, varieties, and needs that company should serve is fundamental to developing a strategy." Strategic choices will define the strategy and determine which performance measures as most relevant.

STRATEGY, MARKET LEADERSHIP, PERFORMANCE MEASURES AND VALUE CREATION

How does superior strategy translate to value creation? We selected the three companies representing three strategy categories based on the Discipline of Market Leadership (DML) (Treacy & Wiersema, 1995) as one level of strategy assessment and strategy classification:

- (1) Operational Excellence: Dell Computer Corporation
- (2) Product Leadership: Intel Corporation
- (3) Customer Intimacy: Four Seasons Hotels.

If an organization is truly a "market leader", does financial performance follow? We examine the strategy of three companies using the DML concepts. We then use that strategy description to examine the strategic performance drivers that "fit" the strategy. The DML has been incorporated in the Balanced Scorecard customer value proposition by identifying basic requirements and differentiators for the three disciplines (Kaplan & Norton, *The Strategy-Focused Organization*, 2001, pp. 86-89). This provides part of a strategic foundation for examining the strategic performance measures of an organization. The Balanced Scorecard framework helps us to understand how the strategic non-financial performance measures lead to financial performance. In this study, we present cash financial ratio analysis for the companies that will include: Cash Flow Yield, Cash Return on Assets and Cash Return on Sales.

DISCIPLINE OF MARKET LEADERSHIP

Treacy and Wiersema's Discipline of Market Leadership is based on the premise that a company's focus on one of the three disciplines will be more likely to achieve market leadership. Although the premise of market leadership is focus on one of the three disciplines, we also considered how superior performers

use other strategy tenets and act on their strategy focus. Here we consider Dell (Litman, 2001; Litman, 2001) that an innovation company would use of strategies to leverage the innovation.

Dell Computer Corporation (Treacy & Wiersema, 1995) represents a good example of operational excellence. Dell's product, but on the value chain, Dell's customer and building to order rather than competitive advantage relative to Dell's is one of the steps that Dell has taken. Though the use of Dell's "hub" system is able to reduce inventory holding time, Dell's "hub" system involves having Dell expects suppliers to constantly provide products as it uses them. Dell's information about inventory levels is able to measure inventory in hours. Though operational excellence, it also excels in customer intimacy, which is consistent with its strategic focus.

Intel Corporation (Treacy & Wiersema, 1995) represents a good example of the product leadership. Intel has spent \$3.1 Billion in Research and Development on computing technology (1999 Annual Report) to produce the fastest most reliable chips. Competing in the market. Other innovative chip companies. Intel has co-developed through a number of strategic acquisitions as well as the StrongArm embedded processor. Intel's strategic acquisition of Digital Equipment Corporation.

Since product innovation is so important, the design and prototyping phase impacts the product's size and limits the processing power. The iterative design process that allows us to understand every aspect of the design to ensure a superior design. These innovations result in smaller faster more compact chips.

Although Intel focuses on innovation, Dell focuses on operational excellence and customer intimacy. Dell's focus on innovation. In operation, Dell's ability to manufacture its chips

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LEADERSHIP

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use other strategy tenets and activities to reinforce and leverage the primary strategy focus. Here we considered tenets of Return Driven Strategy (Frigo & Litman, 2001; Litman, 2001) that allowed us, for example, to examine how an innovation company would use operational excellence strategies and branding strategies to leverage the innovation strategy for maximum value creation.

Dell Computer Corporation (Treacy & Wiersema, 1995, pp. 36–37) represents a good example of operational excellence. Dell did this not by focusing on the product, but on the value chain, the delivery system, selling directly to the customer and building to order rather than to inventory. This provided a strong competitive advantage relative to inventory performance. Valuechain.dell.com is one of the steps that Dell has taken in moving toward virtual integration. Though the use of Dell's "hub" system and valuechain.dell.com, Dell has been able to reduce inventory holdings from 35 days in 1993 to 6 days in 1999. Dell's "hub" system involves having special storage facilities near its factories. Dell expects suppliers to constantly replenish the hubs and Dell pays for the products as it uses them. Dell's web site allows suppliers to have real-time information about inventory levels at each hub. Michael Dell envisions being able to measure inventory in hours rather than days. Although Dell focuses on operational excellence, it also excels in brand management and innovation that is consistent with its strategic focus.

Intel Corporation (Treacy & Wiersema, 1995, pp. 104–110, 120–121) represents a good example of the innovation discipline. In 1999, Intel invested \$3.1 Billion in Research and Development focusing on pushing the edge of computing technology (1999 Annual Report). Intel leads the race to develop the fastest most reliable chips. Currently Intel's P4 chip is the fastest chip on the market. Other innovative chip designs include the 64 bit Merced chip that Intel has co-developed through a strategic partnership with Hewlett Packard as well as the StrongArm embedded processor that Intel developed through a strategic acquisition of Digital Equipment Corporation.

Since product innovation is so important; every aspect of the product design and prototyping phase impacts the end product. Improper chip design increases size and limits the processing power. To combat this, Intel has created a collaborative design process that allows both engineers and production managers to understand every aspect of the component design, feeding off each other to ensure a superior design. These innovative design teams allow Intel to design smaller faster more compact chips.

Although Intel focuses on innovation, it also performs certain aspects of operational excellence and customer intimacy that support and leverage its focus on innovation. In operational excellence one key to Intel's success is its ability to manufacture its chip designs by optimizing the manufacturing

process, and then rolling out that process to Intel's other fabs in a process called "Copy Exact." Copy Exact is a major competitive advantage for Intel. Most of Intel's competitors continue to struggle with chip reproduction once their designs are finalized. Also, Intel strives for customer intimacy or branding to leverage its innovation. The Intel brand far surpasses any of their competitors for inspiring trust and confidence. Intel has successfully built the Intel brand through years of delivering the most innovative and reliable chips in the world. Intel successfully leveraged their power in the distribution channel to have the "Intel Inside" logo attached to all PC's containing their products. This amounts to a substantial number of "eyeballs" on the Intel logo everyday. Intel also spends heavily, promoting their products through television, print and Internet advertising. Intel in 1999 spent over \$1.7 billion on advertising (1999 Annual Report). Here we see how the supporting operational excellence and branding strategies leverage the innovation discipline for value creation.

According to Treacy and Wiersema (1995, pp. 134-135) the Four Seasons focuses on customer intimacy. Although, the Four Seasons focuses on customer intimacy, it has also excelled in innovation. For example, the Four Seasons was the first hotel company to employ Concierges company-wide in North America. Also, Four Seasons was the first hotel company to provide complimentary newspapers with room service breakfast delivery in North America. In the area of operational excellence, the Four Seasons excels as evidenced by the many hotel and resort honors, including being rated by *Gourmet Magazine* survey of restaurants in North America.

