



This is “Pro Forma Statements”, chapter 5 from the book [Finance for Managers \(index.html\)](#) (v. 0.1).

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## Chapter 5

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### Pro Forma Statements

#### Predicting the Future

PLEASE NOTE: This book is currently in draft form; material is not final.

If we could accurately predict the future, we could easily become wealthy by making many wise investments (and we're not just speaking of winning lottery numbers). Even imperfect information could guide our decisions and lead to a greater chance of success. As individuals, we constantly try to predict the future (for example: should I buy the phone plan with 500 or 1000 minutes?) and the accuracy of our predictions has financial consequences (paying for minutes we don't use, or running over).

One way companies try to envisage the future is through the use of pro forma statements. 'Pro forma' is Latin 'for the sake of form'. Accurately predicted pro forma statements can help a company plan for the future. How much will sales be next year? Profits? Pro formas (for short) can also be created for distinct scenarios to see which would be more profitable. If created properly, pro forma statements can be a type of financial crystal ball that help a company 'see' the future, although we should always remember that no prediction is likely to be 100% accurate.

## 5.1 Pro Forma Income Statement

PLEASE NOTE: This book is currently in draft form; material is not final.

### LEARNING OBJECTIVES

1. Analyze a pro forma income Statement and its purpose.
2. Complete a pro forma income Statement.

A **pro forma income statement**<sup>1</sup> is a projected income statement which shows predicted future operating cash flow. A pro forma income statement shows what potential sales revenue, expenses, taxes and depreciation might look like. Pro forma statements typically only forecast operating items on the income statement such as sales and EBIT, and not any items generated by financing or investing flows.

The simplest method used to prepare a pro forma income statement is to use the **percent-of-sales method**<sup>2</sup>. In a nutshell, future sales are forecasted, and then expenses are calculated as a percentage of the new sales figure. Step 1: We create a **common size income statement**<sup>3</sup> where each entry is expressed as a percentage of revenue.

*Equation 5.1 Calculating percentage of sales*

$$X \text{ as a percent of sales} = \frac{X}{\text{Sales}}$$

We should notice that many expenses are related to the level of sales, that is, they have similar entries in each year of the common size statement. For example, raw materials used and labor costs typically increase as sales increase. Step 2: We consider current (observed) sales and determine a forecasted growth rate to arrive at a projected revenue number. Step 3: We consider each line of the income statement and either hold it at current levels (if we don't think it scales with sales) or make the entry a percentage of our projected sales number. In the case of taxes, we use the appropriate tax rate.

1. A projected income statement.
2. Future sales are forecasted, and then expenses are calculated as a percentage of the new sales figure.
3. A income statement with all entries expressed as a percentage of revenues.

Projecting the proper growth rate for sales is key to this analysis and, unfortunately, one of the most difficult things to do accurately. We can attempt to look at historical growth and adjust it using our beliefs about prospects, economic climate, etc. Sometimes companies have employees whose dedicated task is to constantly update sales projections.

To illustrate, Pet Products Forever Inc. has sales of \$110, COGS of \$51 and SG&A of \$26. See Pet Products Forever, Inc. Income Statement.

*Figure 5.1 Pet Products Forever Inc. Income Statement (Thousands)*

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What percent of sales are COGS and SG&A?

$$\text{COGS} / \text{Sales} = 51 / 110 = .464 \text{ or } 46.4\%$$

$$\text{SG\&A} / \text{Sales} = 26 / 110 = .236 \text{ or } 23.6\%$$

*Figure 5.2 Pet Products Forever Inc. Common Size Income Statement (Thousands)*

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If Pet Products Forever Inc.'s sales increase by 10% to \$121, then how much will future COGS and SG&A expenses be?

$$\text{new COGS} = 46.4\% \text{ of } \$121 = .464 \times 121 = \$56.1$$

$$\text{new SG\&A} = 23.6\% \text{ of } \$121 = .236 \times 121 = \$28.6$$

If we assume that depreciation and interest expense don't scale with sales, and our tax rate is 40%, then our pro forma statement might look like this:

*Figure 5.3 Pet Products Forever Inc. Pro Forma Income Statement (Thousands)*

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Note that our net earnings have increased by more than the 10% of our sales growth! This is because we assumed that some of our expenses (in this case, depreciation and interest) didn't scale with sales.

