

**FINANCIAL ANALYSIS & VALUATION
FINANCE 6321
FINAL EXAM CASE**

1. What strengths and weaknesses are revealed by the ratio analysis compared to the industry? (1972 vs. Industry avg.)
2. Calculate the following ratios: Current, Quick, Inventory turn, AR days outstanding Debt to Equity, GP, NP, ROI and EBIT.
3. What sources of internal funds would be available for the retirement of the loan? If the bank were to grant the additional credit and extend the increased loan from a date of February 1, 1973 to June 30, 1973, would the company be able to retire the loan on June 30, 1973? (Show calculations) Use only information given. If using BS items compare industry avg. to company and determine dollar difference.
4. Under what circumstances is the validity of comparative ratio analysis questionable? (list 5 and explain)
5. On the basis of your financial analysis, do you believe that the bank should grant the additional loan and extend the entire line of credit to June 30, 1973? (Small town in a rural area)
6. If the credit extension is not made, what financial alternatives are open to Hartford Dairy?

Each question should be started on a separate page.

Use bullets on questions 1,4 and 6

1/15/2013

TO : DARREN WALLACE

FROM: PROF. GRIZIN

ALIAS 5

Hartford Dairy, Inc.

(Financial Analysis)

Roger Elliot, Vice President and Loan Officer of the First National Bank of Hartford, was recently alerted to the deteriorating financial position of one of his clients, Hartford Dairy, Inc., by his bank's newly instituted computer loan-analysis program. The bank requires quarterly financial statements—balance sheets and income statements—from each of its major loan customers. This information is punched on cards and fed into the computer, which then calculates the key ratios for each customer, charts trends in these ratios, and compares the statistics on each company with the average ratios and trends of other firms in the same industry. If any ratio of any company is significantly poorer than the industry average, the computer output makes note of this fact. Also, if the terms of a loan require that certain ratios be maintained at specified minimum levels, and these minimums are not being met by a company, then the computer output notes the deficiency.

When an analysis was run on Hartford Dairy three months earlier, Elliot saw that certain of Hartford's ratios were showing downward trends and were dipping below the averages for the dairy products industry. Elliot sent a copy of the computer output, together with a note voicing his concern, to Eric Swenson, President of Hartford Dairy. Although Swenson acknowledged receipt of the material, he took no action. *to*

CALLER THE SITUATION.

Financial Analysis, Planning, and Control

While problems appeared to be developing in the financial analysis three months ago, no ratio was below the level specified in the loan agreement between the bank and Hartford Dairy. The latest analysis, however, showed that the current ratio was below the 2.0 times specified in the loan agreement. Legally, according to the loan agreement, the Hartford Bank could call upon the dairy for immediate payment of the entire bank loan, and, if payment was not forthcoming within 10 days, the bank could force Hartford Dairy into bankruptcy. Elliot had no intention of actually enforcing the contract to the full extent that he legally could, but he did intend to use the loan agreement provision to prompt Hartford Dairy to take some decisive action to improve its financial picture.

Hartford Dairy handles a full line of dairy products in northern Connecticut and the Hartford area. Seasonal working capital needs have been financed primarily by loans from the Hartford Bank, and the current line of credit permits the dairy to borrow up to \$240,000. In accordance with standard banking practices, however, the loan agreement requires that the bank loan be repaid in full at some time during the year, in this case by February 1973.

A limitation on dairy products prices, coupled with a new labor contract which increased wages substantially, caused a decline in Hartford Dairy's profit margin and net income during the last half of 1971 as well as during most of 1972. Sales increased during both of these years, however, due to the dairy's aggressive marketing program.

