The ABCs of Financial Performance Measures and Benchmarks for Canada's Tourism Sector

Financial Performance Measures and Benchmarks for Canada's Tourism Operators

Guide 3

Discover our true nature

Canadian Tourism Commission
Commission canadienne du tourisme

Canada

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for the
Canadian Tourism Commission

National Library of Canada cataloguing in publication data

Bergeron, Pierre G.

The ABCs of financial performance measures and benchmarks for Canada's tourism sector. Guide 3. Financial performance measures and benchmarks for Canada's tourism operators

Issued also in French under title : L'ABC des mesures du rendement financier et des repères financiers à l'intention du secteur canadien du tourisme. Guide 3. Mesures du rendement financier et repères financiers à l'intention des exploitants d'entreprises touristiques au Canada.
ISBN 0-662-34238-0
Cat. no. C86-171/2003-3E

1. Tourism - Economic aspects - Canada.
2. Travel agents - Canada - Finance.
3. Business enterprises - Finance.
I. Canadian Tourism Commission.
II. Title.

G155.C3B47 2003 338.4'7917104648 C2003-980181-0

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Acknowledgements

I would like to express my deepest appreciation to all our partners on this project, and their staffs, for their support in the distribution and promotion of *The ABCs of Financial Performance Measures and Benchmarks for Canada's Tourism Sector* Guides.

I would also like to express my gratitude to Nicolino Strizzi, Research Analyst, who managed, coordinated and kept this project moving smoothly. Finally, I am grateful to the other Canadian Tourism Commission (CTC) staff who were instrumental in the production of these guides, notably the Publications & Distribution Unit and Adine Béraud-Middlestead in editing.

Scott Meis
Executive Director, Research

Preface

The tourism sector has recently experienced a slower growth in sales activities due to the slowdown in economic activities, the September 11, 2001 tragedy, the Iraqi War and most recently the outbreak of Severe Acute Respiratory Syndrome (SARS). Whether this slower growth pace will continue over the next years is still a question mark. However, one thing is certain; to stay competitive and increase profitability, tourism operators will have to be more vigilant in managing their business establishments.

We are pleased to make available *The ABCs of Financial Performance Measures and Benchmarks for Canada's Tourism Sector* Guides. There are six guides in the series:

- Guide 1 – Financial Planning: Key to Maximizing Your Bottom Line
- Guide 2 – Profiling Your Financial Statements
- Guide 3 – Financial Performance Measures and Benchmarks for Canada's Tourism Operators
- Guide 4 – Decision-making Tools for Canada's Tourism Operators
- Guide 5 – Linking Your Financial Performance Measures to Your Business Plan
- Guide 6 – Industry Financial Averages and Benchmarks for Canada's Tourism Operators.

These six financial planning guides were written for tourism operators who have little or no experience in the area of finance. These guides can be used as reference documents by tourism operators who wish to better understand the language of accounting and finance, maximize the utilization of the financial planning spreadsheet, and discuss with more self-assurance their financial plans with investors. These guides become progressively more sophisticated, ranging from the principles of finance and culminating with cutting edge performance measures and financial analysis and decision-making techniques.

In addition, to help tourism operators in improving the analysis of their business establishment and the effectiveness of their decisions, we will also be introducing a new tool; a customized tourism operators' financial planning spreadsheet in the near future. This practical and user-friendly tool can help tourism operators analyze quickly the impact of their decisions on the financial destiny of their business establishments. After taking just a few moments to input their financial statement data on the spreadsheet, tourism operators will be able to view the financial profile of their businesses from different angles: liquidity, profitability, productivity, overall financial health, growth rate, financial stability and shareholder value. The financial planning spreadsheet will not only calculate the more critical financial performance measures of their business, but will also compare them to industry averages and financial benchmarks. This way, tourism operators will be able to determine how well they are doing and what needs to be done to improve their performance in order to remain profitable and competitive. This spreadsheet also offers tourism operators several decision tools that will help better assess the viability of their investment decisions.

The CTC has made every effort to ensure the accuracy of the information contained in these guides. The CTC does not accept any legal responsibility for consequences that may arise from errors, omissions or any opinions given. These guides are not a substitute for specific professional advice on business or other matters.

These six guides and the financial planning spreadsheets will be made available on the CTC's website: www.canadatourism.com

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Introduction

In Guide 2, *Profiling Your Financial Statements*, we examined four financial statements; this guide described how those statements can be analyzed.

The tools used to gauge the financial health of any business establishment are called financial performance measures. These are essentially comparisons or relationships between different numbers on a balance sheet or income statement, and are usually expressed in terms of a measure, a ratio or a percentage.

Operators, suppliers and investors look beneath the surface of financial statements – past the 'cosmetics' of them. Just because its balance sheet balances or is prepared by a renowned accounting firm does not mean that a business is in a healthy financial position. Like medical doctors who read x-rays for critical information about patient well being, business operators can be trained to draw meaningful conclusions from financial statements. Indeed, after reading this guide, an operator should be able to analyze financial statements and gauge the financial soundness and profitability of his business establishment.

Analyzing financial performance measures helps operators assess the financial structure and profitability performance of their businesses in relation to the following typical questions:

- Is our business establishment able to meet its current debt obligations?
- Are our business assets being managed effectively?
- Are our accounts receivable and inventory at suitable levels?
- Will our business be able to meet its long-term debt commitments?
- Can our business establishment service its debt comfortably?
- Is our business profitable?
- Is our business using its assets and resources efficiently?
- How does our financial structure and profitability compare with that of other businesses in our industry?
- Is our shareholders' return on investment satisfactory?
- Do investors have a high regard for our business establishment?

This Guide analyzes financial statements – such as those presented in Appendices 2.1 to 2.4 of Guide 2, *Profiling Your Financial Statements* – by showing how to meaningfully compare the numbers that appear on balance sheets and income statements. Here are a few examples such comparisons, along with explanations of why they're important.

Compare…	To see if a…
• Current liabilities to current assets	• business establishment is able to meet its payroll obligations and pay its suppliers on time
• Accounts receivable to sales	• business establishment is collecting its receivables quickly enough
• Inventory to cost of goods sold	• business establishment's inventory is turning over quickly enough
• Fixed charges to income	• business establishment can service its interest charges and fixed charges without any problems
• Total debt to total assets	• business establishment has too much debt
• Total assets to sales	• business establishment's assets are productive
• Net income to sales	• business establishment as a whole is efficient

Financial Performance Measures

Operators analyze financial statements for two reasons: first, to examine the past and gauge how well their business establishment has performed in terms of meeting its financial objectives; and second, to formulate goals and strategies that will help improve their business establishment's financial performance.

Good business goals are precise and meaningful; and when they are both, they allow performance measures to serve as vital instruments that make analysis and decision-making both useful and unambiguous.

When looking at a balance sheet or income statement, it is relatively easy to gauge how much profit a business establishment has made, how much debt it owes to its creditors, and the amount of funds owners have invested in it.

To evaluate business performance in more depth and with more precision, however, operators and investors use financial measures determining performance related to liquidity, debt, coverage, asset-management, profitability and overall financial health.

Hundreds of measures can be used to gauge financial performance. Using too many, of course, can confuse rather than enlighten, and some are more helpful than others. Certain performance measures are deficient because they can be misleading; others do not give a

complete picture of a financial situation, or have no practical application, or show in a roundabout manner what other performance measures reveal directly.

The real objective of financial performance measure analysis is to reduce the large number of accounts (or items) in financial statements to a relatively small number of meaningful relationships. Different relationships are brought to light depending on the purpose of the performance measures selected, but they should always relate components that share a logical decision-making connection.

Consequently, performance measures are also diagnostic tools. Just as a blood test can reveal symptoms of a disease, the study of financial statements reveals symptoms of problems or of management errors that require correction within a business.

This Guide examines 29 financial performance measures grouped into five categories:

1. Liquidity
2. Debt/coverage
3. Asset management
4. Profitability
5. Growth and financial health

These financial performance measures are listed in Appendices 3.1 to 3.8; in the pages that follow, they are defined and explained within the context of TravelWorld Inc.'s income statement and balance sheet – both of which were presented in Appendices 2.1 and 2.3 of Guide 2, *Profiling Your Financial Statements*. For the following explanations, figures from the year 2001 will be used.

It should be noted that the performance measures listed under the column titled 'Objective' will be the subject of Guide 5, *Linking Your Financial Performance Measures to Your Business Plan*.

Liquidity Performance Measures

The first group of performance measures listed in Appendix 3.1 deals with liquidity. These performance measures examine the current accounts shown on the balance sheet – that is, the relationship between current assets and current liabilities. (These two groupings of accounts are referred to as working capital.)

The most frequently used liquidity performance measures are:

- net working capital;
- current performance measure;
- cash performance measure;
- quick performance measure;
- working capital turnover performance measure;
- days of working capital performance measure; and
- the cash conversion efficiency performance measures.

Financial Benchmarks for Liquidity Performance Measures

Liquidity financial benchmarks should be considered either soft or self-regulated because working capital requirements vary from sector to sector and even from business to business. The performance-measurement descriptions that follow are accompanied by a note on financial benchmarks for each specific measure.

1. Net Working Capital

Working with figures from the balance sheet in Appendix 2.3, TravelWorld Inc.'s net working capital for the year 2001 is calculated as follows:

Current assets	$2,607,000
Current liabilities	$1,440,000
Net working capital	$1,167,000

Net working capital measures the short-term solvency of a business establishment, and helps judge the adequacy of its liquid assets for meeting short-term obligations as they come due. TravelWorld's $1,167,000 in net working capital is the amount of funds the company has to operate on a day-to-day basis – that is, to pay on time its accounts payable, short-term bank loans and weekly operating expenses (such as wages and salaries).

Some businesses experience financial difficulty because they cannot meet their obligations as they come due rather than because they are not profitable.

