

Cash Flow and How Companies Get in Trouble

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- Reasons for taking this course: Business Finance is of great interest to me since being involved in the financial troubles of the company with which I previously worked. This course encompasses various areas of interest, which I have narrowed down to focus on cash flow – how companies get into trouble.

Executive Summary

John Tracy, in the preface of his book *How to Read a Financial Report*, writes, “behind all the numbers is a simple, vital concept you must never lose sight of – *cash flow*.” My middle-management experience has been in budget forecasting and reviewing the monthly financial income statement. In other words, I have tried to estimate what the numbers will be in the future and have had to answer why the actual numbers differed from those estimated. This is just a small portion of what is involved in determining the overall financial health of a company. My goal in pursuing this course was to become more knowledgeable of the income statement, balance sheet and cash flow statement, and concentrating on the cash flow effects on a company’s financial health.

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1 Financial Statements

The three major financial statements are *Balance Sheet*, *Income Statement* and *Cash Flow Statement*. There is a fourth statement that is included with this group in the SEC filing required of all publicly traded companies – the Statement of Owners’ Equity, also called the Statement of Retained Earnings. This statement will not be explained in this paper. The Statement of Owners’ Equity explains the changes in retained earnings and uses income and dividend information from the income statement and provides information to the balance sheet.

1.1 Balance Sheet

The balance sheet is one of the primary financial documents that investors and creditors review to determine a company’s financial position at a specific instant in time. Comparing the balance sheets for various points in time can reveal whether a company’s value is increasing or decreasing, and whether its debts and working capital are increasing or decreasing.

The balance sheet has three sections: *assets* (what the company *owns*), *liabilities* (what the company *owes*), and *shareholders’ equity* (what is left over for the owners). The total assets will equal the total liabilities plus shareholders’ equity and thus giving ‘balance’ to the Balance Sheet.

Assets represent the company's use of funds – cash and other funds are used to acquire equipment and other things of value that are owned by the company. There are two major types of assets – *current assets* and *long-term assets*.

Current assets are those assets that are converted into cash within one year, out of which interest payments are generally paid. *Current assets* include, but are not limited to:

- *Cash*
- *Cash equivalents* – not cash but can be converted to cash very easily. This can include government securities and money market funds.
- *Short-term investments* – using funds not currently needed for operations
- *Accounts receivable* – represents the amounts billed to customers and owed to the company.
- *Inventory* – represents finished product that is ready for sale, product in process of being manufactured and materials on hand for manufacturing the product.

Long-term assets include:

- *Fixed assets* – land, buildings, equipment and buildings in process of construction.
- *Depreciation* – subtracted on balance sheet for all fixed assets except land.
- *Intangible assets* – non-physical assets such as patents, franchises, market research and goodwill expenses. Typically, goodwill “occurs when one company purchases another for a price greater than the fair market value of the identifiable net assets (both tangible and intangible) of the acquired company.”¹
- *Other assets* – some assets cannot be classified as any of the above. Some examples are advances made to corporate officers, miscellaneous funds reserved for special purposes and cash surrender value of life insurance policies on corporate officers.

Liabilities and shareholders' equity represent the company's sources of funds – the investors and creditors that have provided cash and services to the company. Liabilities have two major categories – *current liabilities* and *long-term liabilities*.

Current liabilities are obligations that will be paid within one year and include:

- *Accounts payable* – debt owed to suppliers for materials and services.
- *Interest on long-term debt*
- *Compensation and benefits* – amounts owed for wages and taxes of employees
- *Income taxes payable*
- *Property taxes payable*

¹ Friedlob, George T. and Plewa, Franklin J., *Understanding Balance Sheets*, p.119.

Long-term liabilities are debts that are due in more than one year and include notes, bonds and mortgages. Installment payments made in a current year for long-term loans are considered a current liability.

Shareholders' equity is the difference between the company's assets and liabilities and represents the net worth to its owners after all of its obligations (all debt payments) are met. **Capital stock** is included in shareholders' equity and is the amount of capital the owners originally invested in the company as well as any subsequent amounts invested. **Retained earnings** – when a company generates a profit, management can either pay it out to shareholders in the form of **dividends** or retain the earnings and reinvest them in the business. Retained earnings indicate how much money has been put into the company over the years.

The balance sheet for Cascade Corporation is shown below as an example.² Financial statements and data for publicly traded companies are readily available on the Internet, which is where the data used in this report were found.

