

Assessing compnay's financial health

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Assessing a Company's Future Financial Health

Assessing the long-term financial health of a company is an important task for management in its formulation of goals and strategies and for outsiders, as they consider the extension of credit, long-term supplier agreements, or an investment in a company's equity. History abounds with examples of companies that embarked upon overly ambitious programs and subsequently discovered that their portfolios of programs could not be financed on acceptable terms. The outcome frequently was the abandonment of programs in mid-stream at considerable financial, organizational, and human cost. It is the responsibility of management to anticipate future imbalance in the corporate financial system before its severity is reflected in the financials, and to consider corrective action before both time and money are exhausted. The avoidance of bankruptcy is an insufficient standard. Management must ensure the continuity of the flow of funds to all of its strategically important programs, even in periods of adversity.

Figure A provides a conceptualization of the corporate financial system, with a suggested step-by-step process to assess whether it will remain in balance over the ensuing 3-5 years. The remainder of this note discusses each of the steps in the process and then provides an exercise on the various financial measures that are useful as part of the analysis. The final section of the note demonstrates the relationship between a firm's strategy and operating characteristics, and its financial characteristics.

Revenue Outlook

- growth rate

- volatility, predictability
- to support growth
- profitability
- improvement/deterioration in asset management cash flow
- volatility, predictability
- \$ amount
- lending/investing criteria
- timing, duration
- deferability
- the attractiveness of the firm to each target source
- consistency with goals
- achievable operating plan
- achievable financing

Analysis of Fundamentals

The corporate financial system is driven by the goals, business unit choices and strategies, market conditions and operating characteristics. The firm's strategy and sales growth in each of its business units will determine the investment in assets needed to support these strategies; and the effectiveness of the strategies, combined with the response of competitors and regulators, will 2 Assessing a Company's Future Financial Health911-412 strongly influence the firm's competitive and profit performance, its need for external finance, and its access to the debt and equity markets. Clearly, many of these questions require information beyond that contained in a company's published financial reports.

Step 1: Investments to Support the Business Unit(s) Strategy(ies) The business unit strategies inevitably require investments in accounts receivable, inventories, plant; equipment, and possibly, acquisitions. Step 3 of the process is an attempt to estimate the amount that will be tied up in each of the asset types by virtue of sales growth and the improvement/deterioration in asset management. An analyst can make a rough estimate by studying the past pattern of the collection period, the days of inventory, and plant; equipment as a percent of the cost of goods sold; and then applying a "reasonable value" for each to the sales forecast or the forecast of the cost of goods sold. Extrapolation of past performance assumes, of course, that the future underlying market, competitive and regulatory "drivers" will be unchanged from the conditions that influenced the historical performance.

Step 2: Future Profitability and Competitive Performance

Strong sustained profitability is an important determinant of (1) a firm's access to debt and/or equity finance on acceptable terms; (2) its ability to self-finance growth through the retention of earnings; (3) its capacity to place major bets on risky new technologies, markets, and/or products; and (4) the valuation of the company. A reasonable starting point is to analyze the past pattern of profitability.

1. What have been the average level, trend, and volatility of profitability?
2. Is the level of profitability sustainable, given the outlook for the market and for competitive and regulatory pressures?
3. Is the current level of profitability at the expense of future growth and/or profitability?

4. Has management initiated major profit improvement programs? Are they unique to the firm or are they industry-wide and may be reflected in lower prices rather than higher profitability?
5. Are there any "hidden" problems, such as suspiciously high levels or buildups of accounts receivable or inventory relative to sales, or a series of unusual transactions and/or accounting changes?

Step 3: Future External Financing Needs

Whether a company has a future external financing need depends on (1) its future sales growth; (2) the length of its cash cycle; and (3) the future level of profitability and profit retention. Rapid sales growth by a company with a long cash cycle (a long collection period + high inventories + high plant; equipment relative to sales) and low profitability/low-profit retention is a recipe for an ever-increasing appetite for external finance, raised in the form of loans, debt issues, and/or sales of shares. Why? Because the rapid sales growth results in the rapid growth of an already large level of total assets. The increase in total assets is offset partially by an increase in accounts payable and accrued expenses, and by a small increase in owners' equity. However, the financing gap is substantial. For example, the company portrayed in Table A requires \$126 million of additional external finance by the end of the year 2010 to finance the increase in total assets required to support 25% per year sales growth in a business that is fairly asset-intensive. It is assumed (1) that the firm earns \$60 million (a 15% return on the beginning of year equity) and pays out \$18 million as a cash dividend, and (2) that there is no required debt repayment in 2010. If, however, the company reduced its sales growth to 5% (and total assets, accounts payable