When he received a copy of Elliot's latest computer analysis and Elliot's blunt statement that the bank would insist on immediate repayment of the entire loan unless the firm presented a program showing how the poor current financial picture could be improved, Swenson began trying to determine what could be done. He rapidly concluded that the present level of sales could not be continued without an *increase* in the bank loan from \$240,000 to \$340,000, since payments of \$100,000 for construction of a plant addition would have to be made in January 1973. Even though the dairy has been a good customer of the Hartford Bank for over 50 years, Swenson was concerned whether the bank would continue to supply the present line of credit, let alone increase the loan outstanding. Swenson was especially troubled in view of the fact that the Federal Reserve recently tightened bank credit considerably, forcing the Hartford Bank to ration credit even to its best customers.

HARTFORD DAIRY, INC.
BALANCE SHEET, DECEMBER 31

	1964	1970	1971	1972
Cash	\$ 34,000	\$ 51,000	\$ 23,800	\$ 17,000
Accounts receivable	136,000	204,000	231,200	323,000
Inventory	170,000	255,000	425,000	688,500
Total current assets	<u>\$340,000</u>	<u>\$510,000</u>	<u>\$680,000</u>	<u>\$1,028,500</u>
Land and building	51,000	40,800	108,800	102,000
Machinery	68,000	125,800	98,600	85,000
Other assets	40,800	25,800	6,800	5,100
Total assets	<u>\$499,800</u>	<u>\$700,400</u>	<u>\$894,200</u>	<u>\$1,220,600</u>
Notes payable, bank	—	—	85,000	238,000
Accounts and notes payable	74,800	81,600	129,200	255,000
Accruals	34,000	40,800	47,600	64,600
Total current liabilities	<u>\$108,800</u>	<u>\$122,400</u>	<u>\$261,800</u>	<u>\$ 557,600</u>
Mortgage	51,000	37,400	34,000	30,600
Common stock	170,000	170,000	170,000	170,000
Capital surplus	136,000	136,000	136,000	136,000
Earned surplus	34,000	234,600	292,400	326,400
Total liability and equity	<u>\$499,800</u>	<u>\$700,400</u>	<u>\$894,200</u>	<u>\$1,220,600</u>

Table 2.2

HARTFORD DAIRY, INC.
INCOME STATEMENT

	1970	1971	1972
Net sales	\$2,210,000	\$2,295,000	\$2,380,000
Cost of goods sold	1,768,000	1,836,000	1,904,000
Gross operating profit	<u>\$ 442,000</u>	<u>\$ 459,000</u>	<u>\$ 476,000</u>
General administration and selling	170,000	187,000	204,000
Depreciation	68,000	85,000	102,000
Miscellaneous	34,000	71,400	102,000
Net income before taxes	<u>\$ 170,000</u>	<u>\$ 115,600</u>	<u>\$ 68,000</u>
Taxes (50%)	85,000	57,800	34,000
Net income	<u>\$ 85,000</u>	<u>\$ 57,800</u>	<u>\$ 34,000</u>

	1964	1970	1971	1972	Industry Average (1970-1972)
Liquidity ratios					
Current ratio	3.1	4.2	2.6	1.8	2.7
Quick ratio	1.6	1.9	1.0	0.6	1.0
Leverage ratio--debt to total assets (in percents)	32	23	33	48	50
Activity ratios					
Inventory turnover	n.a.	8.7X	5.4X	3.5X	7.0X
Average collection Period (in days)	n.a.	33	36	49	32
Fixed asset turnover	n.a.	11.6X	10.6X	12.3X	13.0X
Total assets turnover	n.a.	3.2X	2.6X	1.9X	2.6X
Profitability ratios					
Profit margin on sales (in percents)	n.a.	3.8	2.5	1.4	3.5
Return on total assets (in percents)	n.a.	12.1	6.5	2.8	9
Return on net worth (in percents)	n.a.	15.7	9.7	5.4	18

Darren Wallach
Professor Grein
Fin 6321
Final Project
5/11/12

Question 1 - Strengths

Debt to Total Asset Ratio – a ratio used to measure a company's financial risk by determining how much of the company's assets have been financed by debt. Calculated by adding short-term and long-term debt and then dividing by the company's total assets. Even though the debt to total asset ratio had been increasing from 1970-1972, Hartford Dairy still falls below the industry average of 50%. Having an average of only 35% over the three-year period, and having a 48% debt to total asset ratio in 1972, shows that they have other methods of financing their assets.