² <http://finance.yahoo.com/q/bs?s=CAE&annual>

CASCADE CORP. (CAE)			
All numbers in thousands			
PERIOD ENDING	31-Jan-03	31-Jan-02	31-Jan-01
Assets			
Current Assets			
Cash And Cash Equivalents	29,501	25,611	12,418
Short Term Investments	-	-	-
Net Receivables	49,787	46,015	57,648
Inventory	30,431	30,817	40,278
Other Current Assets	4,279	3,614	3,595
Total Current Assets	113,998	106,057	113,939
Long Term Investments	8,559	8,873	-
Property Plant and Equipment	65,863	61,412	77,235
Goodwill	59,355	56,703	68,175
Intangible Assets	-	-	-
Other Assets	2,915	3,444	12,027
Deferred Long Term Asset Charges	11,627	10,797	11,244
Total Assets	262,317	247,286	282,620
Liabilities			
Current Liabilities			
Accounts Payable	42,797	40,046	49,192
Short/Current Long Term Debt	30,102	26,057	41,986
Other Current Liabilities	12,695	13,989	7,206
Other Current Liabilities	-	-	-
Total Current Liabilities	42,797	40,046	49,192
Long Term Debt	50,113	65,679	87,513
Other Liabilities	14,903	15,177	15,425
Deferred Long Term Liability Charges	1,226	1,743	2,613
Minority Interest	-	-	11,374
Negative Goodwill	-	-	-
Other Assets	2,915	3,444	12,027
Deferred Long Term Asset Charges	11,627	10,797	11,244
Total Liabilities	109,039	134,019	166,117
Stockholders' Equity			
Misc Stocks Options Warrants	-	11,374	-
Redeemable Preferred Stock	8,530	-	-
Preferred Stock	-	-	-
Common Stock	5,699	5,646	5,720
Retained Earnings	151,925	135,418	132,337
Capital Surplus	1,468	-	234
Other Stockholder Equity	-14,344	-27,797	-21,788
Total Stockholder Equity	144,748	113,267	116,503

1.2 Income Statement

The income statement is for reporting a company's earnings over a specific period of time – monthly, quarterly or yearly. The income statement has been commonly referred to as the Profit and Loss (P&L) statement. Investors look at the income statement to determine the effectiveness of the management of the company in which they are interested. It provides insight into how the

company is controlling expenses, the amount of interest income and expense, the taxes paid, and is used to calculate various ratios for comparing the company to others in the same industry.

Total Revenue or Total Sales – the first line entry on the income statement. This is the gross amount of money the company recognized for the income statement period in question. It has nothing to do with profit because the cost of producing the goods or services has not yet been accounted for. Revenue is recorded when made and not when the product or service is paid for. Total revenue is the net amount after deducting discounts and returns.

Cost of Goods Sold - is what the company spent to produce the products or provide the services it sold. Cost of goods sold includes the cost of the raw materials and other materials needed to produce its products, the cost of manufacturing its products, and labor costs. Included in this category are downward adjustments for loss of inventory that became obsolete or were stolen.

Gross Income or Gross Profit – is the difference between revenue and cost of goods sold. Gross income compared to sales revenue gives the markup achieved on cost of goods sold. It is important to compare a company's gross income for several years to understand the trend – if the gross income is decreasing each year, it is important to find the cause before considering investing in that company.

Operating Expenses – are expenses that are not directly associated with producing the products or services. These expenses include, but are not limited to, salaries for sales and indirect labor, freight, commissions, rent, utilities, telephone, insurance, office supplies, travel, advertising and depreciation. Depreciation is treated as an expense even though it is not an out-flow of cash. It is the amount that flows through the balance sheet and is an expense because it reduces the taxable income for the period in question.

Operating Income – is the difference between Gross Income and Operating Expenses. *Operating Income* is the profit the company is able to generate from operations before interest and taxes are applied. This is also referred to as EBIT – Earnings Before Interest and Taxes.

Interest Expense – is the amount charged for borrowed capital during the reporting period of the income statement. This includes any additional fees associated with the borrowed amounts. Interest expense is shown on the balance sheet as a current liability.

Income Tax – is what is owed to the government based on operating income plus any additional non-operating income generated from interest income and gain from sale of equipment, building or property.

Net Income – is the 'bottom line' or net profit of the company. This can either be kept in the company as retained earnings, distributed to the shareholders, or a combination of both options.

Below is the income statement for Thinkpath. Notice the negative operating income and net income for the last three years. The operating loss has decreased each year but that gain has been negated by higher interest expense from borrowing.

THINKPATH (THTHF.OB)			
Income Statement			
All numbers in thousands			
Period Ending	Dec 31, 2002	Dec 31, 2001	Dec 31, 2000
Total Revenue	25,065	36,926	44,585
Cost of Goods Sold	19,463	25,522	26,183
Gross Income (Profit)	5,602	11,404	18,402
Operating Expenses			
Selling General & Administration	8,705	12,968	16,711
Non-recurring	1,380	3,494	8,384
Others	1,291	2,460	2,119
Total Operating Expenses	11,376	18,922	27,214
Operating Income (loss)	-5,774	-7,518	-8,812
Other Income/Expenses Net	1,743	-329	0
Total Operating Income (loss)	-4,031	-7,847	-8,812
Interest Expense	3,969	988	777
Income Tax Expense	4	850	-1,190
Net Income	-8,004	-9,685	-8,399

1.3 Cash Flow Statement

The accrual method of preparing the income statement and balance sheet does not account for the need for cash as payables are due. The cash flow statement is a record of the cash in-flows and cash out-flows of the company for a specified period of time. The cash flow statement is tied to both the income statement and balance sheet in that it derives data from both.