Financial benchmarks for net working capital

As mentioned above, liquidity financial benchmarks are considered soft or self-regulated due to variations in working capital requirements between sectors and individual businesses. The three key factors that make this so are:

- the composition of working capital accounts;
- the nature of currents assets;
- the agreements a business establishment has with its suppliers.

For example, with regard to composition, a larger amount of net working capital would be required if most of a business establishment's current assets were held in inventory. In the case of TravelWorld Inc., only 25% of the current asset accounts were in inventory ($660,000 ÷ $2,607,000). If this percentage increased – say, to 60% – the net working capital requirements (or liquidity performance measures) would also have to be increased.

With regard to the nature of the current assets, a business establishment with inventory that is perishable (e.g., food) would have to show higher performance measures than one with non-perishable products (e.g., furniture).

Finally, a business establishment that has signed a 60-day payment agreement with suppliers may require a lower amount of net working capital than one that has to pay its suppliers within a 15- to-30 day time period.

2. Current Performance Measure

The current performance measure (also referred to as the working capital performance measure) is calculated by dividing current assets by current liabilities. It is an excellent way of gauging business liquidity because it measures the extent to which current assets exceed current liabilities.

TravelWorld Inc.'s current performance measure is calculated as follows:

$$\frac{\text{Current assets}}{\text{Current liabilities}} = \frac{\$2{,}607{,}000}{\$1{,}440{,}000} = 1.81 \text{ times}$$

This means that TravelWorld Inc. has $1.81 in current assets for every dollar of current liabilities. This performance measure is slightly above than the 1.5 to 1 acceptable performance measure for manufacturing enterprises.

As mentioned earlier, the current performance measure has a general weakness in that it ignores the composition of the current asset accounts, which may be as important as their relationship with current liabilities. For example, a business that has a 1.5 to 1 current ratio and 80% of its current assets in inventory would not be as liquid as a company in the same industry that has a 1.1 to 1 ratio and only 30% of its current assets made up of inventory.

Therefore, before judging the liquidity position of a business, it is always prudent to examine other factors. These include the performance measure of the industry in which the business operates, the composition of the company's current assets, and the season of the year. Therefore, current performance measure analysis must be supplemented by other working capital performance measures such as the cash and the quick performance measures.

Financial benchmark for current performance measure (soft or self-regulated)

A common rule of thumb holds that an acceptable current performance measure should be around 1.5 to 1; that is, every dollar of current liabilities should be backed up by at least one-and-a-half dollars in current assets. This makes sense because if a liquidated firm (i.e. one that has gone bankrupt) were to realize two thirds the value of its current assets, it would have adequate funds to pay all current liabilities.

3. Cash Performance Measure

This performance measure looks at the minimum level of cash reserve a business needs to satisfy its day-to-day operating activities. Cash reserves (including marketable securities) should be sufficient to satisfy daily cash expenditures.

Basically, a business establishment needs:

- a practical minimum cash balance to operate;
- an amount to absorb unforeseen expenditures (i.e., a precautionary amount);
- available funds to take advantage of profitable business opportunities (e.g., cash or special discounts on purchases, anticipation of an increase in the price of some goods, acquiring a specialized piece of equipment at an attractive price).

There are two ways to calculate a business establishment's cash requirement. First, by calculating the cash performance measure as follows:

$$\frac{\text{Cash + Marketable securities}}{\text{Current liabilities}} = \frac{\$432{,}000}{\$1{,}440{,}000} = .30 \text{ times}$$

This means that 30% of all current liability accounts – such as accounts payable and working capital loans – can be paid instantly. The operator then determines the time frame in which these current liabilities must be paid.

This analysis brings us to the second method of determining the cash that should be kept on hand. It involves two steps. First, the operator needs to determine his or her average daily cash expenditures (which can be done by examining the business' daily cash expenditures during the past months).

The second step ascertains the appropriate average cash reserves needed to cover the cash outflows. For example, if TravelWorld Inc. spends an average of $1,500,000 each month, its average daily cash outflow would be $50,000 ($1,500,000 ÷ 30). If TravelWorld Inc. determines that a period of eight days is needed to meet its average daily expenditures under normal business operations, it will require $400,000 ($50,000 X 8 days) in cash or in marketable securities.

Financial benchmark for cash performance measure (soft or self-regulated)

Out of necessity, every business determines its own cash requirements: how much will be required to pay its suppliers (30 or 45 days), its employees every week or every second week, its principal and interests on its short-term loans, and other expenses such as commissions, travel and leasing charges.

4. Quick Performance Measure

The quick performance measure, also known as the acid-test performance measure, gauges the relationship between the more liquid current asset accounts – such as cash, marketable securities, and accounts receivable – and the current liability accounts. It complements well the current performance measure, because problems in meeting current liabilities may rest on slowness or an inability to convert inventories into cash, particularly in periods of economic downturn.

Quick performance is a more severe measure of a business' short-term liability – paying ability than current performance because the least liquid current asset (e.g. inventory) is not included in the calculation – for the precise reason that it takes a longer time to convert it into cash. As well, the quick performance measure does assume that accounts receivable are of good quality and will be converted into cash within a reasonable time period. This is done through the aging of the accounts receivable analytical process.

TravelWorld Inc.'s quick performance measure, which includes cash ($152,000), marketable securities ($280,000), prepaid expenses ($165,000) and accounts receivable ($1,350,000) is calculated as follows:

$$\frac{\text{Quick assets}}{\text{Current liabilities}} = \frac{\$1{,}947{,}000}{\$1{,}440{,}000} = 1.35 \text{ times}$$

Financial benchmark for quick performance measure (soft or self-regulated)

An acceptable quick performance measure is in the 1 to 1 range. This means that TravelWorld Inc.'s liquidity position appears to be adequate.

5. Working Capital Turnover Performance Measure

This performance measure gauges the number of times a business establishment's investment in net working capital is turned over during a given year. Every dollar invested in net working capital "turns" each time a firm sells its goods or services. The higher the turnover performance measure the better, because it means a business requires a smaller investment in net working capital and is considered more efficient.

Essentially, the working capital performance measure indicates the appropriateness of a business' working capital for the volume of business being handled. If a business has a working capital turnover that is above industry average, it means that a better balance is being maintained between net working capital and net sales revenue. As a result, there is less risk for the operator of being caught with top-heavy working capital accounts.

Here is how TravelWorld Inc.'s performance measure is calculated:

$$\frac{\text{Net sales revenue}}{\text{Current assets – current liabilities}} = \frac{\$25{,}082{,}000}{\$2{,}607{,}000 - \$1{,}440{,}000 \text{ (or } \$1{,}167{,}000)} = 21.5 \text{ times}$$

TravelWorld Inc. turned over its average investment in net working capital 21.5 times during the year 2001. If it turned over its working capital slower, say only 15 times, it would have to increase its net working capital from $1,167,000 to $1,672,133 ($25,082,000 ÷ 15) and thus add an extra $505,133 in non-productive assets.

Financial benchmark for working capital turnover measure (soft or self-regulated)

Every business establishment determines its own net working capital requirements and, by doing so, its own working capital turnover performance measure. A business can compare its performance with other businesses in the same industry to determine its level of working capital efficiency.

6. Days of Working Capital Performance Measure (DWC)

The goal of managing working capital accounts is to accelerate the cash flow cycle after sales have been made. The faster cash circulates, the more profitable it is to the business establishment, because it means that the company has less cash tied up in unproductive (but necessary) assets.

There are two approaches for measuring the productivity of cash within a business: days of working capital (DWC) performance measure and the cash conversion efficiency (CCE) performance measure. The objective of the DWC measurement is to calculate how many days' worth of working capital a business holds in relation to its average daily sales requirements. TravelWorld Inc. shows 16.2 days, calculated as follows:

$$\frac{\text{(Accounts receivable + Inventory) - Accounts payable}}{\text{Net sales revenue/365}} =$$

$$\frac{(\$1{,}350{,}000 + \$660{,}000) - \$900{,}000}{\$25{,}082{,}000 \div 365} = \frac{\$1{,}110{,}000}{\$68{,}718} = 16.2 \text{ days}$$

The fewer days required, the more efficient a business is in managing its three key working capital accounts (accounts receivable, inventory and accounts payable) – and the more profitable it becomes. For example, if TravelWorld Inc. was able to reduce its accounts receivable and inventory by $100,000 and $50,000 respectively, it would reduce is DWC down to 14.0 days [($1,250,000 + $610,000) - $900,000 ÷ $68,718)]. This would mean that TravelWorld Inc. could deposit $150,000 in marketable securities $15,000 in interest annually (imagining the interest rate to be 10% for this example).

On the other hand, TravelWorld Inc. might use the additional cash to purchase productive assets. As long as its inventories and accounts receivable remain at the new level, the company could generate a 20% return on the assets and earn $30,000 ($150,000 X 20%) in extra profit before taxes.

Financial benchmark for days of working capital measure (soft or self-regulated)

Every business establishment determines its own DWC, and may can compare its performance with that of other businesses in the same industry or against the industry average to determine its level of efficiency.

Cash Conversion Efficiency Performance Measure (CCE)

This performance measure gauges the efficiency with which a business establishment converts sales revenue to cash. There are two approaches to calculating this performance measure: a) by using the cash flow shown in the statement of cash flows; or b) by using the cash flow shown on the income statement (that is, adding back depreciation to income after taxes).

7. Cash Conversion Efficiency Performance Measure Using the Statement of Cash Flows

As shown in Appendix 2.4 (Statement of Cash Flows), TravelWorld Inc. generated $4,692,000 in cash from operating activities (income after taxes in the amount of $2,760,000 plus depreciation for $2,060,000, minus the non-cash working capital accounts which accounts for $128,000).