STRATEGIC PERFORMANCE MEASURES

Treacy and Wiersema have suggested that organizations should align their performance measures with the specific type of customer value strategy the firm is focused on (see *CFO Magazine*, April 1995, "What Value-Driven CFO's Do"). Based on three disciplines of market leadership, each organization would focus on somewhat different performance measures. For example, a company focusing on operational excellence, such as Dell Computer, the company would focus on providing reliable products at the best price. This type of organization would focus on price and service performance with the goal of driving down the total delivered cost to the customer. This type of organization would focus on using activity based costing and other techniques. Dell Computer aggressively focuses its processes and performance measures on cost and price reduction ("Lean Machine: How Dell Fine-Tunes Its PC Pricing to Gain Edge in a Slow Market", *The Wall Street Journal*, June 8, 2001, p. 1). For a company focusing on a product leadership strategy, product quality rating and percent of

revenue from new products would be a premium. Finally, a company that would focus on growth and customer intimacy.

The key is for strategic performance measures to reflect the value creation process or strategy of an organization. Kaplan and Birnbaum (1999) financial, operational and customer performance measures with the strategy of an organization. Kaplan and Birnbaum (1999) state: "Executives must not only single out and track the right measures, but also depends," and (p. 199) "One of the most important operational measures is to clarify the value creation process."

FINANCIAL PERFORMANCE MEASURES

Ultimately, the performance measures should drive financial performance. For example, the performance of Dell, Intel, and Microsoft. For industry comparisons, we use the performance of three major competitors in the computer industry, respectively.

To assess the financial performance, we use three sets of ratios: performance ratios, value ratios, and efficiency ratios. We hypothesize that the performance ratios reflect the value-creating strategy of the firm. Dell, which emphasizes efficiency, will have high performance ratios in profit margins. Intel, which emphasizes efficiency, will have high performance ratios in profit margins but will lag in efficiency ratios. Microsoft, which emphasizes customer intimacy, will also excel in performance ratios. The performance ratios in this analysis are presented in Appendix A. The value ratios are presented in Appendix D.

PERFORMANCE MEASURES

We begin with an examination of the performance measures: asset turnover, and total debt to capitalization. The cash flows underlying earnings per share and cash flow from operating activities are also examined.

Intel's other fabs in a process competitive advantage for Intel. With chip reproduction once customer intimacy or branding passes any of their competitors successfully built the Intel brand and reliable chips in the world. distribution channel to have the big their products. This amounts Intel logo everyday. Intel also on television, print and Internet on on advertng (1999 Annual tional excellence and branding value creation.

(p. 134-135) the Four Seasons Four Seasons focuses on customer example, the Four Seasons was company-wide in North America. ny to provide complimentary in North America. In the area als as evidenced by the many Gourmet Magazine survey of

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revenue from new products would be key performance measures, as well price premium. Finally, a company that focuses on a customer intimacy strategy would focus on growth and customer share or customer retention.

The key is for strategic performance measures to represent the unique value creation process or strategy of an organization. This alignment of the strategic performance measures with strategy is an underlying principle of the Balanced Scorecard framework (Kaplan & Norton, 2001). According to Epstein and Birchard (1999) financial, operational and social measures should be aligned with the strategy of an organization. For example, Epstein and Birchard (1999, p. 179) state: "Executives must not lapse into communication by default. They should instead single out and tout the metrics on which their business strategy depends," and (p. 199) "One of the most powerful ways for managers to use operational measures is to clarify and communicate strategy."

FINANCIAL PERFORMANCE AND VALUE-CREATING STRATEGIES

Ultimately, the performance measures in an organization's balanced scorecard should drive financial performance. In this section, we examine the financial performance of Dell, Intel, and Four Seasons over a recent three-year period. For industry comparisons, we use the average financial performance of three major competitors in the computer, semi-conductor, and hotel industries, respectively.

To assess the financial performance of Dell, Intel, and Four Seasons, we use three sets of ratios: performance drivers, cash flow ratios and accounting income ratios. We hypothesize that the financial performance of these companies will reflect the value-creating strategy that each has chosen to emphasize. That is, Dell, which emphasizes efficiency, will excel in asset management but will lag in profit margins. Intel, which emphasizes innovation, will have superior profit margins but will lag in efficiency. Four Seasons, which emphasizes customer intimacy, will also excel in profit margins and lag in efficiency. The data for this analysis are presented in Appendices A, B, and C. The industry averages are presented in Appendix D.

PERFORMANCE DRIVERS

We begin with an examination of three performance drivers: cash flow yield, asset turnover, and total debt to total assets. Cash flow yield is a measure of the cash flows underlying earnings. This ratio, which is measured by the ratio of cash flow from operating activities to net income, is a key driver of

financial performance as indicated by cash flow and the principal determinate of the difference between cash flow ratios and accounting income ratios. If cash flow yield exceeds 1.0 there will be a positive multiplier effect on cash flow performance. Conversely, if cash flow yield is less than 1.0 cash flow performance will suffer. Cash flow yield is also an indicator of a company's ability to manage its receivables, inventories, and payables. Relative decreases in receivables and inventories and increases in payables will enhance cash flow yield. Cash flow yield is an indicator of sustainable cash flow if one-time items such as gains and losses, write-downs, and other adjustments are not present.

Consideration of cash flow yield is also important because cash flow measures of profitability are superior to accounting income measures in comparing companies, especially those from different countries. There are at least three ways in which they are superior. First, cash flow measures tend to neutralize differences in accounting standards. For example, whereas the rules for revenue recognition may vary from country to country, the rules for recognition of cash transactions tend to be the same. Second, cash flow measures tend to nullify the effects of accounting choices. For instance, differences in depreciation methods or inventory valuation methods do not affect cash flows. Third, the effects of conservative income measurement methods prevalent in some countries are overcome. For instance, Sony Corporation, a company that falls in the innovator class, as does Intel, has traditionally reported a very low profit margin in the range of 1.0%. However, when analyzed on the basis of cash flow return on sales, its margins exceed 10.0%, placing it in an excellent range for its industry.