Except for *Net Income*, each entry on the cash flow statement is the difference, or change, between the beginning balance and the ending balance for the period of time in question. *Out-flow* of cash is shown as a negative number and *in-flow* of cash is shown as a positive number. To account

correctly for the changes in balance sheet entries, the following relationships between assets and liabilities, and sources and uses should be followed:³

- An *asset increase* is a *use* (out-flow) of cash
- An *asset decrease* is a *source* (in-flow) of cash
- A *liability increase* is a *source* (in-flow) of cash
- A *liability decrease* is a *use* (out-flow) of cash

There are three elements of the cash flow statement:

- Operating cash flow
- Investing cash flow
- Financing cash flow

Operating cash flow - is the internal sources of cash. The first entry is net income from the income statement. Then, add any non-cash items – the most common being depreciation. Why? Livingstone explains that depreciation was deducted as an expense on the income statement to determine net income. Depreciation is not cash out-flow – it is just one year’s use of the equipment. The cash out-flow occurred when the equipment was first purchased.⁴

Next, add back the change in balance sheet items associated with operations, such as accounts receivable, accounts payable and inventory. Accounts receivable and inventory are assets and an increase in assets is a cash use (out-flow). Regarding accounts receivable, the company is not directly handing the customers cash, but the company is indirectly providing them the funds to purchase the products or services. A decrease in assets during the cash flow period in question is a cash source (in-flow). This is why it is important for a company to watch closely and minimize its inventory levels and accounts receivable.

Cash Flow from Investing – generally include two major categories – capital expenditures and investments. The majority of capital expenditures involve out-flows of cash for equipment, property and plants. The sale of one of these fixed assets would be a cash in-flow. Investments would include the purchase or sale of equity securities and loans. Investing activities are not considered part of operations because they have no direct relationship with the daily operation of a company’s business.

³ Costales, S.B., and Szurovy, Geza, *The Guide to Understanding Financial Statements*. P.43-44.

⁴ Livingstone, John Leslie and Grossman, Theodore, *The Portable MBA in Finance and Accounting*. P.8-10.

Cash Flow from Financing – deals with how a company raises capital for investing and operations activities. Financing is the major *source* (in-flow) of cash when borrowing in times of cash needs, and can be a *use* (outflow) of cash when borrowing is reduced from excess operating cash flow. In-flow includes issuance of company stock, borrowing through bonds, notes and mortgages. Out-flow includes dividends paid to stockholders, repayments of amounts borrowed, and repurchase of company's stock.

Below is a template for creating a cash flow statement and is very useful because it indicates the appropriate rule for source and use of cash:

Cash Flow Statement

For the Period **From** _____ **To** _____

Operating Cash Flow

Net Income After Tax	_____
+ Depreciation and amortization	_____
+/- Decrease (Increase) in Accounts Receivable	_____
+/- Decrease (Increase) in Inventory	_____
+/- Decrease (Increase) in Other Current Assets	_____
+/- Increase (decrease) in Accounts Payable	_____
+/- Increase (decrease) in Accrued Expenses	_____
+/- Increase (decrease) in Other Current Liabilities	_____

Total Operating Cash Flow

Investing Cash Flow

+/- Decrease (Increase) in Fixed Assets	_____
+/- Decrease (Increase) in Notes Receivable	_____
+/- Decrease (Increase) in securities, investments	_____
+/- Decrease (Increase) intangible, non-current assets	_____

Total Investing Cash Flow

Financing Cash Flow

+/- Increase (decrease) in Borrowings	_____
+/- Increase (decrease) Capital Stock	_____
- Dividends Paid	_____

Total Financing Cash Flow

TOTAL CASH FLOW

Cash at beginning of period

Cash at end of period

Source: <http://www.onlinewbc.gov/docs/finance/cashflwks.html>

1.4 Ratios

There are various ratios that can be used in financial statement analysis. Ratios compare the relationship of one financial statement category to another. Then, the company's ratio can be compared to the same ratio for prior years and compared to the ratio of other companies in that particular industry (with the same SIC code). Financial ratios are only as reliable as the data with which they are calculated – audited financial statements have the most reliable data. Note that the income statement data is for the entire reporting period, whereas the balance sheet data are end-of-period numbers. Therefore, an average of beginning and ending balance sheet numbers are used when calculating ratios.⁵ There are four basic categories of ratios:

1. Liquidity
2. Activity
3. Leverage
4. Profitability (operating performance)

1.4.1 Liquidity Ratios

Working Capital – the question of whether a company can survive can be answered by looking at its working capital. Does the company have the cash assets to meet payroll, pay its suppliers and the rent? Current assets and current liabilities are used to determine working capital, which is calculated as:

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

Public companies are required by the SEC to report their financial information and this information is public knowledge and available on their website. Looking at Bob Evans' 2003 balance sheet ([see appendix](#)) reveals negative working capital:

$$\text{Working Capital} = \$47,942,000 - \$141,549,000 = (93,607,000)$$

Why would a company, apparently as successful as Bob Evans, have negative working capital if it were not in financial difficulty? I searched the Internet and found the answer. "Some companies can generate cash so quickly they actually have a negative working capital. This is generally true of companies in the restaurant business (McDonalds had a negative working capital of \$698.5 million between 1999 and 2000). Amazon.com is another example. This happens because customers pay upfront and so rapidly, the business has no problems raising cash.