The calculation of its cash conversion efficiency using this figure is done as follows:

$$\frac{\text{Cash flow from operating activities}}{\text{Net sales revenue}} = \frac{\$4{,}692{,}000}{\$25{,}082{,}000} = 18.7\%$$

The higher the ratio, the more efficient a company is in managing its cash. If TravelWorld Inc.'s net sales revenue was reduced by $2,000,000 to $23,082,000 while its cash flow performance remained unchanged, the CCE performance measure would increase to 20.3% ($4,692,000 ÷ $23,082,000). Alternatively, if the company maintained the same level in net sales revenue but increased its cash flow from operating activities by only $200,000, the CCE performance measure would increase slightly less, to 19.5% ($4,892,000 ÷ $25,082,000).

Financial benchmark for cash conversion efficiency performance measure using the statement of cash flows (soft or self regulated)

All businesses determine their own CCE performance measures; however, an establishment can compare its CCE performance to that of other businesses in the same industry or to the industry average to determine its relative level of efficiency.

8. Cash Conversion Efficiency Performance Measure Using the Income Statement

In addition to the statement of cash flows, an operator can also refer to the income statement to determine the amount of cash generated by a business enterprise. This

cash flow amount is easier to ascertain. Although it is slightly different from the amount determined by the previous method, it still allows the operator to determine efficiencies related to the cash conversion.

The income statement for TravelWorld Inc. (shown in Appendix 2.1) points out that the business generated $4,820,000 in cash. This amount is calculated by adding income after taxes ($2,760,000) to the three depreciation amounts: cost of goods sold ($1,280,000), selling expenses ($250,000) and administrative expenses ($530,000). Here, the CCE performance measure is 19.2% compared to 18.7% when using the cash flow from the statement of cash flows. The calculation is done as follows:

$$\frac{\text{Income after taxes + depreciation}}{\text{Net sales revenue}} = \frac{\$4{,}820{,}000}{\$25{,}082{,}000} = 19.2\%$$

Financial benchmark for cash conversion efficiency performance measure using the income statement (soft)

It may be easier to obtain this cash flow information from annual reports or industry income statements than from cash flows drawn from statements of cash flows. Every business establishment determines this performance measure for itself and can compare its own performance to other businesses in the same industry or to the industry average.

Debt/Coverage Performance Measures

Debt/coverage performance measures deal with how a business establishment uses debt financing to buy its assets. Two questions are usually asked when gauging indebtedness. First, what should be the best mix of funds provided by lenders and the owners to buy assets (debt performance measures)? Second, will the business be able to service its contractual loan agreement – that is, pay the interest and principal each month (coverage performance measures)? The most commonly used debt/coverage performance measures are debt-to-total-assets, debt-to-equity, times-interest-earned and fixed-charges-coverage.

9. Debt-to-Total-Assets Performance Measure

Debt-to-total-assets (also called debt performance) is calculated by dividing total debts by total assets. It measures the proportion of all debts (current and long-term) incurred in the purchase of the assets shown on the balance sheet. The greater the debt raised by a business, the more highly 'leveraged' it is said to be.

Debt-to-total-assets performance is important to lenders, who want to be sure that owners are investing sufficient funds in their businesses and spreading their risk more equitably.

For TravelWorld Inc., this performance measure is computed as follows:

$$\frac{\text{Total debts}}{\text{Total assets}} = \frac{\$10{,}420{,}000}{\$27{,}297{,}000} = 38.2\%$$

This means that only 38.2% of TravelWorld Inc.'s assets are financed by debt, and thus the owners bear the greatest portion of risk. This suggests that creditors may not have difficulty in collecting their loans from the business in the event of bankruptcy or liquidation.

Financial benchmark for debt-to-total-assets performance measure (soft)

Usually, when this ratio exceeds 50%, creditors may be reluctant to provide more debt financing. However, as with all other performance measures, it is important to assess the type or nature of the assets owned by the business establishment: this may very well influence how far lenders will go in funding a business establishment. The assets of a business may, in reality, be worth less or more than their market value. Some of the factors that determine the level of debt financing are:

- Liquidation appraisal value of the assets
- Nature of the equipment (specialized or general purpose)
- The breadth of the industry's market for used equipment
- Geographic location of the equipment (i.e. is the business establishment located in an industrial park in a large metropolitan area or in a remote location?)
- Effect of inflation on resale of the equipment
- Current replacement costs

10. Debt-to-Equity Performance Measure

The debt-to-equity performance measure is actually redundant if the debt-to-total assets performance measure is used, since both convey the same information. The debt-to-equity performance measure is explained here because financial publications that provide industry-average performance measures for comparison purposes often cite the debt-to-equity performance measure instead of the debt-to-total assets performance measure.

Debt-to-equity shows whether a business establishment is using debts prudently or has gone too far and is overburdened with debt that may cause problems. It is important to show the relative proportions of lenders' claims and of ownership claims since this proportion (or percentage) is used as a measure of debt exposure. It is expressed as either a percentage or a proportion.

In the case of TravelWorld Inc., the performance measure works out as follows:

$$\frac{\text{Total debts}}{\text{Total shareholders' equity}} = \frac{\$10{,}420{,}000}{\$16{,}877{,}000} = 0.62 \text{ times}$$

TravelWorld Inc. uses less than a dollar in borrowed funds for each dollar provided by shareholders. The performance measure shows that more funds are being financed by equity than by debt, and that the company would not find it difficult to borrow additional funds from lenders. The operator would therefore not be subjecting the business to the risk of bankruptcy if he or she sought to increase the debt-to-equity performance measure by borrowing additional funds.

Financial benchmark for the debt-to-equity performance measure (soft)

Usually, when the value of this performance measure exceeds one, creditors may be reluctant to provide more debt financing. However, the qualifications cited under the debt-to-total assets performance measure apply here.

11. Times-Interest-Earned Performance Measure (TIE)

The times-interest-earned performance measure gauges the extent to which a business establishment can service its debt or pay back a loan per agreement. Take the example of a potential homeowner who is seeking a loan to buy a $200,000 house. The bank wants to know the value of the house in relation to the amount the home buyer is prepared to put into it, and also wants to know the buyer's ability to repay the loan on a month-to-month basis. An acceptable ratio is around 30%; that is, for every dollar's worth of gross salary, the loan repayment should not exceed 30 cents. For example, if a home buyer earns $5,000 a month and is in the 40% tax bracket, $1,500 (or 30%) would go toward repaying the loan, $2,000 would be used to pay income taxes, and the remaining $1,500 would be left for monthly living expenses. The higher the loan repayment in proportion to the buyer's gross salary, the less he would have left to pay for ongoing living expenses.

This is what the times-interest-earned performance measure reveals. It is determined by dividing earnings before interest and taxes (EBIT) by interest charges – and gauges the extent to which operating income can decline before a business is unable to meet its annual interest costs.

Referring to TravelWorld Inc.'s income statement (shown in Appendix 2.1), this performance measure can be calculated by adding the income before taxes ($4,180,000) and interest charges ($950,000) and dividing the sum by interest charges. The calculation gives $5,130,000, which is the amount equivalent to the homebuyer's $5,000 gross salary. A higher performance measure adds more certainty to the estimate of the business establishment's ability to pay all interest charges as agreed.

This calculation is always done on a before-tax basis, because interest charges are a tax-deductible expense. TravelWorld Inc.'s performance measure is computed as follows:

$$\frac{\text{Income before taxes} + \text{Interest charges}}{\text{Interest charges}} = \frac{\$4{,}180{,}000 + \$950{,}000}{\$950{,}000} = 5.4 \text{ times}$$

This means that, for every dollar of interest charges, the company has $5.40 in earnings before interests and taxes (EBIT) available to pay interest and taxes. Since interest and taxes amount to only $2.50, the rest is profit. Here is another way of describing this calculation:

EBIT	$5.40
Interest charges	1.00
EBT	4.40
Income taxes	1.50
EAIT	$2.90

With each $5.40 in earnings before interest and taxes, TravelWorld Inc. pays $1.00 towards interest and is left with $4.40 in earnings before taxes. Since the company is in the 34% tax bracket, TravelWorld Inc. pays $1.50 in income taxes and is therefore left with $2.90 to:

1. pay dividends,
2. pay the principal on the loan;
3. reinvest the rest in the business as retained earnings.

The lower the performance measure, the riskier it is. If the times-interest-earned performance measure is reduced to 3.0 times, it means that the company would be left with

only $2.00 (after paying the interest charges) to pay income taxes, the principal on the loan, the dividends and to reinvest profit in the business (i.e., retained earnings).

Financial benchmark for times-interest-earned performance measure (hard)

A comfortable times-interest-earned performance measure is in the range of 4.0 to 5.0.

12. Fixed-Charges-Coverage Performance Measure

This performance measure is similar to the times-interest-earned performance measure. It is more inclusive, however, in that it recognizes that many firms incur long-term obligations under scheduled lease payments. This performance measure complements the other debt performance measures by providing additional information about a company's ability to pay all fixed charges: that is, all creditors.

The cumulative total of those charges makes up a firm's total annual fixed charges. The fixed-charges-coverage performance measure is calculated by dividing the product of income before taxes plus all fixed charges by fixed charges. Fixed charges can include items such as lease payments, interest on debt, principal repayment, and sinking funds or the annual payment required to amortize a bond. These types of outlays are regarded as unavoidable.

TravelWorld Inc.'s performance measure is computed as follows:

$$\frac{\text{Income before taxes} + \text{Interest charges} + \text{Lease}}{\text{Interest charges} + \text{Lease}} = \frac{\$4{,}180{,}000 + \$950{,}000 + \$130{,}000}{\$950{,}000 + \$130{,}000} = 4.87 \text{ times}$$

Other fixed charges such as lease payments reduce the margin of error in TravelWorld Inc.'s operating results.

The fixed-charges-coverage performance measure is being used more often because of the increasing popularity of long-term lease agreements. It shows how much income before taxes is left to pay for all fixed charges.

Financial benchmark for fixed-charges-coverage (hard)

A comfortable fixed-charges-coverage performance measure is in the range of 4.0 to 5.0 for the reason that instead of borrowing funds from lenders to finance the purchase of assets (payment of interest), the business uses lease financing.