Cash flow yield measures for Dell, Intel, and Four Seasons, compared with the averages for the industry, are shown in Fig. 1. This figure shows that these companies display the characteristics we would expect based on the strategic approach of the company to excellence. For instance, Dell, which is known for operational excellence and efficiency, exceeds Intel and Four Seasons in all three years by a significant margin especially in 1999, and 2000. Its cash flow yield varies from 1.67 to 2.36 with an average of just over 2.0 over the three-year period. Further, Dell's performance on this dimension exceeds the industry average in all three years and the three-year industry average of 1.37 (Three-year industry averages are found in Appendix D) by a substantial margin. Intel's cash flow yield is somewhat lower (1.22 to 1.55 with an average of about 1.4), but still significantly above 1.0, and shows low volatility. The low point of 1.22 would have been about 1.5 if the one-time gain were eliminated. As an innovator, Intel's relatively high expenditures on research and development will depress cash flow yield in comparison to Dell, but its cash flow yield average comfortably exceeds the semi-conductor industry's three-year average of 1.17. Finally, Four Seasons cash flow yield is lower than either Dell or Intel with a

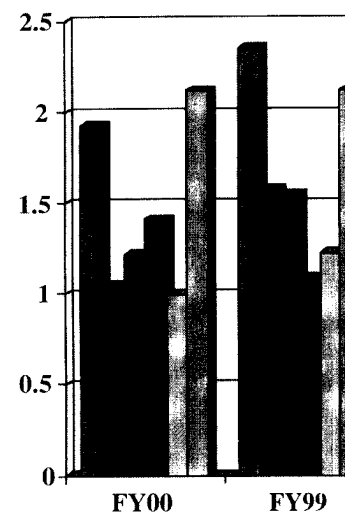


Fig. 1. Performance

range of 1.00 to 1.23. This lower yield is due to the fact that Four Seasons is a service business and does not have receivables and no inventory. Intel's cash flow yield averages about 1.4, which is significantly above the industry average. Four Seasons' cash generating ability is lower than Dell's, but the fact that its cash flow yield was above 1.0 in all three years. Over the three-year period, it was only about half the industry average.

Two other drivers of financial performance are asset turnover and return on assets. Asset turnover is a measure of how efficiently a company uses its assets to drive revenues. Thus, it is a key component of the return on sales to return on assets ratio. A return on assets turnover of greater than 1.0 will result in a return on sales to return on assets ratio of greater than 1.0. Figure 2 compares the asset turnover for Dell, Intel, and Four Seasons with industry averages, for the three-year period. Dell efficiently comes through in this area with an average of 2.86 easily exceeding that of the industry which is 1.37. Intel efficiently through extreme use of receivables management. Intel differs from traditional manufacturers with a

w and the principal determinate accounting income ratios. If cash flow multiplier effect on cash yield is less than 1.0 cash flow so an indicator of a company's and payables. Relative decreases payables will enhance cash flow if one-time items adjustments are not present. tant because cash flow measures e measures in comparing compa- There are at least three ways in res tend to neutralize differences the rules for revenue recognition recognition of cash transactions ures tend to nullify the effects ces in depreciation methods or sh flows. Third, the effects of revalent in some countries are mpany that falls in the innovator a very low profit margin in the he basis of cash flow return on n excellent range for its industry. d Four Seasons, compared with . 1. This figure shows that these d expect based on the strategic stance, Dell, which is known for Intel and Four Seasons in all n 1999, and 2000. Its cash flow of just over 2.0 over the three- dimension exceeds the industry industry average of 1.37 (Three-) by a substantial margin. Intel's 5 with an average of about 1.4), volatility. The low point of 1.22 gain were eliminated. As an n research and development will but its cash flow yield average try's three-year average of 1.17. than either Dell or Intel with a

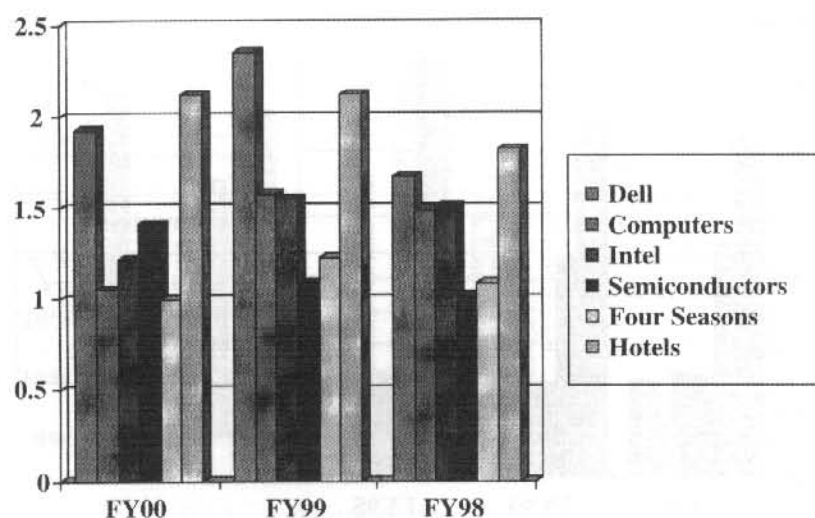


Fig. 1. Performance Driver: Cash Flow Yield.

range of 1.00 to 1.23. This lower cash flow yield for Four Seasons is expected because as a service business it does not have a high level of depreciation and has lower receivables and no inventories to manage. The fact that Four Season's cash flow yield averages about 1.1 or slightly above 1.0 calls into question Four Season's cash generating ability. This conclusion is further reinforced by the fact that its cash flow yield was significantly less than the industry average in all three years. Over the three-year period its cash flow generating ability was only about half the industry average of 2.02.

Two other drivers of financial performance are asset turnover and total debt to assets. Asset turnover is a measure of the ability of a company to use assets to drive revenues. Thus, it is a key factor in converting profit margin and cash return on sales to return on assets and cash flow return on assets. An asset turnover of greater than 1.0 will drive higher return on invested capital. Figure 2 compares the asset turnover for Dell, Intel, and Four seasons, compared with industry averages, for the three-year period. Dell's ability to utilize assets efficiently comes through in this analysis. Its asset turnover range of 2.56 to 3.27 with an average of 2.86 easily exceeds that of Intel and Four Seasons, and also that of the industry which is 1.37 for the three-year period. Dell achieves this efficiently through extreme use of just-in-time inventory management and good receivables management. Intel displays an asset turnover more in line with traditional manufacturers with a range of 0.71 to 1.01 with an average of 0.84

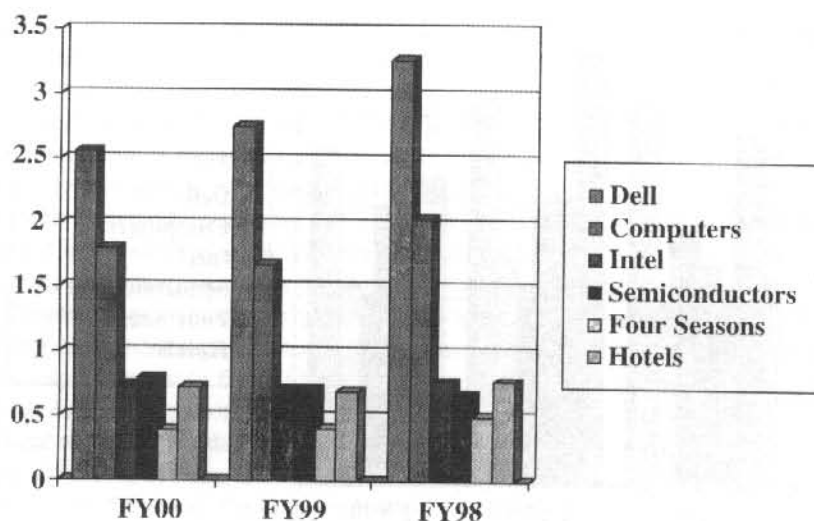


Fig. 2. Performance Driver: Asset Turnover.

and is less than the industry average of 1.17. Intel's emphasis on innovation, as opposed to efficiency, would lead one to expect that it would not be a standout performer in this category. With an asset turnover significantly less than 1.00 (range 0.31 to 0.53 and an average of 0.47) and also less than the industry average of 0.73, Four Seasons' returns on invested capital is negatively impacted. This low asset turnover derives from the large capital investments relative to competitors that Four Seasons must make in hotel and resort properties to achieve its elite status. To overcome such a low asset turnover Four Seasons needs to charge premium prices to achieve high profit margins.