Why don't all expenses necessarily scale with sales? One expense we held constant was depreciation: our depreciation is tied to our fixed asset purchases; if we don't need to increase fixed assets to handle the increase of sales, then our depreciation will probably remain steady. If, however, all of our machines are at capacity and we have no more factory space, then sales growth might increase fixed assets, which might in turn increase depreciation! Likewise, if we need to borrow money to purchase those fixed assets, our interest expense might increase! Forecasting involves many such judgment calls, and each assumption we make can influence the bottom line.

### KEY TAKEAWAYS

Pro forma statements are a way to look into the future. The pro forma income statement projects future cash flow.

- The pro forma income statement uses current sales to calculate future sales.
- Many expenses are increased using the percent-of-sales method. Some expenses will remain the same.

### EXERCISES

1. What is a pro forma income statement and what is its purpose?
2. Prepare a common size income statement given the following information: revenues are \$100,000, COGS is \$43,000, SG&A is \$22,000, depreciation is \$10,000, interest owed is \$5,000 and the tax rate is 40%.
3. Prepare a pro forma income statement from the data and common size income statement from #2, assuming that sales will grow by 5% and all expenses but interest and taxes will scale with sales.

## 5.2 Pro Forma Balance Sheet

PLEASE NOTE: This book is currently in draft form; material is not final.

### LEARNING OBJECTIVES

1. Analyze a Pro Forma Balance Sheet and its purpose.
2. Complete a Pro Forma Balance Sheet.

Similar to a pro forma income statement, the **pro forma balance sheet**<sup>4</sup> is a projection of a balance sheet. While the percentage-of-sales method could be used for the balance sheet as well, a more sophisticated and accurate approach would be to analyze each line of the balance sheet. A properly forecasted balance sheet uses best judgement to predict future sales and expenses. For example, our company may need to hold a certain amount of cash to meet basic expenses. Or a company at capacity might need to add assets to continue sales growth. A **common size balance sheet**<sup>5</sup>, which shows each balance sheet item as a percentage of total assets, may help guide us in making these decisions. This information enables an individually tailored and more accurately forecasted balance sheet.

Pet Product's Forever Inc. has the following balance sheet. They know certain things about their next year which will play a role in determining the pro forma balance sheet.

Figure 5.4 *Pet Products Forever Inc. Balance Sheet (Thousands) 2012*

Figure 5.5 *Pet Products Forever Inc. Common Size Balance Sheet (Thousands) 2012*

4. A projected balance sheet.
5. A balance sheet with entries expressed as a percentage of total assets.

Pet Products Forever has certain financial goals and knowledge about the upcoming year.

1. From our pro forma income statement, we expect net earnings of \$11 thousand on sales growth of 10%.
2. The company wants to hold at least \$20 thousand in cash.
3. The company's debt (long-term and notes payable) will remain the same.
4. No new common stock will be issued (common stock will remain the same). \$4 thousand will be paid out in dividends to the shareholders.
5. Accounts receivable should scale with sales.
6. The company has determined that the current level of inventory is too low. They would like to hold \$13 thousand in inventory.
7. Accounts payable should scale with sales.

Given this information we construct the following balance sheet.

*Figure 5.6 Pet Products Forever Inc. Pro Forma Balance Sheet First Pass (Thousands) 2013*

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Note that retained earnings has increased by our earnings less our dividends paid (\$11 thousand - \$4 thousand = \$7 thousand). Since accounts receivable and payable both scale with sales, and sales increased by 10%, each of these has increased by 10% as well.

After our first pass, our balance sheet doesn't balance! If our total assets are larger than our total liabilities and equity, we need to raise money somehow, either by increasing financing (that is, borrowing more, reducing dividends, or issuing equity) or reducing assets. Smaller total assets means returning cash to our investors (by reducing debt or increasing dividend payout) or parking the cash on our balance sheet (in cash or other short term investments).

Since after the first pass the total assets are smaller, we can choose to increase cash held to balance the books.

*Figure 5.7 Pet Products Forever Inc. Pro Forma Balance Sheet Second Pass (Thousands) 2013*

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### KEY TAKEAWAYS

Pro Forma balance sheets provide a look into a company's future.

- They can be constructed using percentage changes from the previous year.
- It is more accurate to use last year's balance sheet and past information to make realistic assumptions about the next year.

### EXERCISES

1. Using the original Pet Products Forever balance sheet from 2012, construct a pro forma balance sheet using the following information:
  - a. Sales are projected to grow by 5%, causing net earnings of \$10 thousand.
  - b. The company wants to hold at least \$30 thousand in cash.
  - c. The firm's long-term debt will decrease to \$10 thousand.
  - d. No new common stock will be issued, but \$3 thousand in dividends will be paid to shareholders.
  - e. Accounts receivable will scale with sales.
  - f. The company would like to hold \$10 in inventory.
  - g. The tax rate will remain the same.
  - h. The note payable will remain the same.
  - i. Accounts payable will scale with sales.