Asset-Management Performance Measures

Asset-management performance measures – sometimes referred to as activity performance measures, operating performance measures or management performance measures – gauge the efficiency with which a business uses its corporate assets or resources (such as inventories, accounts receivable, capital assets) to earn a profit. The intent of these performance measures is to answer one basic question: Does the amount of each category of assets shown on the balance sheet seem too high or too low in view of what the firm has accomplished or wants to realize in the future? The more commonly used asset-management performance measures deal with accounts receivable, inventory and capital assets.

Accounts Receivable Performance Measures

Accounts receivable are considered important current assets in many industries. For retail businesses or service companies, however, accounts receivable represent a small investment due to the fact that such enterprises sell goods and services via credit cards (Visa, MasterCard or Amex). A hotel, for instance, may sell for only 30% of its business on a credit basis.

Let's turn to our ongoing example of TravelWorld Inc. Assuming that it was in the hotel business, only a percentage of the $25 million amount in net sales revenue would be made on a credit basis to accommodate commercial accounts involved in conventions or conferences. If that were the case, TravelWorld Inc. would have to identify what portion of its sales are made on a credit basis to gauge its accounts receivable performance measures.

There are two ways to gauge how accounts receivable are managed: average collection period and accounts receivable turnover.

13. Average Collection Period

Average collection period (ACP) measures the length of time a business establishment's average sales dollar remains in the hands of its customers. A longer collection period automatically creates a larger investment in current assets and may even indicate that the business is extending credit terms that are too generous. Management must of course be aware of competitive credit practices and offer similar terms to avoid losing sales revenue as a result of too-stringent credit policies. The main point is that investment in accounts receivable has a cost. Excess

accounts receivable mean too much debt or shareholders' equity is being used by the business, in which case, the business is not as capital-efficient as it could be.

Average collection period is calculated in two steps. The first step involves calculating average daily sales, which is done by dividing the total annual net sales revenue by 365 days. TravelWorld Inc.'s average daily sales are $68,718 ($25,082,000 ÷ 365).

The second step is to divide average daily sales revenue into accounts receivable. TravelWorld Inc.'s average collection period is 19.6 days and is calculated as follows:

$$\frac{\text{Accounts receivable}}{\text{Average daily sales}} = \frac{\$1{,}350{,}000}{\$68{,}718} = 19.6 \text{ days}$$

If TravelWorld Inc. were able to collect its receivables within 15 days, the company would reduce its accounts receivable by $319,245. The accounts receivable would be reduced to $1,030,755 ($68,718 x 15 days) from the $1,350,000 existing balance sheet amount. In that case, TravelWorld Inc. could add the difference to the company's treasury for investment in more productive assets.

The question for TravelWorld Inc is: How long should sales credit be? The manager responsible has to decide whether the average collection period is getting out of hand. If so, actions would have to be taken to shorten credit terms, shut off credit to slow payers, or step up collection efforts.

If just 30% of TravelWorld Inc.'s sales revenue were made on a credit basis, then only an amount of $7,524,600 would be considered in the calculation. If that was the case, the company's average collection period would be 65.5 days [($1,350,000 ÷ $20,615 ($7,524,600 ÷ 365)].

Financial benchmark for average collection period (hard)

A 30-day average collection period is considered satisfactory.

14. Accounts Receivable Turnover

Accounts receivable turnover measures the number of times a business establishment's accounts receivable is turned over during a given year. Basically, it measures the same thing as the average collection period, simply using a different performance measure. The number of times that the average collection period recurs during the year represents a customer's annual turnover rate. The higher the turnover performance measure, the better, since a business with a high turnover requires a smaller investment in accounts receivable than a business with a low turnover rate.

This performance measure indicates a company's efficiency in turning over accounts receivable, and can be compared with the experience of other business establishments in the same industry. It also provides some indication as to the adequacy of a business' accounts receivable for the volume of business being handled. Here is how TravelWorld Inc.'s accounts receivable turnover is calculated.

$$\frac{\text{Sales revenue}}{\text{Accounts receivable}} = \frac{\$25{,}082{,}000}{\$1{,}350{,}000} = 18.6 \text{ times}$$

TravelWorld Inc. turns its accounts receivable 18.6 times a year, or more than once a month. However, if only 30% of TravelWorld Inc.'s net sales revenue were sold on credit, this performance profile would change, and the accounts receivable turnover would be just 5.6 times ($7,524,600 ÷ $1,350,000).

Financial benchmark for accounts receivable turnover (hard)

Generally, a monthly turnover of accounts receivable (i.e. 12 times per year) is considered satisfactory.

Inventory Performance Measures

Inventory also represents an important current asset in many industries, particularly in the manufacturing, wholesale and retail sectors. However, for service industries, the significance of this asset is almost negligible as service-oriented companies do not tend to carry raw materials, work-in-process goods or finished goods.

There are two ways of calculating inventory-management performance: 1) turnover performance measures; and 2) day's sales to inventory performance measures.

Turnover Performance Measures

Inventory turnover (also called the inventory utilization performance measure) gauges the number of times a business establishment's investment in inventory is turned over during a given year. An inventory item 'turns' each time a business buys or re-purchases another similar item for stock. The number of times this cycle recurs during the year represents a product's annual turnover rate.

Of course, a company's balance sheet does not show individual items. For this reason – and for practical purposes – inventory turnover performance measures

look at total annual averages. The higher the turnover performance measure the better. A business with a high turnover requires a smaller investment in inventory than one producing the same level of sales revenue with a low turnover rate. Operators have to be sure, however, to keep inventory at a level that is just right in order not to miss sales.

While both net sales revenue and cost of goods sold are used in the calculation, they give different results. This is because sales exceed cost of goods sold by the amount of the gross margin. Nevertheless, cost of goods sold (not sales revenue) should be used as the numerator for calculating the inventory turnover performance measure since the denominator (inventory) is valued at cost, and the purpose is to assess the adequacy of the physical turnover of that inventory.

Another point to remember is that a business establishment's sales revenue is generated over a 12-month period while its inventory level is computed at a specific point in time. Consequently, it is more appropriate to use the average inventory for the year. This calculation can be done by taking the year's starting inventory plus its ending inventory and dividing the sum by two. Quarterly and even monthly inventory can also be used.

Inventory turnover indicates a business' efficiency in turning over inventory; it can be compared with the experience of other companies in the same industry. It also provides some indication of the adequacy of a company's inventory for the volume of business being handled. If a business has an inventory turnover rate above the industry average, it means a better balance is being maintained between inventory and cost of goods sold or net sales revenue. As a result, there is less risk of the business establishment being caught with top-heavy inventory should the price of raw materials or finished products decline.

15. Using Cost of Goods Sold

The first and most effective method for calculating the inventory performance measure is using a business establishment's cost of goods sold as the numerator. Here is how TravelWorld Inc.'s inventory performance measure would be calculated:

$$\frac{\text{Cost of goods sold}}{\text{Inventory}} = \frac{\$13{,}017{,}000}{\$660{,}000} = 19.72 \text{ times}$$

TravelWorld Inc. turns the average item carried in its inventory 19.7 times during the year (more than once a month). To be sure, not every item in the company's stock turns at the same rate; some turn over more rapidly, while others have a slower turnover rate.

Financial benchmark for inventory turnover performance using cost of goods sold (soft)

Every business establishment determines its own inventory requirements and therefore its own inventory turnover performance measure. A business can compare its performance with others in the same industry or the industry average to determine its level of efficiency.

16. Using Net Sales Revenue

Inventory turnover performance can also be calculated using TravelWorld Inc.'s net sales revenue as the numerator:

$$\frac{\text{Net sales revenue}}{\text{Inventory}} = \frac{\$25{,}082{,}000}{\$660{,}000} = 38.0 \text{ times}$$

The inventory turnover rate yielded by this calculation is much higher than that determined by the previous method. Using net sales revenue in the calculation, TravelWorld Inc. is shown to turn over the average inventory item 38 times during the year.

Financial benchmark for inventory turnover performance measure using net sales revenue (soft)

As mentioned for the previous method of calculating this performance measure, every business determines its own inventory requirements and inventory turnover performance measure. Again, comparisons with other businesses in the same industry or with the industry average help provide a sense of how efficiently the business establishment is performing.

Day's Sales to Inventory Performance Measures

The relationship between a business establishment's inventory and cash flow process is defined by something called the average investment period. Similar to the collection period calculation, average investment period measures the length of time each dollar invested in inventory remains in that form before a sale converts it into cash or into a receivable account.

The day's sales to inventory performance measure helps operators determine the average daily cost of goods sold compared to a business establishment's total investment in

inventory. It measures the average number of days' sales a business needs to maintain stock.

This is a multipurpose performance measure. In one number (days), it provides significant information about the size and nature of the inventory at any one time – and also offers critical insight into the effectiveness of financial management systems as well as management philosophy.

For this measure, the lower the number of days the better. Time is definitely money, and the less time it takes to sell goods the more cash a business establishment is likely to have on hand. This means that more cash can be turned into productive assets, such as investments, rather than remain tied up in non-revenue producing inventories.

Day's sales to inventory can offer a window into management styles because a bloated number can signify bloated and inefficient inventory management due to poor training, deficient inventory ordering and stocking procedures, supplier shipping habits, weak administrative systems, inadequate computer technology, or simply inattentive management.

There are two approaches to calculate the day's sales to inventory performance measure, one by using the cost of goods sold and the other, net sales revenue.

17. Using Cost of Goods Sold

Two steps are involved in calculating the day's sales to inventory performance measure by using cost of goods sold. The first is to calculate the average daily cost of goods sold by dividing the total annual cost of goods sold by 365 days. TravelWorld Inc.'s average cost of goods sold is $35,663 ($13,017,000 ÷ 365).

The second step is to divide the average daily cost of goods sold into inventory. TravelWorld Inc.'s average day's sales to inventory using cost of goods sold is 18.5 days, calculated as follows:

$$\frac{\text{Inventory}}{\text{Average daily cost of goods sold}} = \frac{\$660{,}000}{\$35{,}663} = 18.5 \text{ days}$$

Financial benchmark for day's sales to inventory performance measure using cost of goods sold (soft)

Again, every business determines its own inventory level requirements and thereby its own day's sales to turnover performance. A business can compare its performance with other businesses in the same industry or the industry average to determine its level of efficiencies.