The second driver of profitability performance is the financial structure of the company as measured by the ratio of total debt to assets and is shown for the three companies in Fig. 3. The financial structure of a company is the major factor that converts return on assets and cash flow return on assets to return on equity and cash flow return on equity. It is not a result of the operating or value-creating strategy of the company but of its financing strategy. Thus, it is included here for completeness and is not directly related to the thesis of the paper relating financial performance and value-creating strategies. Although increasing amounts of debt in relation to asset will increase the returns on stockholders' equity, it also increases the riskiness of the business. Thus, higher returns are associated with higher risk to the owners. Further, the return on equity and cash flow return on equity must be interpreted

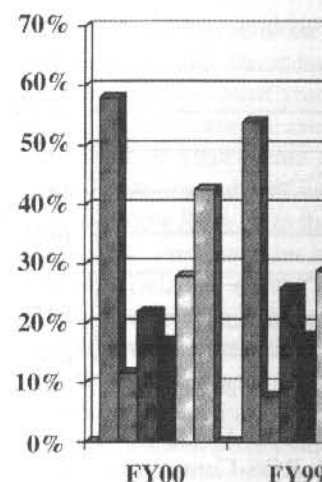


Fig. 3. Performance Driver: Debt to Assets.

with care because the denominator can be manipulated. For instance, stock buyback plans by companies can significantly lower the amount of stock outstanding without necessarily increasing growth.

Dell has a consistently high level of debt to assets, ranging from 0.54 to 0.70 with an average of 0.62. The industry as a whole, which has a debt to assets ratio of only 0.26, which is much lower. This is a fairly conservative level of debt to assets, which provides stability and enables it to withstand downturns in the semiconductor industry. Four Seasons' debt to assets ratio is 0.39, which is higher than the industry average. Intel has less debt on average than the industry.

CASH FLOW AND PROFITABILITY

Turning now to the cash flow and profitability ratios for the three companies, the cash flow ratios

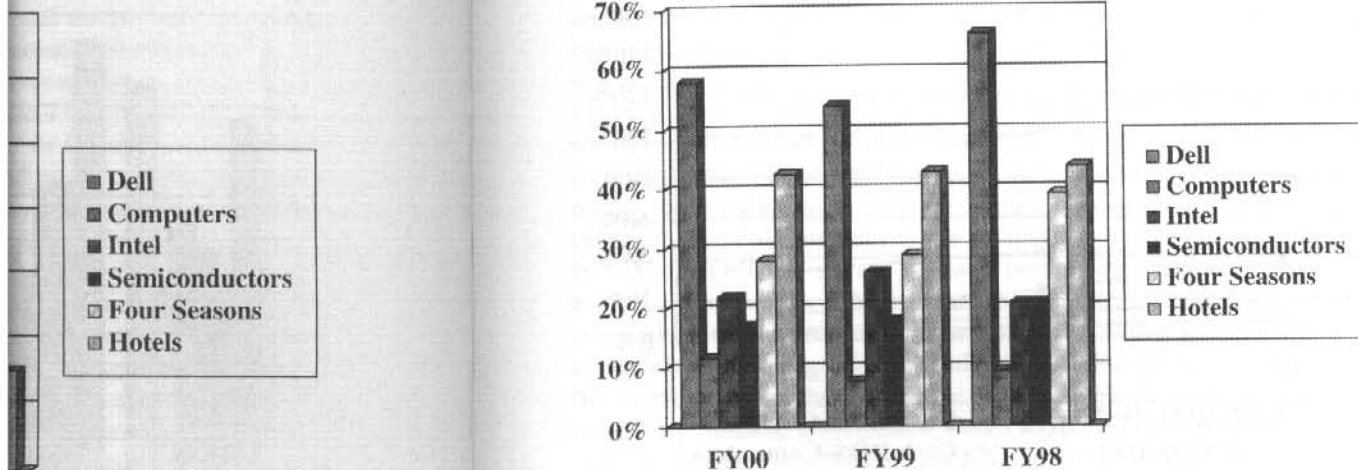


Fig. 3. Performance Driver: Debt/Total Assets.

Asset Turnover.

Intel's emphasis on innovation, as it that it would not be a standout over significantly less than 1.00. Also less than the industry average. Intel is negatively impacted. This total investments relative to com- and resort properties to achieve its. Four Seasons needs to charge

ence is the financial structure of al debt to assets and is shown al structure of a company is the d cash flow return on assets to quity. It is not a result of the company but of its financing eness and is not directly related performance and value-creating debt in relation to asset will also increases the riskiness of l with higher risk to the owners. m on equity must be interpreted

with care because the denominator, stockholders' equity, is more subject to management manipulation than other denominators such as total assets. For instance, stock buyback plans by many companies in recent years have significantly lower the amount of stockholders' equity and improved profitability measures without necessarily improving the top line revenue and net income growth.

Dell has a consistently high level of debt in relation to assets ranging from 0.54 to 0.70 with an average of 0.62. This is much greater than the computer industry as a whole, which has a three-year average of only 9.48%. In contrast, Intel has a relatively low debt to asset ratio in the range 0.21 to 0.33 and an average of only 0.26, which is much lower than the industry average of 0.72. This is a fairly conservative level of debt and reflects Intel's history of profitability and enables it withstand the abrupt downturns that occur periodically in the semiconductor industry. Four Seasons has steadily decreased its debt in relation to assets over the three-year period reaching a low of 0.28 in 2000, down from a high of 0.39 in 1998 for a three-year average of 0.32. Four Seasons has less debt on average than the industry, which averages 0.43.