## 5.3 Assessment of Pro Forma Statements

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### LEARNING OBJECTIVE

1. Use pro forma statements to analyze a business.

Pro forma statements are to be tools to help a company plan for the future. They are only as good as the assumptions upon which they are constructed.

Our analysis has been straightforward and simple but it can get more complex. Companies can change many of the other variables found on their income statements and balance sheets. Companies determine their dividend policy (which influences retained earnings) and they can influence their level of debt (through their capital structure decisions which influences their interest expense) as well as their common stock.

Now we have constructed our pro forma statements. But how accurate are they? What's the probability that our pro forma will correctly depict our company's future? To answer this question, pro formas can be analyzed using scenario analysis, which we cover in more detail in chapter 13. Companies can analyze best, worst, and most likely case scenarios by creating sets of pro formas with different underlying assumptions. This might seem like a lot of work, but spreadsheets can make these calculations fairly easily.

Pet Products Forever estimates that their most likely case is increase in sales of 10%. Their best case would be an increase of 20% and their worst case would be an increase of 2%. Remember that COGS are % of sales and SG&A are % of sales.

*Figure 5.8 Pet Products Forever Inc. Pro Forma Income Statements (Thousands) 2013*

The best case results in net earnings of \$13 thousand, while our worst outcome is \$9.4 thousand. The company is still doing well, even under the worst case scenario. Not a bad result!

### KEY TAKEAWAYS

- Understand the assumptions behind the pro forma statements.
- Analyze the financial statements taking risk into account and look at a best, worst and most likely case scenario.

### EXERCISES

1. Why would we be interested in risk with regard to pro forma statements?
2. Analyze the following pro forma statement using the percent of sales method under best case and worst case scenarios given below.

Sales are \$100,000, COGS is \$43,000, SG&A is \$22,000. Depreciation is \$10,000 and tax rate is 40%.

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## 5.4 The Bigger Picture

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### LEARNING OBJECTIVES

1. Discuss the role pro forma statements play in financial management.
2. Identify the ethical considerations involved when creating pro forma statements.

Pro forma statements are used to make many business decisions. Should we launch a new product line or open a new factory? Should we add another sales person or a worker in the plant? Pro formas use our best judgements to construct likely scenarios about the future. Accurately and appropriately used and constructed they can be helpful tools to improve our business.

When analyzing pro forma statements, it is important to understand how they were constructed, what the assumptions were and how to read them. Cash flows can be manipulated as well as assumptions. Economic and political conditions can change quickly which can strongly influence business outcomes. As with most predictions—take them with a grain of salt. No one can predict the future with 100% accuracy.

### Ethical Considerations

Managers within a company may have different objectives. Someone in sales may want to have a low sales projection so they are guaranteed to ‘hit their number’ and earn their bonus. A retiring manager may want to maximize their current year compensation or the company’s share price to maximize their retirement benefit. When constructing pro forma statements managers may also have different opinions on the likelihood of the outcome of each scenario. While pro forma statements are projections, many business decisions are based upon them. Correct calculation and analysis is important.

### KEY TAKEAWAYS

- Pro forma statements assist managers in making many business decisions.
- Ethics play an important role in the correct creation of pro forma statements.

## 5.5 End-of-Chapter Problems

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### EXERCISES

1. Using data from CABS, create pro forma income statements. CABS expects sales to increase by 5% (worst case), 10% (most likely) or 15% (best case). Using the percent of sales method (and assuming that only COGS and SG&A costs increase), create new balance sheets for the best, worst and most likely cases.

#### CABS Pro Forma Income Statement

*Figure 5.9*

*CABS Income Statement (Thousands of Dollars)*

2. Using the following assumptions, create new pro forma balance sheets for CABS.
  - a. The company wants to hold at least \$100 in cash.
  - b. The firm's long-term debt will decrease to 82.6.
  - c. No new common stock will be issued.
  - d. Accounts receivable take on average 80 days to collect.
  - e. The company would like to hold 25 in inventory.
  - f. The tax rate will remain the same.
  - g. The note payable will remain the same.
  - h. The company typically pays 45 days and accounts payable are projected to be 123.

#### CABS Pro Forma Balance Sheet

*Figure 5.10*

*CABS Balance Sheet (Thousands of Dollars)*