18. Using Net Sales Revenue

This calculation is similar to the former. The first step is to calculate the average daily sales by dividing the total annual net sales revenue by 365 days. TravelWorld Inc.'s average daily net sales revenue is $68,718 ($25,082,000 ÷ 365).

The second step is to divide the average daily net sales into inventory. TravelWorld Inc.'s day's sales to inventory when using net sales revenue is 9.6 days and is calculated as follows:

$$\frac{\text{Inventory}}{\text{Average daily net sales revenue}} = \frac{\$660{,}000}{\$68{,}718} = 9.6 \text{ days}$$

Financial benchmark for day's sales to inventory performance measure using net sales revenue(soft)

The same remarks apply here as above.

Additional Asset Management Performance Measures

Two other performance measures can be used to judge the effectiveness with which operators manage the assets entrusted to them. These performance measures involve turnover relationships; they express, in various forms, the relative amount of assets used to support the volume of business transacted. They are capital assets turnover and total assets turnover.

19. Capital Assets Turnover Performance Measure

The capital (or fixed) assets turnover performance measure (also called fixed assets utilization performance measure) gauges how intensively a firm's capital assets, such as land, buildings and equipment, are used to generate sales revenue. A low turnover implies that a firm has too much investment in capital assets relative to sales revenue; it is basically a measure of productivity.

The following shows how TravelWorld Inc. capital assets turnover performance measure is calculated:

$$\frac{\text{Net sales revenue}}{\text{Capital assets}} = \frac{\$25{,}082{,}000}{\$24{,}490{,}000} = 1.02 \text{ times}$$

This means that TravelWorld Inc. generates $1.02 worth of net sales revenue for every dollar invested in capital assets.

A competing firm with a $1.25 performance measure would appear to be more productive, since every dollar it has invested in capital assets produces an extra $0.23 in net sales revenue. If a business shows a weakness in this performance measure it may be operating below capacity, and owners should consider the possibility of selling the less productive assets.

Financial benchmark for capital assets turnover performance measure (soft or self-regulated)

Every business determines its own efficiency measure, and can compare its performance with other businesses in the same industry or the industry average to determine its level of efficiency. There is, however, one complication with the use of capital assets turnover for comparison purposes. Comparing a firm whose assets were acquired many years ago with a company that has recently automated its operations to make them more efficient or productive may lead the more modern firm to appear to have lower performance measure than the older and, in reality, less productive company.

20. Total Assets Turnover Performance Measure

This performance measure gauges the turnover or utilization of a business establishment's total assets, which include both capital assets and current assets. This performance measure also gives an indication of the efficiency with which assets are used. A low ratio means that excessive assets are employed to generate net sales revenue, suggesting that some assets (capital or current assets) should be liquidated or reduced.

This performance measure is useful as an initial indicator of problems with net sales revenue or an excessive accumulation of assets. When operators see that total assets turnover is too low, they may choose to modify their net sales revenue objectives and plans, examine the growth in the marketplace and competitors, or determine if their asset base is too large.

Travelworld Inc.'s total assets turnover is as follows:

$$\frac{\text{Net sales revenue}}{\text{Total assets}} = \frac{\$25{,}082{,}000}{\$27{,}297{,}000} = 0.92 \text{ times}$$

TravelWorld Inc. produces $0.92 worth of net sales revenue for every dollar invested in total assets. If the company were to reduce its investment in accounts receivable and inventory, or sell a division or capital assets which are a burden on the company's operating performance, its total assets turnover performance measure would improve and the company would become more productive.

Financial benchmark for total assets turnover performance measure (soft or self-regulated)

Every business establishment determines its own productivity, but may compare its performance with others in the same industry or the industry average.

Profitability Performance Measures

Profitability performance measures deal with bottom-line outcome and gauge the extent to which a business is successful in generating profit relative to sales, investment in assets, and equity. These performance measures show the level of business efficiency and effectiveness and reflect the results of a large number of policies and strategic decisions. Therefore, profitability performance measures show the combined effects or operating results of liquidity, asset management and debt management.

The most commonly used profitability performance measures are dealt with below:

- gross margin to net sales revenue
- operating income to net sales revenue
- income after taxes to net sales revenue
- return on total assets
- return on invested capital
- return on equity

These profitability performance measures gauge profit performance at different levels of the income statement: gross margin, operating income and income after taxes.

21. Gross Margin to Sales Performance Measure

The first level of profitability is the gross margin, which is the difference between net sales revenue and cost of goods sold. Cost of goods sold includes the purchase of goods from suppliers, the cost of transportation to bring the goods from the suppliers to a manufacturing plant, for example, and all expenses incurred for producing goods or services (salaries, depreciation, insurance, etc.).

Since the cost of goods sold represents a significant portion of a business establishment's total costs (for manufacturing businesses, it may reach 80%), operators must have an accurate sense of how efficiently it is being managed.

For a retail trade business establishment, the only costs incurred in the cost of goods sold are purchases and freight in. For a service establishment, the only cost would

be salaries incurred for providing core services to its customers.

In the example of TravelWorld Inc., gross margin is calculated as follows:

Net sales revenue	$25,082,000
Cost of goods sold	13,017,000
Gross margin	$12,065,000

Relating the difference of the cost of goods sold to net sales provides the first measure of profit performance.

TravelWorld Inc.'s gross margin to sales calculation is:

$$\frac{\text{Gross margin}}{\text{Net sales revenue}} = \frac{\$12,065,000}{\$25,082,000} = 48.1\%$$

TravelWorld Inc.'s gross margin to sales is 48.1%, which means that for every dollar of net sales revenue, the business spends 51.9 cents to make its goods or provide its services.

Financial benchmark for the gross margin to sales performance measure (soft)

Every industry determines its own efficiencies depending on the nature of its operations. A business can, of course, compare its performance with other businesses in the same industry or the industry average to determine its relative level of efficiency.

22. Operating Income to Sales Performance Measure

Operating income is the second measure of a business establishment's profit performance. Operating income is calculated by subtracting all operating expenses – such as selling and administrative costs – from the gross margin.

TravelWorld Inc.'s operating income is:

Gross margin	$12,065,000
Total operating expenses	6,936,000
Operating income	$5,129,000

Operating income to sales is computed by dividing net operating income by net sales revenue. This ratio is an excellent measure of a firm's ability to make financial gains because the calculation excludes non-operating items such as interest and other income, which are not part of mainstream operating activities. The main purpose of this performance measure is to assess the effectiveness of management in generating operating income.

TravelWorld Inc.'s operating income to sales is as follows:

$$\frac{\text{Operating income}}{\text{Net sales revenue}} = \frac{\$5,129,000}{\$25,082,000} = 20.45\%$$

In the case of TravelWorld Inc., the company generates 20.45 cents in operating income for every dollar of sales.

Financial benchmark for the operating income to sales performance measure (soft)

As mentioned above, every industry determines its own efficiencies depending on the nature of its operations. However, a business can compare its own performance with other businesses in the same industry or the industry average to determine its level of efficiency.

23. Income After Taxes to Net Sales Revenue Performance Measure

Income after taxes to net sales revenue (also called return on sales) represents an important measure of a company's financial performance after recognizing its interest charges and income tax obligation. This performance measure gauges the firm's overall ability to squeeze profits from each sales dollar. It is calculated by dividing income after taxes by net sales revenue.

Profit-seeking businesses are keenly interested in maximizing their return on sales, since this bottom-line figure represents funds either distributed to shareholders in the form of dividends or retained and reinvested in the business.

TravelWorld Inc.'s income after taxes is as follows:

Operating income		$5,129,000
Plus: interest income	$11,000	
Less: other interest charges	950,000	
Less: extraordinary expenses	10,000	
Less: income taxes	1,420,00	2,369,000
Income after taxes		$2,760,000

TravelWorld Inc.'s return on sales is calculated as follows:

$$\frac{\text{Income after taxes}}{\text{Net sales revenue}} = \frac{\$2,760,000}{\$25,082,000} = 11.0\ \%$$

For every dollar of net sales revenue, TravelWorld Inc. earns 11 cents in income after taxes. The higher this performance measure, the more beneficial it is to the wealth of the business and to its shareholders. For effective analysis, it should also be compared to historical company performance, used as a platform for planning purposes, and compared to the industry average or specific firms competing in the industry.

The return on sales has a limitation in that it is based on income after deduction of interest expenses. If the company has increased its debt substantially, this may result in a decrease in income after taxes because of the interest expense deduction, even if the return on the shareholders' investment has actually increased. The profit margin on sales overcomes this problem and provides another view of profitability.

Financial benchmark for income after taxes to net sales revenue performance measure (soft)

The same remarks made for the previous entries apply here, as well.

24. Return on Total Assets Performance Measure

This performance measure gauges profit performance in relation to assets committed; it might be viewed as a measure of the efficiency of total asset usage. It is calculated by dividing net income after taxes by total assets.

TravelWorld Inc.'s return on total assets is computed as follows:

$$\frac{\text{Income after taxes}}{\text{Total assets}} = \frac{\$2{,}760{,}000}{\$27{,}297{,}000} = 10.11\%$$

In other words, the company generates a 10.1% return on all assets invested in it.

Financial benchmark for return on total assets performance measure (self-regulated)

Every business establishment determines its own return on assets. The cost of capital is an important determining factor. For example, if TravelWorld Inc.'s cost of capital (after taxes) is 9.0%, the above return on assets could be acceptable. However, it the cost of capital was 12%, then the performance measure would be considered unfavorable.

25. Return on Invested Capital Performance Measure

The return on invested capital performance measure is similar to the return on total assets performance measure. The only difference between total assets and total invested capital is the exclusion of current liabilities from the calculation.