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and accrued expenses increased accordingly by 5%), the need for additional external finance would drop from \$126 million to \$0. High sales growth does not always result in a need for additional external finance. For example, a food retailer that extends no credit to customers, has only eight days of inventory and does not own its warehouses and stores, can experience rapid sales growth, and not have a need for additional external finance provided it is reasonably profitable. Because it has so few assets, the increase in total assets is largely offset by a corresponding, spontaneous increase in accounts payable and accrued expenses.

Step 4: Access to Target Sources of External Finance Having estimated the future financing need, management must identify the target sources (e. g. banks, insurance companies, public debt markets, public equity market) and establish financial policies that will ensure access on acceptable terms.

1. How sound is the firm's financial structure, given its level of profitability and cash flow, its level of business risk, and its future need for finance?
 2. How will the firm service its debt? To what extent is it counting on refinancing with a debt or equity issue?
 3. Does the firm have assured access on acceptable terms to the equity markets? How many shares could be sold and at what price in "good times"? In a period of adversity?
 4. What criteria are used by each of the firm's target sources of finance to determine whether finance will be provided and, if so, on what terms?
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The evaluation of a firm's financial structure can vary substantially depending on the perspective of the lender/investor. A bank may consider a seasonal credit a very safe bet. Considerable shrinkage can occur in the conversion of inventory into sales and collections without preventing repayment of the loan. In contrast, an investor in the firm's 20-year bonds is counting on its sustained health and profitability over a 20-year period.

Step 5: Viability of the 3-5 Year Plan

1. Is the operating plan on which the financial forecasts are based achievable?
2. Will the strategic, competitive, and financial goals be achieved?
3. Will the resources required by the plan be available?
4. How will the firm's competitive, organizational, and financial health at the end of the 3-5 years compare with its condition at the outset?

Step 6: StressTest under Scenarios of Adversity Financing plans typically work well if the assumptions on which they are based turn out to be accurate. However, this is an insufficient test in situations marked by volatile and unpredictable conditions. The test of the soundness of a 3-5 year plan is whether the continuity of the flow of funds to all strategically important programs can be maintained under various scenarios of adversity for the firm and/or the capital markets—or at least be maintained as well as your competitors are able to maintain the funding of their programs.

Step 7: Current Financing Plan How should the firm meet its financing needs in the current year? How should it balance the benefits of future financing flexibility (by selling equity now) versus the temptation to delay the sale of

equity by financing with debt now, in hopes of realizing a higher price in the future? The next section of this note is designed to provide familiarity with the financial measures that can be useful in understanding the past performance of a company. Extrapolation of the past performance, if done thoughtfully, can provide valuable insights as to the future health and balance of the corporate financial system.

Historical analysis can also identify possible opportunities for improved asset management or margin improvement, as well as provide an important, albeit incomplete, the basis for evaluating the attractiveness of a business and/or the effectiveness of a management team. Financial Ratios and Financial Analysis The three primary sources of financial data for a business entity are the income statement, the balance sheet, and the statement of cash flows. The income statement summarizes revenues and expenses over a period of time. The balance sheet is the list of what a company owns (its assets), what it owes (its liabilities), and what has been invested by the owners (owners' equity) at a specific point in time. The statement of cash flow categorizes all cash transactions during a specific period of time in terms of cash flows generated or used for operating activities, investing activities, and financing activities. The focus of this section is on performance measures based on the income statements and balance sheets of SciTronics—a medical device company.

The measures can be grouped by type:

- 1.5 911-412 Assessing a Company's Future Financial Health profitability measures,
2. activity (asset management) measures,

3. leverage, and liquidity measures. Please refer to the financial statements of SciTronics as shown in Exhibits 1 and 2 at the end of the note.

As you work through the questions that follow, please also consider three broad questions:

1. What is your assessment of the performance of SciTronics during the 2005-2008 period?
2. Has its financial strength and its access to external sources of finance improved or weakened?
3. What are the 2-3 most important questions you would ask management as the result of your analysis?

