

Home Heaters: A Holistic View of the Financial Statements

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ABSTRACT: In this case, two start-up companies in the same industry have identical economic transactions. Although both companies follow generally accepted accounting principles (GAAP), each manager makes different choices and estimates when applying GAAP. By preparing the financial statements, calculating ratios, and comparing and contrasting the two companies, students see how choices and estimates made by management affect the financial statements. They also see the challenge faced by users of financial information when trying to interpret the financial statements and compare companies. Students really experience an “aha!” moment while analyzing this case. The case refutes their commonly held assumptions that accounting always has a right answer and that financial statements represent the truth.

Keywords: accounting alternatives; accounting choices; accounting estimates; economic transactions; financial statements; financial ratios; financial statement analysis.

CASE

At the beginning of the year 20X1, two companies began operations to sell home heating units. Eads Heater, Inc. is located in Eads, Colorado, and Glenwood Heating, Inc. is in Glenwood Springs, Colorado. The companies operate under similar economic conditions and have identical operations during the year. However, each manager makes different accounting choices and estimates when applying generally accepted accounting principles (GAAP) in preparing the company’s financial statements.

PART A

First-Year Transactions

Both companies have completed identical transactions during the first year of operations, 20X1. The transactions for each company are listed:

1. On January 2, each company issued 3,200 shares of capital stock for \$160,000 and commenced operations.

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Published Online: November 2011

2. On January 2, each company borrowed \$400,000 on a 20-year, 7 percent note payable. Interest plus \$20,000 principal is due September 30 each year, beginning 20X1.
3. On January 3, each company purchased land and a building for \$420,000. Both managers assigned \$70,000 to the land and \$350,000 to the building. Each company paid cash for the land and building.
4. On January 5, each company purchased delivery equipment at a cost of \$80,000. Both purchases were made with cash.
5. Each company sells one model of home heating unit, and made the following credit purchases during the year. (You may record all the purchases in one transaction.)

<u>Date</u>	<u>Number Of Units</u>	<u>Cost Per Unit</u>
January 10	40	\$1,000
March 14	60	1,100
June 1	20	1,150
September 15	62	1,200
October 30	28	1,300

6. Each company sold 160 units for \$398,500 during the year. All sales were on credit; 90 days, same as cash. You will just record the sales piece of this transaction for now. Management has not yet determined how inventory and cost of goods sold will be valued. Therefore, this year, management will use the periodic inventory system and record cost of goods sold at the end of the year (in Part B).
7. \$299,100 was collected during the year on the sales described in Transaction 6 above.
8. \$213,360 was paid on the purchases made in Transaction 5 above.
9. On September 30, the first \$20,000 principal payment plus nine months' interest was made on the note payable described in Transaction 2.
10. A total of \$34,200 was paid for a variety of expenses, such as advertising, supplies, insurance, and wages. These expenses are recorded in an account called "other operating expenses."
11. Dividends of \$7.25 per share were paid to the stockholders on December 1.
12. Management made an adjusting entry to accrue three months' interest on the note payable in Transactions 2 and 9 above.

Requirement

Record these 12 transactions for Eads's and Glenwood's first year of operations before going to Part B. Exhibit 1 contains a basic chart of accounts. Note: you will not use all accounts in this part of the case.

PART B

It is now December 31, and each manager must make several decisions.

1. Each manager must estimate the amount of accounts receivable that will probably not be collected. They make the following estimates:

Glenwood Heating, Inc.: The manager estimates that 1 percent of ending accounts receivable will be uncollectible.

Eads Heaters, Inc.: The manager estimates that 5 percent of ending accounts receivable will be uncollectible.

EXHIBIT 1
Home Heaters
Chart of Accounts

Asset Accounts

Cash
 Accounts receivable
 Allowance for bad debts
 Inventory
 Land
 Building
 Accumulated depreciation, building
 Equipment
 Accumulated depreciation, equipment
 Leased equipment
 Accumulated depreciation, leased equipment

Liability Accounts

Accounts payable
 Interest payable
 Note payable
 Lease payable

Equity Accounts

Common stock
 Retained earnings
 Dividends
 Sales
 Cost of goods sold
 Bad debt expense
 Depreciation expense
 Interest expense
 Other operating expenses
 Rent expense
 Provision for income taxes

2. Neither manager recorded cost of goods sold at the time of sale. They have taken a physical inventory, and now must determine the values of cost of goods sold and ending inventory. They decide to use the following inventory methods:

Glenwood Heating, Inc.: FIFO

Eads Heaters, Inc.: LIFO

3. Both managers determine that the expected lives and salvage values of the building and equipment owned by each company are as follows:

	<u>Expected Life</u>	<u>Salvage Value</u>
Building	30 years	\$50,000
Delivery Equipment	8 years	8,000

It is now time to record depreciation expense for the year. The managers decide to use the following depreciation methods:

Glenwood Heating, Inc.

Building	Straight-line
Delivery equipment	Straight-line

Eads Heaters, Inc.

Building	Straight-line
Delivery equipment	Double-declining balance (DDB)

4. On January 5, 20X1, each company negotiated the use of a large piece of operating equipment. Both managers agreed to a \$16,000 payment on December 31, 20X1, at which time they would decide the terms for using the equipment in the future. On December 31, when making the payment, the managers negotiated the following terms:

Glenwood Heating, Inc.