In the case of TravelWorld Inc., current liabilities amount to $1,440,000. By deducting current liabilities from total liabilities and shareholders' equity, TravelWorld Inc.'s invested capital amounts to $25,857,000.

Return on invested capital is computed by dividing income after taxes by invested capital:

$$\frac{\text{Income after taxes}}{\text{Invested capital}} = \frac{\$2{,}760{,}000}{\$25{,}857{,}000} = 10.67\ \%$$

Financial benchmark for return on invested capital performance measure (self-regulated)

As with the return on total assets performance measure, return on invested capital is determined by a business individually; the cost of capital is an important factor. Here, again, if TravelWorld Inc.'s cost of capital (after taxes) is 9.0%, its return on invested capital would be acceptable. If the cost of capital is higher than 11%, however, then the performance measure is considered unfavorable.

26. Return on Equity Performance Measure

This performance measure relates income after taxes to owners' equity. It is critical to shareholders because it shows the yield they earn on their investments. It also allows shareholders to judge whether the return made on their investment is worth the risk.

TravelWorld Inc.'s return on equity performance measure is calculated as follows:

$$\frac{\text{Income after taxes}}{\text{Owners' equity}} = \frac{\$2{,}760{,}000}{\$16{,}877{,}000} = 16.35\ \%$$

This means that for every dollar invested in the business by the shareholders, they earn 16.35 cents. By most standards, this profit performance would be judged relatively good.

Financial benchmark for return on equity performance measure (self-regulated)

Owners of every business establishment determine their return on equity. A business can compare its return on equity with other businesses in the same industry or the industry average.

Growth and Financial Health Performance Measures

In addition to performance measures dealing with liquidity, debt-coverage, asset-management and profitability, there are others that business establishments can use to gauge their overall financial performance and health. These are: economic value added, the sustainable growth rate and the financial health score.

27. The Economic Value Added (EVA)

Economic value added is a new term that has gained prominence in the business community. It relates after-tax net operating profit results to the cost of capital. Each year, Fortune magazine lists companies with the highest EVAs under the title, "America's Wealth Creators". This is because EVA measures the wealth a business has created for its investors. Specifically, EVA is an attempt to measure true profitability.

Here is how EVA is calculated: it begins with a company's sales and subtracts the expenses incurred in running the business, which results in net operating profits after taxes (NOPAT). Then it subtracts one more expense – the cost of all the capital employed to produce the NOPAT. Capital includes elements such as buildings, heavy equipment, computers and vehicles as well as working capital.

In effect, EVA charges the company for the use of the above assets at a rate that compensates lenders and shareholders for providing funds. What is left is EVA, a measure of profits after all costs are covered-including the cost of using assets shown on the balance sheet.

EVA has become the financial tool of choice at leading companies such as Coca-Cola, AT&T, Wal-Mart Stores, Eli Lilly and Quaker Oats. At Eli Lilly, for example, EVA was linked to the company's bonus plan pay system.

The reasons for the increasing popularity of this performance measurement are:

- its close reflection of the wealth created for shareholders;
- its promotion of management accountability; and
- its decision-making value.

TravelWorld Inc.'s EVA is presented in Appendix 3.2. As shown, the company's net operating profit before tax (NOPBT) for the year 2001 is $5,129,000 million. On an after-tax basis, and after miscellaneous adjustments (if required), the net operating profit after tax (NOPAT) is $3,478,000. This is based on TravelWorld Inc's income tax rate of 34%. The company's 10% cost of capital (after tax) to finance the $26,327,000 worth of capital funds produces $2,633,000 in financing charges. (Accounts payable and accruals are excluded from this calculation because suppliers do not charge interest.) The difference between the NOPAT and the cost of capital gives a $845,000 positive EVA.

These calculations show the importance of comparing the cost of debt financing to return on assets. If the return on assets is less than the cost of capital, management must either increase the return on its assets or restructure its financing package to improve the economic value added to its shareholders.

Financial benchmark for economic value added performance measurement (self-regulated)

The EVA performance measure is self-regulated, as every company compares its own cost of capital against its operating income after taxes. A positive EVA is regarded as beneficial.

28. Sustainable Growth Rate

Most people equate growth with success, and managers often see growth as something to be maximized. Their view is simple: if the company grows, the firm's market share and profits should also increase. However, growing too fast (if growth is not properly managed) may create problems. In some instances, growth outstrips a company's human, production, and financial resources. When that happens, the quality of decision making tends to deteriorate, product quality suffers, and financial reserves often disappear.

The bottom line is this: if growth is not managed, a business can literally "grow broke." Some signs of trouble associated with growing too fast are substantial increases in receivables and inventories relative to sales, declining cash flow from operations, and escalating interest-bearing debt.

To understand growth management, it is important to first determine a company's sustainable growth rate – which is defined as the maximum rate at which a company's sales can increase without depleting financial resources. Managers must therefore look at different options when they set a sustainable growth rate target.

In many instances, management should limit growth to conserve financial strength.

If a company wants to grow, it has several options:

- increase its return on sales (income after taxes);
- reduce the payout of dividends to retain earnings;
- sell new equity;
- increase leverage (i.e. debt versus equity); or
- increase the productivity of its assets.

It is possible to develop a sustainable growth equation that shows a company's optimum growth rate. The formulae that can help determine the optimum growth rate are:

$$\text{Growth} = \frac{(M)\,(R)\,(1 + D/E)}{(A) - (M)\,(R)\,(1 + D/E)}$$

where:

M	=	Ratio of net income to sales
R	=	Ratio of reinvested income to income before dividends
D/E	=	Ratio of total liabilities to net worth
A	=	Ratio of assets to sales

As shown in Appendix 3.3, TravelWorld Inc.'s sustainable growth rate for 2001 is 18.29%. The ratios used to arrive at this growth potential are:

			2001
M	=	Ratio of net income to sales	0.11
R	=	Ratio of reinvested income to income before dividends	0.95
D/E	=	Ratio of total liabilities to net worth	0.62
A	=	Ratio of assets to sales	1.09

TravelWorld Inc.'s growth rate in 2001 was 12.26%; its sustainable growth rate was 18.29%. This is acceptable.

Here is how TravelWorld Inc.'s sustainable growth rate was calculated. For every dollar of sales in 2001, the company generated $0.11 in profit to invest in growth (via capital assets or research and development, for example).

The performance measure of reinvested income to income before dividends also increased. In 2001, the company's performance measure was 0.95 (with income after taxes of $2,760,000 and payment of $150,000 in dividends). This means that TravelWorld Inc. had a considerable amount of cash to reinvest in the business for growth.

In 2001, 38% of the company's total assets were financed by debt. The performance measure of total liabilities to net worth translates to 0.62.

The fourth performance measure used in the formula is the total number of assets needed to support every dollar's worth of sales. As shown, TravelWorld Inc. required $1.09 worth of assets to produce $1.00 in net sales revenue.

Financial benchmark for sustainable growth rate performance measure (self-regulated)

Every business establishment determines its own sustainable growth rate to see how fast it should increase its net sales revenue.

29. Financial Health Score

Let's turn now to measuring TravelWorld Inc.'s financial health score. In 1962, Edward Altman developed a mathematical model to help financial analysts predict the financial performance of business establishments. He utilized a combination of traditional performance measures and a sophisticated statistical technique known as discriminant analysis to construct a financial model for assessing the likelihood that a firm would go bankrupt.

Altman's model combined five financial measures using both reported accounting and stock/variables to arrive at an objective overall measure of corporate health called the Z-score. If the five performance measures give a Z-score of 3.0 or higher, a company is in a healthy financial position, also known as a 'safe zone'. If the score falls between 1.8 and 3.0, a company is in a 'grey zone' and could go either way. If the score is less than 1.8, a company is in danger of bankruptcy.

Appendix 3.4 shows Altman's Z-score formula and TravelWorld Inc.'s five financial performance measures for the year 2001. As shown, TravelWorld Inc. scored 3.24 in 2001 (safe zone). Here is a brief explanation of each of these performance measures:

- Performance measure (a): This shows the relationship between total assets and net working capital. Here, the performance measure is 0.04 ($1,167,000 ÷ $27,297,000).
- Performance measure (b): This shows the relationship between total assets and retained earnings. This reflects TravelWorld Inc.'s profit performance and how much income after taxes has been reinvested in the company since it started. As shown, TravelWorld Inc.'s performance measure is 0.49 ($13,277,000 ÷ $27,297,000).
- Performance measure (c): This measure shows the relationship between total assets and earnings before interest and taxes, and reflects the level of profit performance relative to total assets.

TravelWorld Inc.'s performance measure is 0.19 ($5,129,000 ÷ $27,297,000).

- Performance measure (d): This measure compares the amount of funds used by lenders to shareholders. The debt-to-equity performance measure is 1.62 ($16,877,000 ÷ $10,420,000).
- Performance measure (e): This shows the relationship between the amount of assets invested in a business and net sales revenue. The total assets to net sales revenue performance measure is 0.92 ($25,082,000 ÷ $27,207,000).

Common Size Statement Analysis

One of the most common approaches to probing a balance sheet and income statement is listing the individual items between two successive years, reducing the numbers on the financial statements to comparable percentages. This is known variously as 'the common size performance measure' 'or 'vertical analysis'. Common size statement analysis is interesting to use for comparing the performance of one business to another or one division to another, because it ignores the difference in the size of the individual accounts. All elements are converted on comparable terms-that is, a percentage.

Income Statement

Common size statement analysis of the income statement provides excellent information about a business establishment's operating efficiencies for each expense item listed on the statement. As shown in Appendix 3.5, each component of TravelWorld Inc.'s income statement is converted to a percentage of total sales, and TravelWorld Inc.'s income performance improved slightly between 2000 and 2001. In 2001, for every dollar in sales, the company made 11.0% (or cents), which is a slight improvement over 2000 (10.6%). Although the overall profitability performance of the company showed a slight improvement, it is evident that some accounts improved and others deteriorated. For example, the cost of goods sold increased from 50.7% to 51.9%, which deteriorated the company's gross margin from 49.3% to 48.1%. Interest charges in relation to net sales revenue shows a reduction which helped TravelWorld Inc.'s profit performance improve (from 5.1% to 3.8%).