Sales Growth Sales growth is an important driver of the need to invest in various types of assets and of the company's value. It also provides some indication of the effectiveness of a firm's strategy and product development activities, and of customer acceptance of a firm's products and services. To increase the comparability across companies, it is useful to use EBIT (earnings before interest but after taxes) as the measure of return. The use of EBIAT as the measure of return also allows the analyst to compare the return on invested capital (calculated before the deduction of interest expense), with the company's estimated cost of capital to determine the long-term adequacy of the company's profitability.

Its return on capital was % in 2008 which represented an increase/decrease from the % earned in 2005. Assessing a Company's Future Financial Health⁹¹¹⁻⁴¹² From the viewpoint of the shareholders, an equally important

figure is the company's return on equity. Return on equity is calculated by dividing profit after tax by the owners' equity. Profit after tax Owners' equity Return on equity indicates how profitably the company is utilizing shareholders' funds. Sitronics had \$_ of owners' equity and earned \$_ after taxes in 2008. Its return on equity was % an improvement/deterioration from the % earned in 2005. Activity Ratios: How Well Does the Company Employ Its Assets?

The second basic type of financial ratio is the activity ratio. Activity ratios indicate how well a company employs its assets. Ineffective utilization of assets results in the need for more finance, unnecessary interest costs, and a correspondingly lower return on capital employed. Furthermore, low activity ratios or deterioration in the activity ratios may indicate uncollectible accounts receivable or obsolete inventory or equipment. Total asset turnover measures the company's effectiveness in utilizing its total assets and is calculated by dividing total assets into sales. Net sales Total assets Total asset turnover for SciTronics in 2008 can be calculated by dividing \$ into \$. The turnover improved/deteriorated from times in 2005 to times in 2008. It is useful to examine the turnover ratios for each type of asset, as the use of total assets may hide important problems in one of the specific asset categories. One important category is accounts receivables. The average collection period measures the number of days that the company must wait on average between the time of sale and the time when it is paid. The average collection period is calculated in two steps. First, divide annual credit sales by 365 days to determine average sales per day: Net credit sales 365 days Then, divide the accounts receivable by average sales per day to

determine the number of days of sales that are still unpaid: Accounts receivable Credit sales per day SciTronics had \$ invested in accounts receivables at year-end 2008. Its average sales per day were \$ during 2008 and its average collection period was _days. This represented an improvement/deterioration from the average collection period of days in 2005. A third activity ratio is the inventory turnover ratio, which indicates the effectiveness with which the company is employing inventory. Since inventory is recorded on the balance sheet at cost (not at 7 911-412Assessing a Company's Future Financial Health ts sales value), it is advisable to use the cost of goods sold as the measure of activity.

Days of inventory is calculated by dividing total inventory by cost of goods sold per day. A fourth and final activity ratio is the fixed asset turnover ratio which measures the effectiveness of the company is utilizing its plant and equipment: NetsalesNet fixed assets Sitronics had net fixed assets of \$ and sales of \$ in 2008. Its fixed asset turnover ratio is 2008 was timed, an improvement/deterioration from times in 2005. Leverage Ratios: How Soundly is the Company Financed? There are a number of balance sheet measures of financial leverage. The various leverage ratios measure the relationship of funds supplied by creditors to the funds supplied by owners.

The use of borrowed funds by reasonably profitable companies will improve the return on equity. However, it increases the riskiness of the business and the riskiness of the returns to the stockholders and can result in financial distress if used in excessive amounts. The ratio of total assets divided by owners' equity is an indirect measure of leverage. A ratio, for example, of \$6

of assets for each \$1 of owner's equity indicates that \$6 of assets is financed by \$1 of owners' equity and \$5 of liabilities.