⁵ Livingstone, *The Portable MBA in Finance and Accounting*, p.28-29.

In these companies, products are delivered and sold to the customer before the company ever pays for them.”⁶

Current Ratio is the measure of the risk for current assets vs. current liabilities. It is calculated as:

$$\text{Current Ratio} = \frac{\text{Current.Assets}}{\text{Current.Liabilities}}$$

In the case of DT Industries⁷, the current ratio = \$97,944,000/\$102,695,000 = 0.95 for 2003. This was a decrease from the 2002 current ratio of 1.6 and reason for concern. A current ratio greater than 1.0 indicates that there are sufficient assets available to satisfy current liabilities. There should be a margin of safety because this ratio is an approximation.⁸ A ratio of 2.0 or higher indicates a comfortable level of safety and evidence of liquidity. It should be noted, however, that the current ratio does not indicate how quickly the company could convert the non-cash assets into cash to meet the payment schedule for current liabilities.

Quick Ratio, also called *acid test ratio*, excludes inventories from the current assets. Inventory is considered “an asset subject to inherent liquidity risk, especially in difficult economic times and especially for items that are perishable, seasonal, high-fashion, trendy, or subject to obsolescence.”⁹

$$\text{Quick Ratio} = \frac{\text{Current.Assets} - \text{Inventory}}{\text{Current.Liabilities}}$$

1.4.2 Activity Ratios

Accounts Receivable ratio – consists of calculating the accounts receivable turnover and the average collection period (turns). The turnover is calculated by dividing sales by the average accounts receivable. The average accounts receivable is calculated by adding the beginning and ending accounts receivable then dividing by two. The collection period is found by dividing the turnover ratio into 365 days, and reveals how many days it takes to convert sales into cash.

⁶ <http://beginnersinvest.about.com/library/lessons/bl-lesson3n.htm>

⁷ <http://www.edgar-online.com/lycos/quotecom/financial/fs.pl?sym=DTII&op=balance>

⁸ Livingstone, *The Portable MBA in Finance and Accounting*. P.16-17.

⁹ Ibid. P.18.

$$\text{Accounts Receivable Turnover} = \frac{\text{Sales}}{\text{Avg. Accounts Receivable}}$$

$$\text{Collection Period} = \frac{365}{\text{Accounts Receivable Turnover}}$$

Inventory Ratio – is the average rate at which inventory moves out of the company. Inventory is associated with cost of goods sold, which is the amount of capital tied up in inventory. The turnover is calculated by dividing cost of goods sold by the average inventory. The average inventory is calculated by adding the beginning and ending inventories then dividing by two. The inventory age is the number of days that goods stay in inventory and is found by dividing the inventory turnover ratio into 365 days. Generally, the goal is to have high inventory turnover. However, this varies from industry to industry and each company should be compared to other companies in the same industry.

$$\text{Inventory Turnover} = \frac{\text{COGS}}{\text{Average Inventory}}$$

$$\text{Inventory Age} = \frac{365}{\text{Inventory Turnover}}$$

1.4.3 Leverage Ratios

Times Interest Earned – also is called *Interest Coverage Ratio* and is a measurement of the number of times a company could pay its interest payments with its earnings before interest and taxes (EBIT). As a general rule of thumb, investors look for a ratio over 1.5. However, the safe or acceptable number will vary by industry.

$$\text{Times Interest Earned} = \frac{\text{EBIT}}{\text{Interest Expense}}$$

Debt to Equity Ratio - measures how much capital a company should be able to borrow over long periods of time. It compares the company's total debt (including short term and long term obligations) to the amount of owners' equity, which is the percentage of the company that is leveraged.

$$\text{Debt to Equity Ratio} = \frac{\text{Total Debt}}{\text{Shareholders' Equity}}$$

1.4.4 Profitability Ratios

The knowledgeable investor uses profitability margins to analyze income statements. Investors look favorably at companies with high gross margins, operating margins and net (profit) margins.

Gross Margin - is a measurement of a company's efficiency during the production or services process. The gross profit is calculated by subtracting the cost of goods sold from net sales (revenue).

$$\text{Gross Margin} = \frac{\text{Net.Sales} - \text{COGS}}{\text{Net.Sales}} = \frac{\text{Gross.Pr ofit}}{\text{Net.Sales}}$$

Operating Margin – is a measurement of the quality of a company's operations. Gross profit is calculated by subtracting the operating cost from gross profit.

$$\text{Operating Margin} = \frac{\text{Gross.Pr ofit} - \text{Operating.Cost}}{\text{Net.Sales}} = \frac{\text{Operating.Pr ofit}}{\text{Net.Sales}}$$

Net (profit) Margin – net income it the 'bottom line' profit after all costs, depreciation, interest expense and taxes are subtracted from net sales. Net margin can vary from industry to industry. Based on 2002 Income Statements, Delphi Automotive's net margin was 1.25%; Bob Evans' net margin was 6.4%; Intel's net margin was 11.6%; and, Microsoft's net margin was 27.6%.

$$\text{Net Profit Margin} = \frac{\text{Net.Income}}{\text{Net.Sales}}$$

Return on Assets – referred to as ROA, and is the measure of how the company is handling all of its resources, not just those of the stockholders. It tells the investor how much profit is generated for each \$1 in assets. ROA can be expressed using income before taxes (more common) or after taxes.¹⁰ Some references that I found use net income after taxes *and* interest.

$$\text{Return on total Assets} = \frac{\text{Net.Income} + \text{Interest}}{\text{Total.Assets}}$$

Return on Equity – referred to as ROE, and is the measure of how the company is handling the investors' capital.