Balance Sheet

As shown in Appendix 3.6, each component of TravelWorld Inc.'s balance sheet related to assets is expressed as a percentage of total assets, and each component related to liabilities and shareholders' equity is expressed as a percentage of total liabilities and shareholders' equity.

Common size statement analysis also reveals the change in mix between several elements of a balance sheet and between two consecutive balance sheets. For example, TravelWorld Inc. shows that, in 2000, current assets represented 8.7% of every asset dollar of the company. In 2001, this measure increased to 9.6%. This is evidenced by the larger percentage increases in the cash, accounts receivable and inventory accounts. The same analysis can be done for each component in the liability and shareholders' equity accounts. Overall, TravelWorld Inc.'s percentage of total debts, when compared to total assets and equity, dropped from 44.8% to 38.2%.

Common size statement analysis not only enables management to compare financial statements from one year to the next, between companies or operating divisions, but it can also reveal sufficient information for management to answer the following types of questions:

- Is our company's capital structure in line with that of the industry?
- Is the performance measure of the company's current assets to total assets favorable?
- Is the investment in capital assets in the right proportion?
- Is the cost of goods sold too high?
- Are the operating expenses too high?
- Is the performance measure of income after taxes to net sales revenue adequate?

Horizontal Statement Analysis

Horizontal statement analysis is performed by listing two consecutive financial statements and then comparing the differences between the two periods. The comparison shows the growth or decline in each component of a financial statement, both in absolute dollars and as a percentage. For example, if two consecutive income statements show figures of $900,000 in 2000 and $990,000 in 2001, horizontal analysis will show the $90,000 increase and a 10% growth.

Income Statement

Appendix 3.7 shows a 16.6% increase in income after taxes during the 2001 year. The individual components that have contributed to this significant increase are registered in sales, which show a larger increase than total operating expenses (12.3% versus 12.1%). Although commissions increased by only 5.7%, this was offset by a hefty 38.2% increase in advertising and a drop of 16.7% in interest charges.

Balance Sheet

Appendix 3.8 shows horizontal analysis for TravelWorld Inc.'s balance sheet. TravelWorld Inc.'s balance sheets show significant changes in certain accounts. For example, current assets show a 16.4% growth while total net capital assets increased by only 5.1%. The lower part of the balance sheet reveals an increase of 18.7% in the company's current liabilities and a drop of 12.8% in its long-term debts, and a 19.1% increase in total shareholders' equity.

TravelWorld Inc.

Appendix 3.1

Financial Performance Measures

Financial Performance Measures	2000	2001	Objective
Liquidity Performance Measures			
Net working capital ($000)	1,027	1,167	1,264
Current performance measure (times)	1.85	1.81	1.69
Cash performance measure (times)	0.34	0.30	0.24
Quick performance measure (times)	1.42	1.35	1.16
Working capital turnover performance measure (times)	21.75	21.49	22.12
Days of working capital performance measure	15.0	16.2	16.6
Cash conversion efficiency performance measures			
Using cash flow from operating activities (percent)		18.7%	20.9%
Using income after taxes + depreciation (percent)	18.2%	19.2%	21.2%
Debt/Coverage Performance Measures			
Debt-to-total-assets performance measure (percent)	44.82%	38.17%	33.11%
Debt-to-equity performance measure (times)	0.81	0.62	0.50
Times-interest-earned performance measure (times)	4.22	5.40	6.40
Fixed-charges coverage performance measure (times)	3.90	4.87	5.68
Asset-Management Performance Measures			
Accounts receivable performance measures			
Average collection period (days)	18.79	19.65	19.58
Accounts receivable turnover (times)	19.43	18.58	18.64
Inventory performance measures			
Turnover performance measures			
Using cost of goods sold (times)	21.79	19.72	14.91
Using net sales revenue (times)	42.97	38.00	28.83
Day's sales to inventory performance measures			
Using cost of goods sold (days)	16.8	18.5	24.5
Using net sales revenue (days)	8.5	9.6	12.7
Asset performance measures			
Capital assets turnover performance measure (times)	0.96	1.02	1.06
Total assets turnover performance measure (times)	0.87	0.92	0.94
Profitability Performance Measures			
Gross margin to sales performance measure (percent)	49.28%	48.10%	48.28%
Rating income to sales performance measure (percent)	21.58%	20.45%	20.60%
Ne after taxes to sales performance measure (percent)	10.59%	11.00%	11.31%
Return on total assets performance measure (percent)	9.22%	10.11%	10.61%
Rn on invested capital performance measure (percent)	9.68%	10.67%	11.30%
Return on equity performance measure (percent)	16.71%	16.35%	15.86%

TravelWorld Inc.

Appendix 3.2

Economic Value Added (EVA)

Economic Value Added (EVA)	2000	2001	Objective
Operating Income			
Operating income	4,822	5,129	5,762
Miscellaneous adjustments	130	140	150
Total	4,952	5,269	5,912
Income tax rate (%)	34%	34%	34%
Income taxes	1,684	1,791	2,010
Operating income after taxes	**3,268**	**3,478**	**3,902**
Cost of capital			
Total borrowed capital	24,863	26,327	28,524
Total weighted cost of capital (%)	10.00%	10.00%	10.00%
Total cost of capital	**2,486**	**2,633**	**2,852**
Economic value added (EVA)	**782**	**845**	**1,050**

TravelWorld Inc.

Appendix 3.3

Sustainable Growth Rate

Sustainable Growth Rate

	2000	2001	Objective
1. Ratio of income after taxes to sales (M)	0.11	0.11	0.11
2. Ratio of reinvested income to income before dividends (R)	0.96	0.95	0.94
3. Ratio of total liabilities to net worth (D/E)	0.81	0.62	0.50
4. Ratio of assets to sales (A)	1.15	1.09	1.07
The growth formula			
$\frac{(M)\,(R)\,(1+D/E)}{(A) - (M)\,(R)\,(1+D/E)}$			
Sustainable or potential growth rate	**19.05%**	**18.29%**	**17.45%**
Company's growth rate		**12.26%**	**11.49%**

TravelWorld Inc.

Appendix 3.4

Financial Health Score

Financial Health Score			
	2000	2001	Objective
a = working capital / total assets	0.04	0.04	0.04
b = retained earnings / total assets	0.42	0.49	0.54
c = EBIT / total assets	0.19	0.19	0.19
d = equity / total liabilities	1.23	1.62	2.02
e = sales / total assets	0.87	0.92	0.94
The formula			
Z = 1.2 (a) +1.4 (b) + 3.3 (c) + 0.6 (d) + 1.0 (e)			
Safe zone = 3.0 and over			
Gray zone = 1.8 to 3.0			
Brankrupt zone = 0 to 1.8			
The company's financial health zone	**2.86**	**3.24**	**3.60**

TravelWorld Inc.

Appendix 3.5

Vertical Analysis of the Income Statement

Vertical Analysis of the Income Statement

in thousands of $

	2000	% of Sales	2001	% of Sales	Objective	% of Sales
Net sales revenue	**22,342**	***100.00***	**25,082**	***100.00***	**27,965**	***100.00***
Cost of goods sold						
Purchases	5,545	*24.82*	6,730	*26.83*	7,104	*25.40*
Freight in	123	*0.55*	210	*0.84*	290	*1.04*
Salaries	4,621	*20.68*	4,765	*19.00*	5,140	*18.38*
Depreciation	1,020	*4.57*	1,280	*5.10*	1,890	*6.76*
Other charges	22	*0.10*	32	*0.13*	40	*0.14*
Total cost of goods sold	**11,331**	***50.72***	**13,017**	***51.90***	**14,464**	***51.72***
Gross margin	**11,011**	***49.28***	**12,065**	***48.10***	**13,501**	***48.28***
Selling expenses						
Sales salaries	3,603	*16.13*	3,904	*15.56*	4,304	*15.39*
Commissions	123	*0.55*	130	*0.52*	150	*0.54*
Travelling	37	*0.17*	40	*0.16*	45	*0.16*
Advertising	34	*0.15*	47	*0.19*	55	*0.20*
Depreciation	230	*1.03*	250	*1.00*	280	*1.00*
Other charges	21	*0.09*	25	*0.10*	30	*0.11*
Total selling expenses	**4,048**	***18.12***	**4,396**	***17.53***	**4,864**	***17.39***
Administrative expenses						
Salaries	1,545	*6.92*	1,850	*7.38*	2,100	*7.51*
Leasing	123	*0.55*	130	*0.52*	140	*0.50*
Depreciation	450	*2.01*	530	*2.11*	600	*2.15*
Other charges	23	*0.10*	30	*0.12*	35	*0.13*
Total administrative expenses	**2,141**	***9.58***	**2,540**	***10.13***	**2,875**	***10.28***
Total operating expenses	**6,189**	***27.70***	**6,936**	***27.65***	**7,739**	***27.67***
Operating income	**4,822**	***21.58***	**5,129**	***20.45***	**5,762**	***20.60***
Interest income	10	*0.04*	11	*0.04*	15	*0.05*
Interest charges	1,140	*5.10*	950	*3.79*	900	*3.22*
Extraordinary expenses	25	*0.11*	10	*0.04*	15	*0.05*
Income before taxes	**3,667**	***16.41***	**4,180**	***16.67***	**4,862**	***17.39***
Income taxes	1,300	*5.82*	1,420	*5.66*	1,700	*6.08*
Income after taxes	**2,367**	***10.59***	**2,760**	***11.00***	**3,162**	***11.31***

TravelWorld Inc.