CASH FLOW AND PROFITABILITY PERFORMANCE

Turning now to the cash flow and profitability performance of the individual companies, the cash flow ratios for Dell are pictured as graphs in Fig. 4a

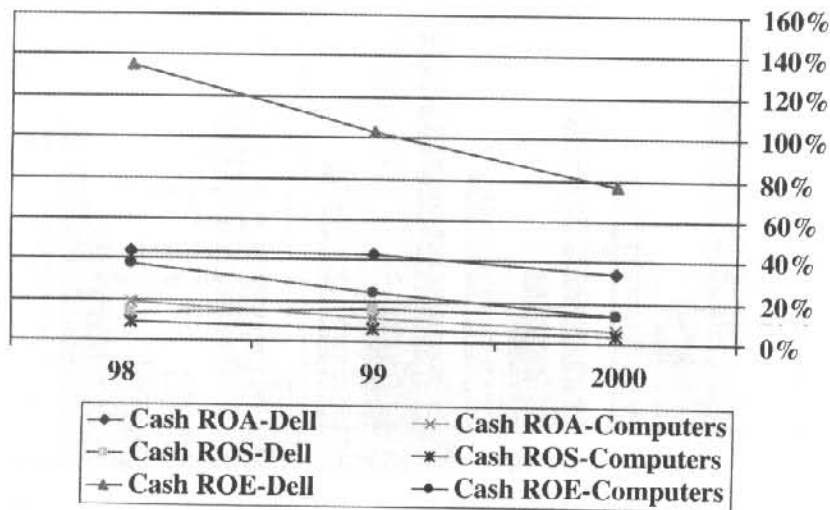


Fig. 4a. Dell Cash Performance Measures.

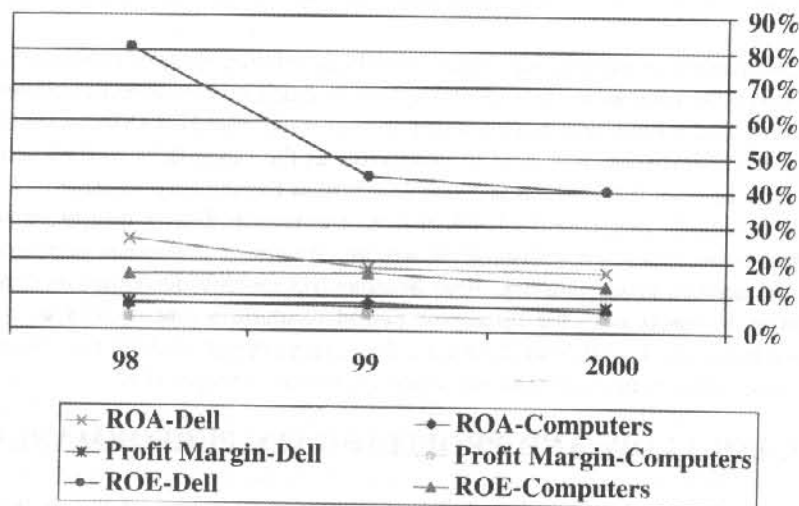
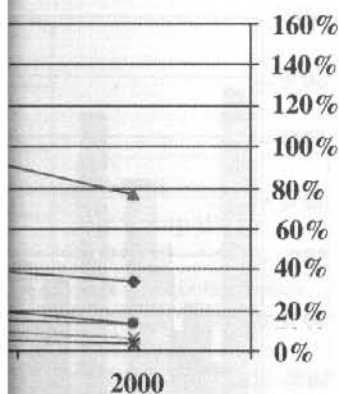


Fig. 4b. Dell Cash Profitability Measures.

and the profitability ratios are compared with the industry. The downward trend in recent years for a highly efficient company can be pushed up by a strong cash flow yield pushes it up compared with the industry average. It pushes cash flow ROA up to the level of about 12%. Profit margins in Fig. 4b, Dell has shown a trend twice as much as the industry. Companies that are not producing a commodity. These figures reflect the hypothesis that the company's financial performance over the years due to the downtrend in cash flow at high levels.

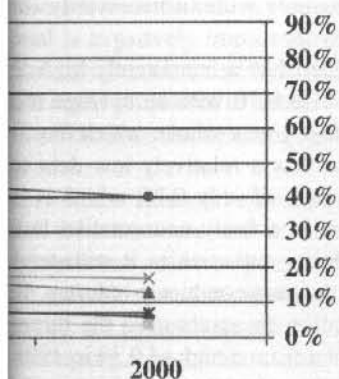
Intel's performance, in contrast to Dell, is a product innovation and brand. It has a robust cash return on sales of about 28%, the latter due to a relatively high industry averages because of its good profit margins ranging from 10% to 20%. Its superb margins reflect its leadership in the industry, but the margins have been dampened by its investments in assets may reflect acquisition. Intel is clearly not as efficient as Dell. As a result, return on asset average is the result of a fairly large difference. This supports our thesis of the value of Dell reflected in its financial performance. Its equity averaged 30 and 45%, respectively.

Four Seasons as a service company has a declining financial performance, as shown in Fig. 4c. Its return on sales of above 30% is a result of its (average 0.14). Further, its profit margin with profit margin in the range of 10% to 15% provide exceptional facilities for its customers to make substantial investment in its ratios, as noted above, are very



Cash ROA-Computers
Cash ROS-Computers
Cash ROE-Computers

Performance Measures.



Cash ROA-Computers
Cash ROS-Computers
Cash ROE-Computers

Performance Measures.

and the profitability ratios are shown in Fig. 4b. In both cases the ratios have been compared with the industry averages. Although there has been a slight downward trend in recent years, the advantage of Dell over its competitors as a highly efficient company can easily be seen in these charts. In Fig. 4a, Dell's strong cash flow yield pushes its cash flow ROS up to the range of 13 to 18%, compared with the industry average of just over 6%. Its robust asset turnover pushes cash flow ROA up to the 40% range, compared with the industry average of about 12%. Profit margins in the computer industry are constantly squeezed. In Fig. 4b, Dell has shown a steady profit margin of only 7 or 8%, about twice as much as the industry average of 4.0%. Low margins are typical of companies that are not product innovators and whose products are more of a commodity. These figures reflect Dell's highly efficient use of assets and support the hypothesis that the company's value-creation strategy is reflected in the company's financial performance. Dell's ROE measures have declined in recent years due to the downtrend in earnings and in debt but still remain at relatively high levels.

Intel's performance, in contrast to Dell, clearly reflects its position as a product innovation and brand leader, as shown in Figs 5a and 5b. Intel has robust cash return on sales of above 35% and a lower cash return on assets of about 28%, the latter due to a relatively low asset turnover. These figures exceed industry averages because of Intel's superior cash flow yield. Intel has very good profit margins ranging from 0.23 to 0.31 with an average 0.26. Intel's superb margins reflect its leadership as a product innovation and brand leader, but the margins have been dampened by low turnovers in recent years. Increases in assets may reflect acquisitions and investments for future performance but Intel is clearly not as efficient as Dell in the area of asset management. As a result, return on asset averaged 22% and cash return on assets 32%, the difference the result of a fairly strong cash flow yield. Overall, these figures support our thesis of the value-creating strategy chosen by Intel as being reflected in its financial performance. Return on equity and cash flow return on equity averaged 30 and 45%, respectively.