¹⁰ Livingstone, *The Portable MBA in Finance and Accounting*, p.26.

$$\text{Return on Owners' Equity} = \frac{\text{Net.Income}}{\text{Avg.Stockholders'.Equity}}$$

Earnings Per Share – commonly referred to as EPS, indicates the earnings for each common share held (outstanding). EPS is calculated by dividing net income by the number of shares outstanding.

$$\text{EPS} = \frac{\text{Net.Income}}{\text{Shares}}$$

Price-Earnings Ratio – designated as P/E, is the ratio of a company's share price to its per-share earnings. The P/E is calculated by dividing the company's current stock price by its earnings per share (EPS). The P/E is usually calculated using EPS from the last four quarters. This is known as the trailing P/E.

$$\text{P/E} = \frac{\text{Current.Stock.Price}}{\text{EPS}}$$

Sometimes, when a company is not doing well, it will buy back shares so that the EPS and P/E Ratio will appear better. An example of this is shown below:

	Example 1	Example 2
Net Income	\$1,000,000	\$1,000,000
Shares Outstanding	10,000,000	8,000,000
Earnings Per Share (EPS)	\$0.10	\$0.125
Stock Price	\$3.00	\$3.00
P/E Ratio	30	24

“In the table above, the only change from Example 1 to Example 2 is in the number of shares outstanding. The net income and stock price remain the same. However, by changing the shares outstanding, the EPS has changed quite a bit. This means that the P/E ratio has also changed. At first glance, if a stock's EPS has increased 25% and its P/E ratio has gone from 30 to 24 it might look like a better buy. However, the truth is that nothing has changed but the number of shares. The stock is not a better buy in Example 2 than it was in Example 1.”¹¹

2 Financial Troubleshooting

Larry Goddard is the founder and chairman of The Parkland Group, an advisory and investment-banking firm dedicated to assisting underperforming companies. His company is one of many

¹¹ <http://www.ameritrade.com/educationv2/fhtml/learning/profratios.fhtml>

'turnaround' companies that help businesses return to financial and operating health. His book *Corporate Intensive Care* amasses Mr. Goddard's 20 years of experience and explains his concepts for determining the health of a company and what to do if it is underperforming. The concepts of *Corporate Treadmill Test* and *ROAM* are useful tools for financial analysis.

2.1 ROAM

ROAM is *Return On Assets Managed*. It is calculated by dividing EBIT plus depreciation by total assets plus depreciation. ROAM differs from ROA in that it includes depreciation because depreciation is not a cash outflow.

$$\text{ROAM} = \frac{\text{EBIT} + \text{Depreciation}}{\text{Total Assets} + \text{Depreciation}}$$

2.2 Corporate Treadmill Test

One positive way of avoiding the need for the services of a turnaround company is to closely monitor the company's performance. Monitoring financial performance can reveal the early warning signs of problems and provide the time to apply the strategies for proactive self-turnaround. The smart CEO will critically evaluate why his/her business is underperforming, will seek advice from people he/she trusts, determine if outside help is needed, and will not procrastinate in taking necessary action.

Larry Goddard writes that there are eight cash outflows that need to be covered by internal profit (measured by Return on Assets).¹²

1. Interest on all interest-bearing debt.
2. Interest on increased lines of credit or new term loans to finance growth.
3. Principal repayments for term loans.
4. Principal repayments on new term loans to finance growth.
5. Working capital requirements to fund growth in inventories, receivables, etc.
6. Amounts required for repaying past-due debts.
7. Dividend requirements on shareholder preferred or common stock.
8. Taxes that will have to be paid on earnings.

Earning a profit is important, but it is possible for a company to be profitable but not generate enough profit to meet all of its cash outflow requirements. The *Corporate Treadmill Test*

¹² Goddard, Larry, *Corporate Intensive Care*. P.25-32.

determines how much profit a company must achieve to meet its projected commitments. The best example that shows the basic format of the Corporate Treadmill Test is taken from Mr. Goddard's book as shown below. The assumptions for this example are:

- \$1,000,000 Total Assets (capital) needed for equipment, inventory and receivables.
 - \$400,000 is borrowed
 - \$300,000 provided by shareholders
 - \$300,000 provided by supplier credit
- Interest on \$400,000 borrowed funds @10% is \$40,000
- Interest on increased lines of credit of \$100,000 @10% for 6 months is \$5,000
- Initial term loan to be paid in 6 annual installments of \$50,000
- Additional term loan of \$30,000 to be paid in 6 annual installments of \$5,000
- Shareholders require a dividend of 16.6% (\$50,000) on their invested equity
- Operating income (EBIT) plus depreciation from income statement of \$250,000
- Taxes from income statement of \$50,000