Appendix 3.6

Vertical Analysis of the Balance Sheet

Vertical Analysis of the Balance Sheet

in thousands of $

	2000	% of Total Assets	2001	% of Total Assets	Objective	% of Total Assets
Assets						
Current assets						
Cash	140	*0.55*	152	*0.56*	160	*0.54*
Marketable securities	270	*1.05*	280	*1.03*	285	*0.96*
Prepaid expenses	160	*0.62*	165	*0.60*	170	*0.57*
Accounts receivable	1,150	*4.48*	1,350	*4.95*	1,500	*5.03*
Inventory	520	*2.03*	660	*2.42*	970	*3.25*
Total current assets	**2,240**	***8.72***	**2,607**	***9.55***	**3,085**	***10.35***
Capital assets						
Gross capital assets	29,500	*114.90*	32,750	*119.98*	37,500	*125.80*
Accumulated depreciation	6,200	*24.15*	8,260	*30.26*	11,030	*37.00*
Total net capital assets	**23,300**	***90.75***	**24,490**	***89.72***	**26,470**	***88.80***
Intangible assets	134	*0.52*	200	*0.73*	255	*0.86*
Total assets	**25,674**	***100.00***	**27,297**	***100.00***	**29,810**	***100.00***
Current liabilities						
Accounts payable	750	*2.92*	900	*3.30*	1,200	*4.03*
Notes payable	300	*1.17*	350	*1.28*	400	*1.34*
Working capital loan	102	*0.40*	120	*0.44*	135	*0.45*
Accruals	61	*0.24*	70	*0.26*	86	*0.29*
Total current liabilities	**1,213**	***4.72***	**1,440**	***5.28***	**1,821**	***6.11***
Total long-term debts	**10,294**	***40.10***	**8,980**	***32.90***	**8,050**	***27.00***
Total debts	**11,507**	***44.82***	**10,420**	***38.17***	**9,871**	***33.11***
Shareholders' equity						
Capital shares	3,500	*13.63*	3,600	*13.19*	3,700	*12.41*
Retained earnings	10,667	*41.55*	13,277	*48.64*	16,239	*54.48*
Total shareholders' equity	**14,167**	***55.18***	**16,877**	***61.83***	**19,939**	***66.89***
Total liabilities and shareholders' equity	**25,674**	***100.00***	**27,297**	***100.00***	**29,810**	***100.00***

TravelWorld Inc.

Appendix 3.7

Horizontal Analysis of the Income Statement

Horizontal Analysis of the Income Statement

in thousands of $

	2000	2001	% Change	Objective	% Change
Net sales revenue	**22,342**	**25,082**	***12.3%***	**27,965**	***11.5%***
Cost of goods sold					
Purchases	5,545	6,730	*21.4%*	7,104	*5.6%*
Freight in	123	210	*70.7%*	290	*38.1%*
Salaries	4,621	4,765	*3.1%*	5,140	*7.9%*
Depreciation	1,020	1,280	*25.5%*	1,890	*47.7%*
Other charges	22	32	*45.5%*	40	*25.0%*
Total cost of goods sold	**11,331**	**13,017**	***14.9%***	**14,464**	***11.1%***
Gross margin	**11,011**	**12,065**	***9.6%***	**13,501**	***11.9%***
Selling expenses					
Sales salaries	3,603	3,904	*8.4%*	4,304	*10.2%*
Commissions	123	130	*5.7%*	150	*15.4%*
Travelling	37	40	*8.1%*	45	*12.5%*
Advertising	34	47	*38.2%*	55	*17.0%*
Depreciation	230	250	*8.7%*	280	*12.0%*
Other charges	21	25	*19.0%*	30	*20.0%*
Total selling expenses	**4,048**	**4,396**	***8.6%***	**4,864**	***10.6%***
Administrative expenses					
Salaries	1,545	1,850	*19.7%*	2,100	*13.5%*
Leasing	123	130	*5.7%*	140	*7.7%*
Depreciation	450	530	*17.8%*	600	*13.2%*
Other charges	23	30	*30.4%*	35	*16.7%*
Total administrative expenses	**2,141**	**2,540**	***18.6%***	**2,875**	***13.2%***
Total operating expenses	**6,189**	**6,936**	***12.1%***	**7,739**	***11.6%***
Operating income	**4,822**	**5,129**	***6.4%***	**5,762**	***12.3%***
Interest income	10	11	*10.0%*	15	*36.4%*
Interest charges	1,140	950	*-16.7%*	900	*-5.3%*
Extraordinary expenses	25	10	*-60.0%*	15	*50.0%*
Income before taxes	**3,667**	**4,180**	***14.0%***	**4,862**	***16.3%***
Income taxes	1,300	1,420	*9.2%*	1,700	*19.7%*
Income after taxes	**2,367**	**2,760**	***16.6%***	**3,162**	***14.6%***

TravelWorld Inc.

Appendix 3.8

Horizontal Analysis of the Balance Sheet

Horizontal Analysis of the Balance Sheet

in thousands of $

	2000	2001	% Change	Objective	% Change
Assets					
Current assets					
Cash	140	152	*8.6%*	160	*5.3%*
Marketable securities	270	280	*3.7%*	285	*1.8%*
Prepaid expenses	160	165	*3.1%*	170	*3.0%*
Accounts receivable	1,150	1,350	*17.4%*	1,500	*11.1%*
Inventory	520	660	*26.9%*	970	*47.0%*
Total current assets	**2,240**	**2,607**	***16.4%***	**3,085**	***18.3%***
Capital assets					
Gross capital assets	29,500	32,750	*11.0%*	37,500	*14.5%*
Accumulated depreciation	6,200	8,260	*33.2%*	11,030	*33.5%*
Total net capital assets	**23,300**	**24,490**	***5.1%***	**26,470**	***8.1%***
Intangible assets	134	200	*49.3%*	255	*27.5%*
Total assets	**25,674**	**27,297**	***6.3%***	**29,810**	***9.2%***
Current liabilities					
Accounts payable	750	900	*20.0%*	1,200	*33.3%*
Notes payable	300	350	*16.7%*	400	*14.3%*
Working capital loan	102	120	*17.6%*	135	*12.5%*
Accruals	61	70	*14.8%*	86	*22.9%*
Total current liabilities	**1,213**	**1,440**	***18.7%***	**1,821**	***26.5%***
Total long-term debts	**10,294**	**8,980**	***-12.8%***	**8,050**	***-10.4%***
Total debts	**11,507**	**10,420**	***-9.4%***	**9,871**	***-5.3%***
Shareholders' equity					
Capital shares	3,500	3,600	*2.9%*	3,700	*2.8%*
Retained earnings	10,667	13,277	*24.5%*	16,239	*22.3%*
Total shareholders' equity	**14,167**	**16,877**	***19.1%***	**19,939**	***18.1%***
Total liabilities and shareholders' equity	**25,674**	**27,297**	***6.3%***	**29,810**	***9.2%***

Glossary for This Guide

Asset-management performance measures: Evaluates how efficiently managers use the assets of a business.

Average collection period: The number of days it takes for customers to pay their bills.

Capital assets turnover: Measures how intensively a firm's capital assets are used to generate sales.

Cash conversion efficiency: Ratio that measures how quickly a business converts sales revenue to cash flow within its operations.

Cash performance measure: Relationship of cash and cash equivalents to liabilities; the most stringent measure of liquidity.

Common-size statement analysis: Method of converting all numbers on an balance sheet to a percentage of total assets, and all numbers on an income statement to a percentage of sales revenue.

Current performance measure: Gauges general business liquidity.

Days of working capital: The number of days of working capital a business holds to meet based on average daily operational requirements. A measure of how long a business can meet its average daily operational requirements with its existing working capital.

Debt/coverage performance measures: Measures capital structure of a business and its debt-paying ability.

Economic value added (EVA): Measures of wealth created for investors; calculated by deducting a company's cost of capital from its net operating profits after taxes (NOPAT).

Financial benchmark: Financial performance measures that can be calculated by using dollar figures shown on financial statements (income statement and balance sheet) for the purpose of pinpointing excellent financial performance.

Financial health score: Linear analysis of five weighted measures; an indication of financial health.

Financial performance measure: Comparison between numbers recorded on financial statements.

Fixed-charges-coverage performance measure: Measures to what extent a business can service all its fixed charges (e.g., interest, lease).

Gross margin on sales: Shows the relationship between a firm's sales structure and its purchase and production costs.

Hard financial benchmark: Financial targets that can be applied to any business or industry to gauge financial performance.

Horizontal analysis: A method of tracking how individual accounts change between consecutive financial statements; measured as a percentage.

Inventory turnover: Measures the number of times per year inventory is replenished.

Liquidity performance measures: Measures of a firm's ability to meet short-term financial obligations.

Net working capital: Difference between current assets and current liabilities.

Operating income on sales: Relationship between operating income and sales revenue; measures the efficiency of a business (also called profit margin on sales.)

Profitability performance measures: Measure of overall effectiveness.

Quick performance measure: Relationship between the more liquid current assets and all current liabilities.

Receivables turnover: Annual sales of a business divided by accounts receivable.

Return on equity: Income after taxes divided by owners' equity; a measure of how profitable a business is to its shareholders.

Return on invested capital: Measures the return on funds invested in the business by long-term lenders and owners.

Return on sales: Amount of profit generated from each sales dollar.

Return on total assets: Income after taxes divided by total assets.

Self-regulated financial benchmark: Financial targets that are determined by a business' own policies and practices and other financial measures.

Soft financial benchmark: Most financial benchmarks fall in this category and should be used with some degree of interpretation.

Sustainable growth rate: Maximum rate of increase in sales revenue a company can attain without depleting financial resources, borrowing excessively, or issuing new shares is traded off as a function of time.

Times-interest-earned: Measures to what extent a business can service its debt interest.

Total assets turnover: Measures how intensively a firm's total assets are used to generate sales.

Vertical analysis: The process of reducing all items in a balance sheet and income statement to a percentage of total assets or sales, respectively; also referred to as common-size ratio analysis.

Working capital: Total current assets and total current liabilities.

Working capital turnover: The ratio of sales to net working capital.