Four Seasons as a service company presents another view of above average financial performance, as shown in Figs 6a and 6b. With a cash flow yield that has been declining in recent years to 1.0 in 2000, the company with a cash return on sales of above 30% produces a cash flow ROA of only 0.11 to 0.16 (average 0.14). Further, its profit margins are strong and similar to those Intel with profit margin in the range of 0.30. However, the need of Four Seasons to provide exceptional facilities for hotel and resort guests has led the company to make substantial investment in property and facilities. As a result its turnover ratios, as noted above, are very low and have dampened its margins to a return

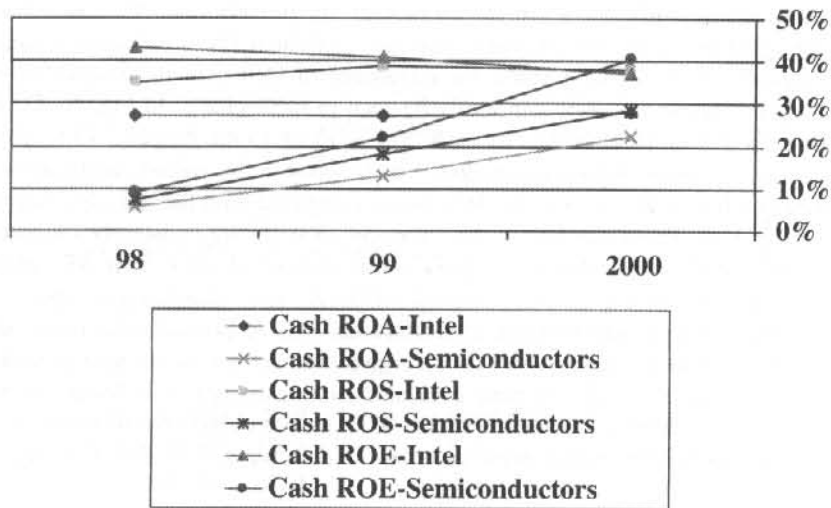


Fig. 5a. Intel Cash Performance Measures.

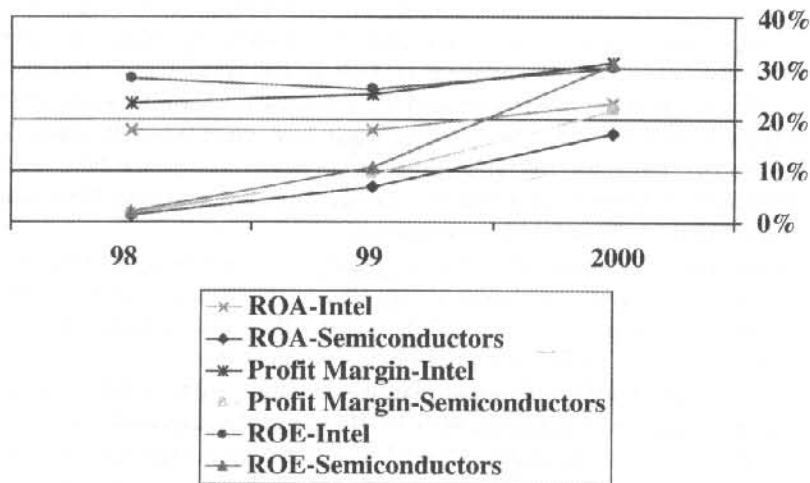


Fig. 5b. Intel Profitability Performance Measures.

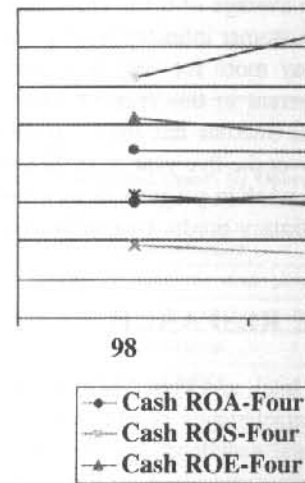


Fig. 6a. Four Season Cash Performance Measures.

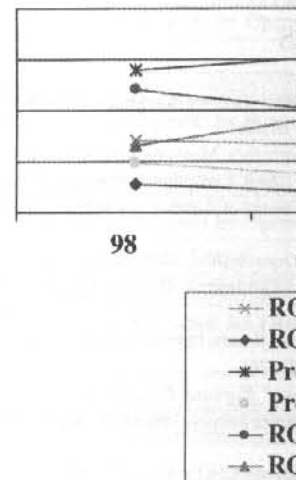
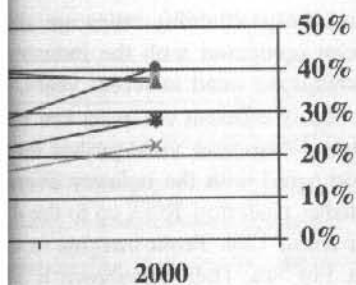
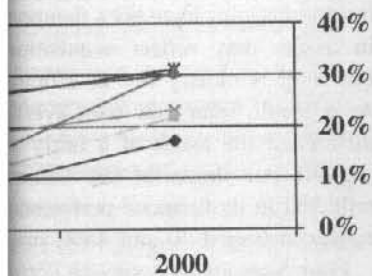


Fig. 6b. Four Season Profitability Performance Measures.



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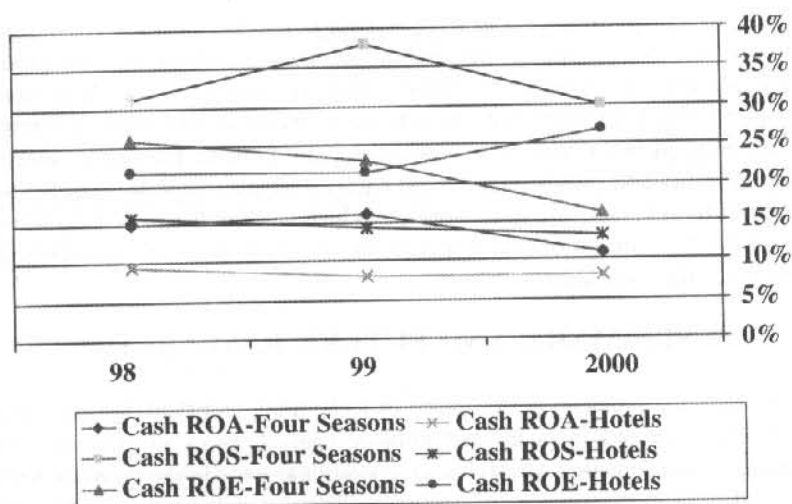


Fig. 6a. Four Seasons Cash Performance Measures.