COPORATE TREADMILL TEST		
Example		
		ROAM
Total Assets (incl. Depreciation)	1,000,000	
EBIT (incl. Depreciation)	250,000	25.0%
Deduct Committed Expenditures:		
1. Interest on all interest-bearing debt.	40,000	-4.0%
2. Interest on increased lines of credit or new term loans to finance growth.	5,000	-0.5%
3. Principal repayments for term loans.	50,000	-5.0%
4. Principal repayments on new term loans to finance growth.	5,000	-0.5%
5. Working capital requirements to fund growth in inventories, receivables, etc.	100,000	10.0%
6. Amounts required for repaying past-due debts.	0	0.0%
7. Dividend requirements on shareholder preferred or common stock.	50,000	-5.0%
8. Taxes that will have to be paid on earnings.	50,000	-5.0%
Total Committed Expenditures	300,000	-30.0%
Cash Flow (Negative)	(50,000)	-5.0%

This example illustrates that a ROAM of 25% is necessary to meet the company's asset allocations and the Corporate Treadmill Test result shows a 5% negative cash flow. The company will not be able to fund its operations indefinitely, based on this test. Management that is unaware of this situation could face an ongoing struggle of juggling resources to keep its company alive.

2.3 Improving Results

Below, Mr. Goddard lists general ways to improve the results of the corporate treadmill test.¹³ The method of improving the financial situation of an underperforming company will be presented in more detail in the next section of this paper based primarily on two references: *Corporate Intensive Care* and *The Financial Trouble-Shooter*.

Improve EBDIT

- Increase sales volume or margins.
- Reduce operating costs.

Reduce Assets Managed

- Reduce the amount of assets needed.
- Reduce inventory.
- Use less expensive machinery, smaller building, etc.
- Reduce planned growth rate to lower needed working capital.

Reduce Cash Disbursements/target ROAM

- Increase the proportion of non-interest-bearing debt to total debt.
- Lower the interest cost on borrowed funds.
- Lower principal repayments on borrowed funds.
- Reduce taxes payable through improved tax planning.
- Lower shareholder dividend requirements.

3 Financial Turnaround

Jae G. Siegel and Jae K. Shim wrote *The Financial Trouble-Shooter – Spotting & Solving Financial Problems In Your Company*. This book is a practical manual for managers and other finance-responsible people in the company to use in troubleshooting financial conditions. It is presented in a similar format as car and home repair manuals. Each problem is presented in the seven-step format:

¹³ Goddard, Larry, *Corporate Intensive Care*. P.35.

1. Problem
2. Identify Symptoms
3. Causes
4. Measurement and Analysis
5. Repair
6. Prevention Techniques
7. Spillover Effects

3.1 Cash Flow Disruptions

A company cannot pay its obligations on time without proper cash flow management. Constant monitoring of the inflows and outflows, wise investing and borrowing and collecting of cash are necessary for avoiding serious problems and possible bankruptcy. Siegel writes that cash flow management is not just having enough cash; it is having enough cash at the right time.¹⁴ Cash flow disruptions include:

- Inadequate Cash Position
- Surplus Funds
- Delayed Customer Payments
- Paying Cash Too Soon
- Cash Outflows Exceed Cash Inflows
- Going Broke While Maintaining Profits
- Inefficient Use of Cash

We will look at *cash outflows exceed cash inflows*, and use DT Industries (DTI) as an example.

DT Industries, Inc. is a global supplier of automation systems. DTI designs, manufactures and integrates the assembly and test systems as well as material handling systems for the automotive, appliance, consumer products and medical industries. DTI currently operates twelve facilities located in the United States, United Kingdom and Germany. Shares of DTI are publicly traded on NASDAQ NMS, under the symbol DTII. Information used in this example was taken directly from DTI Annual Reports.¹⁵

¹⁴ Siegel, Joel G. and Shim, Jae K., *The Financial Trouble-Shooter*. P1.

¹⁵ <http://finance.yahoo.com/q?s=dtii&d=v2>

3.1.1 Problem – Cash Outflows Exceed Cash Inflows¹⁶

Symptoms

- Declining profits
- Cash flow problems
- Increased use of credit lines
- Failure to pay bills or debt on time

Causes

- Slow collections from customers
- Low profit margin
- Paying bills before their due date
- Failure to expedite the collection of accounts receivable
- Overspending
- Excessive debt
- Failure to assess a customer's credit risk

Measurement and analysis

- To control cash flows effectively, management must understand the difference between accounting profits shown on the bottom line of the income statement and economic profits (cash flow).

Repair

- Sell off assets to reduce debt
- Stretch payables as long as possible
- Pay expenses and other obligations only at their due date
- Speed up collections by offering discounts and relaxing credit standards
- Buy used assets rather than new ones

Prevention

- Establish a line of credit or renegotiate lines of credit with banks
- Manage receivables and the efficient payment of accounts payable
- Use cash management models to track and determine the optimal cash that the company should have available for operations on a daily basis.

Spillover effects

- Reduced quality because of reduced staff to support operations and growth
- Lower credit ratings
- Decline in market price of stock

¹⁶ Siegel and Shim, *The Financial Trouble-Shooter*. P10-11.