Fixed Asset Turnover Ratio - measures a company's ability to generate net sales from fixed-assets. A higher fixed-asset turnover ratio shows that the company has been more effective in using the investment in fixed assets to generate revenues. Due to the overall increase from 1970 to 1972 the fixed asset turnover ratio proves to be a strong ratio for Hartford Dairy. Even though it falls below the industry average by 0.7 in 1972, this is a strength when compared to the other ratios given.

Total Assets Turnover Ratio - The amount of sales generated for every dollar's worth of assets. It is calculated by dividing sales (in dollars) by assets (in dollars). Though the ratio declined below the industry average in 1972, the overall three-year average for Hartford dairy shows strength when compared to the industry. Having a total asset turnover of 1.9X in 1972 is still relatively close to the industry average of 2.6X, and the three-year average for Hartford Dairy is 2.6X, which is the same as the industry average over the same time period.

Question 1 - Weaknesses

Current Ratio – shows the ability to make all necessary payments today; This gives you a measure of protection or cushion for lenders. The current ratio for Hartford Dairy has been on the decline since 1970. From 1970 – 1972 the Hartford Dairy average for the current ratio was 2.9, which is above industry average. However, they fell below the industry average in 1972, to 2.7, and also below the required specified terms of the loan agreement, which is 2.0. Being at a 1.8 in 1972 still shows that they have the ability to pay their current liabilities, however, when requesting additional funds the bank is going to analyze the existing contract first, and see that they have violated the terms. Though its clear the bank has no intention of calling the loan this is a clear weakness to Hartford Dairy.

Quick Ratio - an indicator of a company's short-term liquidity. The quick ratio measures a company's ability to meet its short-term obligations with its liquid assets. The higher the quick ratio, the better the position of the company. The current ratio and quick ratio are similar with the exception of inventory being excluded from current assets. This being said, Hartford Dairy is the above industry average over the three-year period, at 1.2, however again in 1972 they fell far below the industry average at 1.0. At a 0.6 quick ratio in 1972, this says to the bank that if all current liabilities were to be called today for payment, Hartford Dairy would only be able to pay 60% of them without selling any additional inventory.

Inventory Turnover Ratio - A ratio that shows how many times a company's inventory is sold and replaced over a period of time. We calculate this by dividing cost of goods sold by average inventory. Because of the heavy decline in inventory turnover going from 8.7X to 3.5X, in the years 1970 and 1972 respectively, this indicates that Hartford Dairy is failing to maintain inventory levels comparable to the industry average. In 1972 the company had a 3.5X inventory turnover ratio which is half that of the industry at 7.0X. This is a weakness for Hartford Dairy because although their sales are great, they have been holding too much product in their inventory. In 1970 they had \$255,000 in inventory, and then in 1972 it increased by 270% to \$688,500.

Average Collection Period Ratio (in days) - The approximate amount of time that it takes for a business to receive payments owed, in terms of receivables, from its customers and clients. Over the three-year period Hartford Dairy has failed to actively collect on their accounts receivable. Having a 49-day average collection period is far below that of the industry average at 32 days. Because the accounts receivable has been steadily rising from 1970-1972, it's causing their cash on hand to decrease. This is a result from the increased wait period for the receivables to be fulfilled.

Profit Margin On Sales (in percent's) - A ratio of profitability calculated as net income divided by revenues. It measures how much out of every dollar of sales

a company actually keeps in earnings. When compared to the industry standard Hartford dairy must view this ratio as a weakness because, over the three-year period there have been drastic decreases in their profit margin on sales. The industry standard is 3.5, and in 1972, showing a 1.4% profit for sales is very weak. Despite increasing sales during this period, the Hartford Dairy has been unable to capitalize on sales growth.