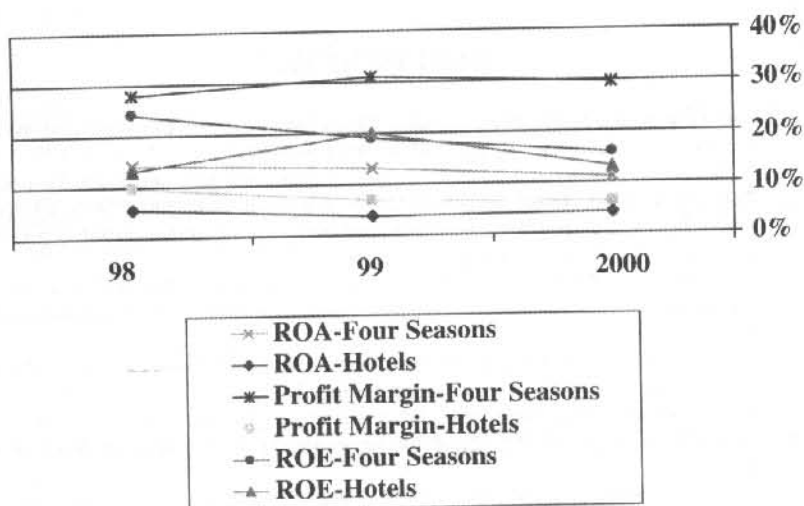


Fig. 6b. Four Seasons Profitability Performance Measures.

on assets to a range of only 0.11 to 0.14 with an average of 0.13. These figures reflect the fact that a company that emphasizes customer intimacy must produce high profit margins (presumably people will pay more for very high quality service) to offset the inefficiencies that are inherent in this type of business. The declining debt in relation to assets for Four Seasons has led to declining return on equity and cash flow return on equity over the five year. Four Seasons, in contrast to both Dell and Intel, appears to be a work in progress as to whether it can make the concept of superior customer intimacy produce superior performance over the long-term.

SUMMARY AND FUTURE RESEARCH

In summary, the financial performance of Dell, Intel, and Four Seasons clearly reflects the expected financial performance characteristics of companies that emphasize value-creating strategies of operational excellence, product leadership, and customer intimacy, respectively. These conclusions would seem to support further development of this approach of benchmarking financial performance to the strategy directions of the company. Further research would include identification of definitive criteria for choosing companies in each of the three strategic categories, pair comparisons with reference companies, refinement of ratio components, study strategic performance drivers' role in cash flow and profitability performance, and statistical analysis of differences in ratios among the three strategies.

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Net cash provided (used) by Operations
Net Income
Depreciation and amortization
Tax benefits on employee stock plans
Special Charges
Gain on sale of investment
Purchased in-process R&D
Other
Changes in operating working capital
Changes in non-current assets and liabilities
- Net capital expenditures
- Dividends
CASH FLOW RATIOS
Free cash flows
Net cash provided (used) by Operations
Net Income
Cash Flow Yield
Net cash provided (used) by Operations
Net Sales
Cash ROS
Net cash provided (used) by Operations
Average Total Assets
Cash ROA
Net cash provided (used) by Operations
Average Stockholders' Equity
Cash ROE
ACCOUNTING INCOME RATIOS
Net Income
Net Sales
Profit Margin
Net Sales
Average Total Assets
Turnover

an average of 0.13. These figures
customer intimacy must produce
pay more for very high quality
herent in this type of business.
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over the five year. Four Seasons,
a work in progress as to whether
intimacy produce superior perfor-

RESEARCH

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g companies in each of the three
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European Institute for Advanced Studies

Organization: *How Balanced Scorecard*
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Market Leaders. Reading, Mass.: Perseus

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APPENDIX A

Dell Data

	FY00 2/2/01	FY99 1/28/00	FY98 1/29/99
Net cash provided (used) by Operating Activities	\$4,195	\$3,926	\$2,436
Net Income	\$2,177	\$1,666	\$1,460
Depreciation and amortization	\$240	\$156	\$103
Tax benefits on employee stock plans	\$929	\$ 1,040	\$444
Special Charges	\$ 105	\$0	\$0
Gain on sale of investment	(\$307)	\$0	\$0
Purchased in-process R&D	\$0	\$ 194	\$0
Other	\$109	(\$24)	\$11
Changes in operating working capital	\$671	\$812	\$367
Changes in non-current assets and liabilities	\$271	\$82	\$51
- Net capital expenditures	482	397	296
- Dividends	0	0	0
CASH FLOW RATIOS			
Free cash flows	\$3,713	\$3,529	\$2,140
Net cash provided (used) by Operating Activities	\$4,195	\$3,926	\$2,436
Net Income	\$2,177	\$1,666	\$1,460
Cash Flow Yield	1.93	2.36	1.67
Net cash provided (used) by Operating Activities	\$4,195	\$3,926	\$2,436
Net Sales	\$31,888	\$25,265	\$18,243
Cash ROS	13%	16%	13%
Net cash provided (used) by Operating Activities	\$4,195	\$3,926	\$2,436
Average Total Assets	\$12,453	\$9,174	\$5,573
Cash ROA	34%	43%	44%
Net cash provided (used) by Operating Activities	\$4,195	\$3,926	\$2,436
Average Stockholders' Equity	\$5,465	\$3,815	\$1,807
Cash ROE	77%	103%	135%
ACCOUNTING INCOME RATIOS			
Net Income	\$2,177	\$1,666	\$1,460
Net Sales	\$31,888	\$25,265	\$18,243
Profit Margin	7%	7%	8%
Net Sales	\$31,888	\$25,265	\$18,243
Average Total Assets	\$12,453	\$9,174	\$5,573
Turnover	2.56	2.75	3.27

APPENDIX A (Continued).

Net Income	\$2,177	\$1,666	\$1,460
Average Total Assets	\$12,453	\$9,174	\$5,573
ROA	17%	18%	26%
Debt	\$7,813	\$6,163	\$4,556
Total Assets	\$13,435	\$11,471	\$6,877
Debt/Total Assets	58%	54%	66%
Net Income	\$2,177	\$ 1,666	\$ 1,460
Average Stockholders' Equity	\$5,465	\$3,815	\$1,807
ROE	40%	44%	81%

APPENDIX B

Intel Data

	FY00 12/30/00	FY99 12/25/99	FY98 12/26/98
Net cash provided (used) by Operating Activities	\$12,827	\$11,335	\$9,191
Net Income	\$10,535	\$7,314	\$6,068
Depreciation	\$3,249	\$3,186	\$2,807
Amortization of goodwill and other costs	\$1,586	\$411	\$0
Purchased in-process research and development	\$109	\$392	\$165
Gains on investments, net	(\$3,759)	(\$883)	\$0
Gain on assets contributed to Convera	(\$ 117)	\$0	\$0
Net loss on retirements of PPE	\$ 139	\$ 193	\$282
Deferred taxes	(\$130)	(\$219)	\$77
Changes in assets and liabilities			
Change in AR	(\$384)	\$153	(\$38)
Change in Inventories	(\$731)	\$ 169	\$ 167
Change in AP	\$978	\$79	(\$180)
Accrued compensation and benefits	\$231	\$ 127	\$ 17
Income taxes payable	(\$362)	\$726	(\$211)
Tax benefits from employee stock plans	\$887	\$506	\$415
Other	\$596	(\$819)	(\$378)
- Net capital expenditures	\$6,674	\$5,450	\$6,506
- Dividends	\$470	\$366	\$217

APPENDIX C

CASH FLOW RATIOS
Free cash flows
Net cash provided (used) by Operating Activities
Net Income
Cash Flow Yield
Net cash provided (used) by Operating Activities
Net Sales
Cash ROS
Net cash provided (used) by Operating Activities
Average Total Assets
Cash ROA
Net cash provided (used) by Operating Activities
Average Stockholders' Equity
Cash ROE
ACCOUNTING INCOME RATIOS
Net Income
Net Sales
Profit Margin
Net Sales
Average Total Assets
Turnover
Net Income
Average Total Assets
ROA
Debt
Total Assets
Debt/Total Assets
Net Income
Average Stockholders' Equity
ROE

inued).