- Inability to make profitable investments at the right time
- Possibility of bankruptcy

3.1.2 DTI Example

Symptoms - Declining profits, cash flow problems and continued use of credit lines are past and present symptoms of DTI. Revenues have declined each of the last two years due to a soft market for automation equipment supplied to the automotive and consumer products industries. This has resulted in net profit losses in each of the last three years and the company's inability to generate enough cash from operations for working capital.

DT Industries	Income Statement		
	All numbers in thousands		
PERIOD ENDING	29-Jun-03	30-Jun-02	30-Jun-01
Total Revenue	241,066	326,276	511,102
Gross Profit	41,595	65,265	76,745
Operating Income (Loss)	(64,796)	(4,019)	(64,135)
Net Income	(77,597)	(17,151)	(71,343)

Causes - Low profit margin and excessive debt has restricted short-term growth. All of DTI borrowings under their senior credit facility have been secured by essentially all of their assets in the U.S.

Measurement and analysis – see [Appendix](#) for DTI financial statements

Liquidity		
Working Capital		-\$4,800,000
Current Ratio		0.95
Quick Ratio		0.67
Leverage		
Times interest earned		-1.70
Long Term Debt to Equity		0.03
Total Debt to Equity		0.94
Activity		
Accounts Receivable Turnover		3.4
Collection Period		107
Inventory Turnover		6.9
Inventory Age		53
Profitability		
Gross Margin		20.20%
Operating Margin		-4.48%
Profit Margin		-32.18%
Return on Equity		-0.86

Repair - in fiscal 2003 DTI implemented the final steps of its corporate restructuring plan to contain costs and improve profitability. The plan was to reduce their operations from 17 divisions with 22 manufacturing facilities as of January 1, 2001 to six divisions with 11 facilities as of the end of the 2003 fiscal year.

- Closure of the Buffalo Grove, Illinois facility announced in July 2003
- Closure of the Erie, Pennsylvania facility announced December 13, 2002
- Closure of the Rochester, New York facility in the fourth quarter of 2002
- Closure of the Montreal, Quebec facility in August 2002
- Closure of the Bristol, Pennsylvania facility completed in September 2002
- In the fourth quarter of the 2002 fiscal year, DTI entered into a sale/leaseback agreement for its Hyannis, Massachusetts facility. This was done in order to retire \$5.0 million of variable rate Industrial Revenue Bonds, which were backed by a letter of credit drawn on Fleet National Bank ("Fleet"), that DTI issued in 1998 to fund the expansion of this facility. Fleet required DTI to post 110% cash collateral to support the letter of credit no later than August 1, 2002. The proceeds of the sale/leaseback transaction were used to repay the Industrial Revenue Bonds on August 1, 2002, thereby eliminating the need to post the cash collateral. DTI also avoided a 7% fee charged by Fleet for the letter of credit and maintained the liquidity under its senior credit revolving line.

According to the *Dayton Business Journal*, June 21, 2002, Dayton-based DT Industries Inc. reported it had completed its previously announced recapitalization. This included the addition of \$62.5 million to shareholders' equity and \$68.6 million reduction in debt, which included the sale of 7 million common shares in a private placement to several current shareholders for \$22.4 million, or \$3.20 per share. DT Industries was successful in obtaining an extension of the maturity date of its senior credit facility by two years, to July 2, 2004, and repaid \$18.5 million of indebtedness and reduced the lenders' commitments by \$13.7 million.

Prevention - from DTI annual report:

“As a result of our financial performance in fiscal 2003 and in July and August of fiscal 2004, we were in default of the minimum EBITDA, minimum EBITDA to interest expense and minimum net worth covenants of our senior credit facility. In July 2003, we received permanent waivers of the covenant defaults in the first nine months of fiscal 2003. In conjunction with the waiver of these covenant defaults, the revolving credit facility was temporarily reduced to \$45.0 million, with revolver advances in excess of \$42.0 million requiring majority lender approval. **We are negotiating with our lending group** to waive covenant defaults in the fourth quarter of fiscal 2003 and the first quarter of fiscal 2004. Until we receive these waivers, no further borrowings are available under the revolving

portion of our senior credit facility, which could materially adversely affect our ability to satisfy our liquidity needs if we are not able to effectively manage our cash.”

The decrease in **working capital** of \$5.3 million in fiscal 2003 can be primarily attributed to the reduction in net sales of \$85.2 million, or 26.1%, from fiscal 2002. In addition, the reductions in the various components in working capital were a result of:

- Better management of payment terms with customers and suppliers
- A shift of project mix towards projects with better payment terms
- Focus on reduction of inventories carried.

Spillover effects - from DTI annual report:

“Our senior credit facility will expire on July 2, 2004. We are actively engaged in negotiations to refinance our senior credit facility and sell certain assets in order to satisfy our obligations under the senior credit facility at or prior to its maturity on July 2, 2004. While we believe we will be able to replace the facility, we may not be able to obtain new financing on terms acceptable to our current bank group or us. If that is the case, the current bank group may not be willing to further extend the credit facility. If the current bank group is not willing to extend the credit facility, new financing on acceptable terms is not available and we are not able to generate cash by selling assets, we will not be able to make the lump sum payment that will otherwise be due on July 2, 2004. If we do not have sufficient funds to satisfy our obligations under the senior credit facility, we will not be able to continue our operations as currently anticipated and **may need to initiate bankruptcy proceedings** in order to continue our operations with minimal disruption and preserve the value of our assets.”