Although the owner of the equipment agreed to let Glenwood rent the equipment for \$16,000 again next year, he would not guarantee that price past next year. Management decided to rent the equipment on a yearly basis and signed an agreement to rent it next year for \$16,000.

Rental payment December 31, 20X1	\$16,000
Rental payment due December 31, 20X2	\$16,000

Eads Heaters, Inc.

The owner of the equipment and Eads management negotiated a capital lease agreement. The present value of the lease agreement is \$92,000. The contract carried the following terms:

Period of time	8 years
Interest rate	8%
Total payment (including principal and interest) due December 31 of each year	\$16,000

The first two payments of \$16,000 are to be allocated to interest and principal as follows (amounts are rounded to the nearest \$10):

	<u>Interest</u>	<u>Principal</u>
December 31, 20X1	\$7,360	\$8,640
December 31, 20X2	6,670	9,330

The manager decides to compute depreciation using straight-line depreciation with a life equal to the eight-year contract term and no salvage value.

5. Both managers are concerned about income taxes. They both realize that companies generally keep a second set of books for tax reporting purposes, but are not sure about the differences between income reported according to GAAP and income as defined by the tax authorities. They also realize that they need to make an estimated tax payment in order to avoid late payment penalties. Both managers talk to their CPAs and are told to pay 25 percent of their GAAP income to the IRS to help avoid late penalties. Thus, each manager

estimated a provision for income taxes of 25 percent of their GAAP income and made a payment for that amount to the IRS.

Requirement

Record the last five transactions at the end of the year, and prepare the following financial statements for each company for the current year:

- Multistep Income Statement (List all expense accounts separately on the income statement.)
- Statement of Changes in Stockholders' Equity
- Classified Balance Sheet
- Statement of Cash Flows

PART C

The managers plan to meet at the end of the year and compare the results of their companies' operations.

Requirements

- Analyze the financial statements of the two companies. Your analysis should include the key financial ratios listed in Exhibit 2. Because this was the first year of operations, for ratios that require average account balances (e.g., average total assets), use the year-end balances. The formulas for the ratios can be found in Exhibit 3.
- Compare and contrast the operations of the two companies. Hint: Your comparison should address the financial position and profitability of each company.

EXHIBIT 2

Home Heaters Financial Ratios

Liquidity Ratios

Current ratio
Acid-test ratio
Accounts receivable turnover
Days to collect receivables
Inventory turnover
Days to sell inventory
Operating cycle

Profitability Ratios

Gross profit margin
Profit margin
Return on assets (ROA)
Return on owners' equity (ROE)
Earnings per share (EPS)

Long-Term Solvency Ratios

Debt ratio
Times interest earned

EXHIBIT 3
Home Heaters
Formulas for Financial Ratios

Panel 1: Liquidity or Short-Term, Debt-Paying-Ability Ratios

Ratio	Description	Formula
Current ratio	Indicator of ability of current assets to meet current liabilities	$\frac{\text{Current assets}}{\text{Current liabilities}}$
Acid-test (quick) ratio	Indicates immediate short-term liquidity	$\frac{\text{Cash} + \text{short-term investments} + \text{net receivables}}{\text{Current liabilities}}$
Accounts receivable turnover	Indicates liquidity of accounts receivable during the reporting period	$\frac{\text{Net credit sales}}{\text{Average net accounts receivable}}$
Days to collect receivables	Indicates the average number of days taken to collect accounts receivable	$\frac{365 \text{ days}}{\text{Accounts receivable turnover}}$
Inventory turnover	Indicates liquidity of inventory during the reporting period	$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$
Days to sell inventory	Indicates the average number of days it takes to sell the inventory	$\frac{365 \text{ days}}{\text{Inventory turnover}}$
Operating cycle	Indicates the average number of days between the purchase of inventory and the collection of cash from the sale of inventory	$\text{Days to sell inventory} + \text{days to collect receivables}$

Panel 2: Profitability Ratios

Ratio	Description	Formula
Profit Margins:		
Gross profit margin	Measures profit generated from sales after considering cost of goods sold	$\frac{\text{Sales} - \text{cost of goods sold}}{\text{Sales}}$
Profit margin	Measures overall profitability as a percentage of sales dollars	$\frac{\text{Net income}}{\text{Sales}}$
Return on assets (ROA)	Measures the overall efficiency in managing the assets and generating profits	$\frac{\text{Net income}}{\text{Average total assets}}$
Return on owners' equity (ROE)	Measures the return on stockholder's investment after interest is paid to creditors	$\frac{\text{Net income} - \text{preferred dividends}}{\text{Average common stockholders' equity}}$
Earnings per share	Measures the return to common stockholders for each share owned	$\frac{\text{Net income} - \text{preferred dividends}}{\text{Average number of common shares outstanding for the year}}$
Debt ratio	Measures the portion of investment that is from debt; indicates leverage and borrowing power	$\frac{\text{Total liabilities}}{\text{Total assets}}$
Times interest earned	Indicates the ability of the company to meet its interest requirements from earnings	$\frac{\text{Income from operations}}{\text{Interest expense}}$