1. Sitronics' ratio of total assets divided by owners' equity increased/decreased from at year-end 2005 to at year-end 2008. The same "story" of increasing financial leverage is told by dividing total liabilities by total assets.
2. At year-end 2008, SciTronics' total liabilities were % of its total assets, which compares with % in 2005. Lenders—especially long-term lenders—want reasonable assurance that the company will be able to repay the loan in the future. They are concerned with the relationship between a company's debt and its total economic value. This ratio is called the total debt ratio at the market. Total liabilities Total liabilities? the market value of the equity is calculated by multiplying the number of shares of common stock outstanding times the market price per share. Assessing a Company's Future Financial Health911-412
3. The market value of SciTronics' equity was \$175, 000, 000 on December 31, 2008. The total debt ratio at the market was. A fourth ratio that relates the level of debt to economic value and performance is the time's interest earned ratio. This ratio relates earnings before interest and taxes—a measure of profitability and of long-term viability—to the interest expense—a measure of the level of debt. Earnings before interest and taxes Interest expense.
4. Sitronics' earnings before interest and taxes (operating income) were \$_ in 2008 and its interest charges were \$. Its time's interest earned was times. This represented an improvement/deterioration from the

2005 level of time. A fifth and final leverage ratio is the number of days of payables. This ratio measures the average number of days that the company is taking to pay its suppliers of raw materials and components. It is calculated by dividing annual purchases by 365 days to determine average purchases per day: Annual purchases 365 days Accounts payable are then divided by average purchases per day: Accounts payable Average purchases per day to determine the number of days purchases that are still unpaid. It is often difficult to determine the purchases of a firm. Instead, the income statement shows the cost of goods sold, a figure that includes not only raw materials but also labor and overhead. Thus, it often is only possible to gain a rough idea as to whether or not a firm is becoming more or less dependent on its suppliers for finance. This can be done by tracking the pattern over time of accounts payable as a percent of the cost of goods sold. Accounts payable Cost of goods sold.

5. Sitronics owed its suppliers \$ at year-end 2008. This represented % of the cost of goods sold and was an increase/decrease from % at year-end 2005. The company appears to be more/less prompt in paying its suppliers in 2008 than it was in 2005. 6. The financial riskiness of SciTronics increased/decreased between 2005 and 2008. Liquidity Ratios: How Liquid is the Company? The fourth basic type of financial ratio is the liquidity ratio. These ratios measure a company's ability to meet financial obligations as they become current. The current ratio, defined as current assets divided by current liabilities, assumes that current assets are much more readily and certainly convertible into

cash than other assets. It relates these fairly liquid assets to claims that are due within one year—the current liabilities.

6. 911-412 Assessing a Company's Future Financial Health Current assets Current liabilities. SciTronics held \$ of current assets at year-end 2008 and owed \$ to creditors due to be paid within one year. Its current ratio was an increase/decrease from the ratio of at year-end 2005. The quick ratio or acid test is similar to the current ratio but excludes inventory from the current assets: Current assets? Inventory Current liabilities Inventory is excluded because it is often difficult to convert into cash (at least at book value) if the company is struck by adversity. The quick ratio for SciTronics at year-end 2008 was $\frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$, an increase/decrease from the ratio of at year-end 2005. Profitability Revisited

Management can “improve” its return on equity by improving its return on sales and/or its asset turnover and/or by increasing its financial leverage as measured by total assets divided by owners' equity. $ROE = \frac{\text{Net Income}}{\text{Owners' Equity}}$ $ROE = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Total Assets}} \times \frac{\text{Total Assets}}{\text{Owners' Equity}}$ Each method of “improvement” differs operationally and in terms of risk. The improvement in SciTronics' return on equity from 8.2% in 2005 to 18.7% in 2008 resulted from an increase/decrease in its return on sales; and an increase/decrease in its asset turnover, and an increase/decrease in its financial leverage. The calculated ratios are no more valid than the financial statements from which they are derived. The quality of the financial statements should be assessed and appropriate adjustments made before any ratios are calculated. Particular attention should be placed on assessing the reasonableness of the accounting choices and assumptions embedded in the financial statements.

The Case of the Unidentified Industries The preceding exercise suggests a series of questions that may be helpful in assessing a company's future financial health. It also describes several ratios that are useful in answering some of the questions, especially if the historical trend in these ratios can be reasonably extrapolated.

However, it is also important to compare the actual absolute value with some standard to determine whether the company is performing well. Unfortunately, there is no single current ratio, inventory turnover, or debt ratio that is appropriate to all industries. The operating and competitive characteristics of the company's industry greatly influence its investment in the various types of assets, the riskiness of these investments, and the financial structure of its balance sheet. 10 Assessing a Company's Future Financial Health911-412 Try to match the five following types of companies with their corresponding balance sheets and financial ratios as shown in Exhibit 3.

- 1. Electric utility
- 2. Japanese automobile manufacturer
- 3. Discount general merchandise retailer