DTI is subject to an increased interest rate on its outstanding indebtedness if it fails to meet its amended facility commitment by January 31, 2004.

DTI believes that it will be able to satisfy its liquidity needs after July 2, 2004 by delaying or reducing capital expenditures, restructuring or refinancing its debt, selling assets or seeking additional equity capital.¹⁷

4 Conclusion

The three important financial statements are the income, balance sheet and cash flow. Any one of these three statements alone cannot reveal the overall financial picture of a company – all three must be studied together. Financial ratios should be calculated to give further insight into how a company compares to other companies in the same industry and the company’s year-to-year trends.

¹⁷ <http://www.dtiindustries.com/newsroom.html>

Wise company management will monitor finances on a daily basis. It is possible for a company to make a profit yet not have enough cash to maintain operations. Management must acknowledge early warning indicators to know when to bring in outside help for financial recovery.

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Appendix

Bob Evans	YEAR ENDING
BALANCE SHEET	04/25/03
Cash & ST Investments	9,066
Receivables	11,115
Other Current Assets	27,761
Total Current Assets	47,942
LT Investments	14,306
Fixed Assets	704,442
Other LT Assets	17,901
Total Assets	784,591
Accounts Payable	10,374
ST Debt & Curr LTD	36,255
Other Current Liabilities	94,920
Total Current Liabilities	141,549
LT Debt & Cap Leases	28,333
Other LT Liabilities	53,790
Total Liabilities	223,672
Preferred Stock	60
Common & Paid In Capital	150,679
Retained Earnings	558,147
Other Equity	-147,967
Total Equity	560,919
Shares Outstanding	34,494

Source: <http://money.cnn.com/MGI/stock/11475.htm>

DT Industries

All amounts in millions except per share amounts.

Income Statement	Jun 03	Jun 02	Jun 01
Revenue	241.1	326.3	511.1
Cost of Goods Sold	192.3	251.2	418.0
Gross Profit	48.8	75.1	93.1
Gross Profit Margin	--	--	--
SG&A Expense	52.3	55.6	90.5
Depreciation & Amortization	7.1	9.8	16.4
Operating Income	(10.6)	9.7	(13.8)
Operating Margin	--	3.0%	--
Interest Expenses	6.3	12.2	14.9
Income Before Taxes	(71.0)	(14.0)	(79.1)
Income Taxes	4.9	(3.9)	(13.2)
Net Income After Taxes	(75.9)	(10.1)	(65.9)
Continuing Operations	(77.6)	(14.9)	(71.3)
Discontinued Operations	0.0	0.0	0.0
Total Operations	(77.6)	(14.9)	(71.3)
Total Net Income	(77.6)	(14.9)	(71.3)
Net Profit Margin	--	--	--
Diluted EPS from Continuing Operations (\$)	(3.28)	(1.39)	(7.01)
Diluted EPS from Total Operations (\$)	(3.28)	(1.39)	(7.01)
Diluted EPS from Total Net Income (\$)	(3.28)	(1.39)	(7.01)
Dividends per Share	0.00	0.00	0.00
Balance Sheet	Jun 03	Jun 02	Jun 01
Assets			
Current Assets			
Cash	4.9	18.8	5.5
Net Receivables	58.2	84.2	162.8
Inventories	28.9	26.8	40.9
Other Current Assets	5.9	8.8	12.5
Total Current Assets	97.9	138.7	221.6
Net Fixed Assets	30.0	37.3	62.5

Other Non current Assets	81.2	132.4	130.6
Total Assets	209.2	308.4	414.7

Liabilities and Shareholders' Equity			
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<u>Current Liabilities</u>			
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Accounts Payable	16.2	21.0	40.9
Short-Term Debt	39.6	11.1	36.2
Other Current Liabilities	46.8	54.7	62.8
Total Current Liabilities	102.7	86.9	139.9
Long-Term Debt	1.5	45.4	96.6
Other Non current Liabilities	24.3	3.3	3.8
Total Liabilities	165.4	170.9	321.0

Shareholders' Equity			
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Preferred Stock Equity	0.0	0.0	0.0
Common Stock Equity	43.7	137.4	93.8
Total Equity	43.7	137.4	93.8
Shares Outstanding (mil.)	23.7	23.6	10.3

<u>Cash Flow Statement</u>			
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	Jun 03	Jun 02	Jun 01
Net Operating Cash Flow	6.3	55.4	(14.1)
Net Investing Cash Flow	0.0	21.5	(1.1)
Net Financing Cash Flow	(20.1)	(64.4)	12.9
Net Change in Cash	(13.9)	13.3	(3.2)

Depreciation & Amortization	7.1	9.8	16.4
Capital Expenditures	(2.9)	(2.9)	(3.2)
Cash Dividends Paid	0.0	0.0	0.0