Return On Total Assets (in percent's) - A ratio that measures a company's earnings before interest and taxes against its total net assets. The ratio is considered an indicator of how effectively a company uses its assets to generate earnings before contractual obligations must be paid. Though Hartford Dairy has a relatively strong three-year average return on total assets at 7.1%, it doesn't show the true financial state of the company in 1972. The industry average was 9% and Hartford Dairy shows a 2.8% in 1972. This shows their inability to generate earnings from their total assets.

Return On Net Worth (in percent's) - The amount of net income returned as a percentage of shareholders equity. Return on equity measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. This ratio is clearly a weakness because during the three-year period that is under review, Hartford Dairy has never been up to par with the industry average. They have also shown dramatic decreases of 15.7% to 5.4% in 1970 and 1972.

Question 2

What sources of internal funds would be available for the retirement of the loan? If the bank were to grant the additional credit and extend the increased loan from a date of February 1, 1973 to June 3, 1973, would the company be able to retire the loan on June 30, 1973?

The only options available for Hartford Dairy if the bank were to call the loan, is to take depreciation as a non-cash item to increase net income, convert inventory, and accounts receivable into cash. These three internal sources of funds plus the current cash on hand will be used to retire the loan.

Industry average Inventory Turnover is 7.0X

Inventory turnover = sales/inventory

$7 = 2,380,000 / \text{inventory}$

Inventory = \$340,000

Inventory savings

Previous Inventory - Inventory

$\$688,500 - \$340,000 = \$348,500$

A/R:

Average sales per day = Sales/360 = $\$2,380,000 / 360 = 6611$

Average sales per day is \$6611

Industry average collection period was 32 days

Collection period = Collection * Average sales per day

$\$6611 * 32 \text{ days} = \$211,555$

Previous A/R \$323,000 - Current A/R 211,555 = \$111,445

A/R savings = \$111,445

Due to the fact that we are analyzing whether or not Hartford Dairy will be able to pay the loan back on the 6th month of the year we have to assume that the income statement will be halved, however to free up some cash the company will be removing depreciation from the income statement, as it is a non-cash item. In turn this will increase their net income. Due to the fact that the company is removing depreciation from the income statement, it has to get added back into the balance sheet as a depreciation expense, this will reduce assets and liabilities but free up some much needed cash. Due to the \$100,000 expense for construction of a new plant edition both the notes payable (on the liabilities side) and the land and building (on the assets side) will have to be increased by \$100,000.

To answer the question of whether or not Hartford Dairy will have enough to payoff the loan, the answer is yes. By increasing operational efficiencies and increasing the companies ratios to industry averages, there will be enough cash on hand to payoff the loan on June 30th 1973. With the combination of Inventory

(\$348,500), accounts receivable (\$111,445), cash from balance sheet in 1972 (\$17,000), and net income (for half the year, less depreciation (\$42,500)) based of last years sales. Given that net sales and all expenses remain constant:

Hartford Dairy
Income Statement
1/1/73 - 6/30/73

Net Sales -----	\$1,190,000
Cost of Goods Sold-----	<u>925,000</u>
Gross Operating Profit-----	\$238,000
General Admission and Selling-----	102,000
Depreciation-----	--0--
Miscellaneous-----	<u>51,000</u>
Net Income Before Taxes-----	\$85,000
Taxes (50%)-----	<u>42,500</u>
Net Income-----	42,500

Net Income + Inventory + A/R + Cash on Hand = cash available for payoff.
 $42,500 + 348,500 + 111,445 + 17,000 = \$519,445$

Question 3

If a company wants to improve, it will sometimes consider the use of benchmarking, which compares one company to another company or industry. The comparisons the company will use are different financial ratios. Comparing ratios between the industries is very significant for investors.