APPENDIX B (Continued).

\$2,177	\$1,666	\$1,460
\$12,453	\$9,174	\$5,573
17%	18%	26%
\$7,813	\$6,163	\$4,556
\$13,435	\$11,471	\$6,877
58%	54%	66%
\$2,177	\$ 1,666	\$ 1,460
\$5,465	\$3,815	\$1,807
40%	44%	81%

FY00 12/30/00	FY99 12/25/99	FY98 12/26/98
\$12,827	\$11,335	\$9,191
\$10,535	\$7,314	\$6,068
\$3,249	\$3,186	\$2,807
\$1,586	\$411	\$0
\$109	\$392	\$165
(\$3,759)	(\$883)	\$0
(\$ 117)	\$0	\$0
\$ 139	\$ 193	\$282
(\$130)	(\$219)	\$77
(\$384)	\$153	(\$38)
(\$731)	\$ 169	\$ 167
\$978	\$79	(\$180)
\$231	\$ 127	\$ 17
(\$362)	\$726	(\$211)
\$887	\$506	\$415
\$596	(\$819)	(\$378)
\$6,674	\$5,450	\$6,506
\$470	\$366	\$217

CASH FLOW RATIOS			
Free cash flows	\$5,683	\$5,519	\$2,468
Net cash provided (used) by Operating Activities	\$12,827	\$11,335	\$9,191
Net Income	\$10,535	\$7,314	\$6,068
Cash Flow Yield	1.22	1.55	1.51
Net cash provided (used) by Operating Activities	\$12,827	\$11,335	\$9,191
Net Sales	\$33,726	\$29,389	\$26,273
Cash ROS	38%	39%	35%
Net cash provided (used) by Operating Activities	\$12,827	\$11,335	\$9,191
Average Total Assets	\$45,897	\$41,394	\$33,909
Cash ROA	28%	27%	27%
Net cash provided (used) by Operating Activities	\$12,827	\$11,335	\$9,191
Average Stockholders' Equity	\$34 929	\$27,956	\$21,336
Cash ROE	37%	41%	43%
ACCOUNTING INCOME RATIOS			
Net Income	\$10,535	\$7,314	\$6,068
Net Sales	\$33,726	\$29,389	\$26,273
Profit Margin	31.2%	24.9%	23.1%
Net Sales	\$33,726	\$29,389	\$26,273
Average Total Assets	\$45,897	\$41,394	\$33,909
Turnover	0.73	0.71	0.77
Net Income	\$10,535	\$7,314	\$6,068
Average Total Assets	\$45,897	\$41,394	\$33,909
ROA	23%	18%	18%
Debt	\$10,623	\$11,314	\$8,094
Total Assets	\$47,94	\$43,84	\$38,938
Debt/Total Assets	22%	26%	21%
Net Income	\$10,53	\$7,314	\$6,068
Average Stockholders' Equity	\$34,929	\$27,956	\$21,336
ROE	30%	26%	28%

	FY00 12/31/00	FY99 12/31/99	FY98 12/31/98
	\$102,633	\$106,787	\$75,798
	\$103,074	\$86,497	\$69,702
	\$111,997	\$102,858	\$117,158
	\$3,579	\$3,539	\$3,502
	(\$12,943)	\$390	(\$44,862)
	\$102,633	\$106,787	\$75,798
	\$103,074	\$86,497	\$69,702
	1.00	1.23	1.09
	\$102,633	\$106,787	\$75,798
	\$347,507	\$277,548	\$247,941
	30%	38%	31%
	\$102,633	\$106,787	\$75,798
	\$908,268	\$688,598	\$499,134
	11%	16%	15%
	\$102,633	\$106,787	\$75,798
	\$646,931	\$458,050	\$292,458
	16%	23%	26%
	\$ 103,074	\$86,497	\$69,702
	\$347,507	\$277,548	\$247,941
	29.7%	31.2%	28.1%
	\$347,507	\$277,548	\$247,941
	\$908,268	\$688,598	\$499,134
	0.38	0.40	0.50
	\$103,074	\$86,497	\$69,702
	\$908,268	\$688,598	\$499,134
	11%	13%	14%
	\$276,233	\$244,442	\$214,653
	\$984,397	\$832,139	\$545,056
	28%	29%	39%
	\$103,074	\$86,497	\$69,702
	\$646,931	\$458,050	\$292,458
	16%	19%	24%

APPENDIX D

Industry Data

Ratios	Hotels				Computers				Semiconductors			
	Yearly Averages		Historical Averages		Yearly Averages		Historical Averages		Yearly Averages		Historical Averages	
	2000	1999	1998		2000	1999	1998		2000	1999	1998	
Cash Flow Yield	2.12	2.12	1.82	2.02	1.05	1.58	1.49	1.37	1.41	1.09	1.02	1.17
Cash ROA	8.15%	8.11%	9.47%	8.58%	6.43%	11.65%	18.96%	12.35%	22.36%	13.05%	5.40%	13.60%
Cash ROS	13.16%	14.21%	15.83%	14.40%	3.81%	6.47%	8.59%	6.29%	28.27%	18.00%	7.50%	17.93%
Cash ROE	26.92%	21.54%	21.59%	23.35%	13.68%	24.44%	37.57%	25.23%	40.44%	21.81%	9.09%	23.78%
Profit Margin	6.14%	6.87%	9.52%	7.51%	3.72%	4.69%	3.63%	4.01%	21.60%	9.25%	1.60%	10.82%
Turnover	0.72	0.69	0.77	0.73	1.80	1.67	2.04	1.84	0.79	0.71	0.66	0.72
ROA	4.02%	3.92%	5.63%	4.52%	6.14%	7.92%	7.69%	7.25%	17.10%	6.81%	1.23%	8.38%
Debt/Total Assets	42.55%	42.74%	43.74%	43.01%	11.86%	7.84%	9.46%	9.72%	17.09%	18.07%	20.85%	18.67%
ROE	13.13%	10.87%	13.09%	12.36%	13.11%	18.49%	16.09%	15.23%	30.53%	10.86%	2.18%	14.52%