This being said there are also some misconceptions about using only company's financial ratios. Even with comparing financial statements between the industry, financial ratios will not provide all the information a manager or investor needs to make clear decisions. Some things that will throw off a ratio analysis are:

1. A Growing Company vs. A Stagnant Company
2. Accounting Methods (i.e. Depreciation and Inventory)
3. Government Influences and Restrictions
4. Company's preference for financing. (i.e. Debt or Equity)
5. Miscellaneous Income and Expenses

A growing company will normally have more debt than a stagnant company. This will throw off any financial ratios involving debt, making the stagnant company look better. The debt to equity ratio would lead comparative analysts to believe that the growing company has far larger debt than the other companies in its field. This may be true but it does not show the expansion from the growing company.

The flexibility that GAAP allows companies to do their books with will also make a ratio analysis difficult between competitors. The freedom to use different accounting techniques to manage inventory (LIFO, FIFO), and manage depreciation (Straight-line, Declining balance, Activity depreciation, etc.) will allow the company to use the method that makes them look best.

When companies operate in different states and countries they have a different set of laws to abide by, and different taxation percentages to pay. There may also be different limitations on the infrastructure of companies. Grants will differ between state lines and country borders. Lending rates between states can vary, which will cause debt ratios to be skewed.

A Company's preference for financing is the company's ability to attain needed financing, from banks, or private investors. Different financial and business risk profiles play a role in the ability for a company to acquire financing. Things that can vary for two different companies in the same industry are loan rates and loan amounts. This financial and business risk is not shown in any ratio.

When a company has an unforeseeable event occur, ratios can be temporarily impacted. For example, a factory fire would cause a loss of inventory, effecting inventory turnover ratio and ultimately profitability ratios. If the company wins a lawsuit there would be a host of ratios that would be impacted (i.e. Liquidity ratio and leverage ratios).

Question 4

In my opinion, I would grant Hartford Dairy the additional loan and extend the entire line of credit to June 30, 1973. I believe that due to the ability to cover the loan with cash on hand at June 30th with the help of some operational changes will allow Hartford Dairy to consistently make payments and eventually retire the loan. Freeing up the cash needed to pay would take a few steps:

1. Cut down on overproduction, and bring inventory to a more stable level
2. Contract buyers to pay within 32 days of purchase
3. Manipulate depreciation to positively effect net income

If these requirements can be fulfilled then the loan will be able to be paid on time without consequences.

Even though the current ratio did fall slightly below the required minimum of 2.0, the longstanding relationship between Hartford Dairy and the bank, along with Hartford Dairy's proven ability to consistently increase sales provides enough evidence to grant the additional loan and extend the total line of credit.

In the event that Hartford Dairy does not modify their operating efficiencies, the bank can rest assured that they will still be able to call the loan and receive full payment within 10 days due to the violation of the current ratio at year end 1972. The bank will be able to collect in full because of the large assets that Hartford Dairy possesses.

It's imperative that the bank keeps this relationship going because of its current financial interests within the company, and the profitable nature of a long lasting bank customer.

Question 5

Some possible solutions to acquiring a bank loan, excluding issuing any stocks, and bonds from the company can be:

- Peer-to-peer lending
- Factoring Accounts Receivable
- Venture Capitalists
- Government Assistance

Hartford Dairy can seek Peer-to-peer lending options. This is when competitors, and other businesses will invest in another business. This is similar to a bank loan in the regard that it has an agreed upon rate determined by both companies. There will be a specific payback period and monthly payment amount. Like a bank loan, there are penalties for violating the agreements of the loan.

Hartford Dairy can factor their accounts receivable, and collect 70-90% of their receivables right away (depending on set contract with factoring company). This will give them instant cash flow at the cost of losing some of their receivables.

Hartford Dairy can seek the help of venture capitalists that would like to extend a loan to them. This is usually a wealthy individual who believes in the success of the company. Like a bank and peer-to-peer loan this loan will have an agreed upon rate, payback period, and set payment amount per month.

Hartford Dairy can seek out government assistance. Sometimes the government will offer subsidized loans, or grants to a business in need. These tend to be at a lower rate than bank loans, however businesses must petition the state/federal governments for the purpose of the loan.