
Spreadsheet Case 4

Brooks Investment Advisers

Problem:	Analyze financial ratios
Management skills:	Deciding
Excel skills:	Formulas Spreadsheet control Reporting
File:	BROOKS_Q.XLS

Brooks Investment Advisers (BIA) is a small-investment advising firm that has just opened in Tacoma, Washington. It is trying to take market share from large brokerage houses by offering custom advice to clients on long-term investing, rather than recommending the stock-of-the-week strategy touted by its competitors.

Clients may call or visit to seek expert advice about specific stocks in which they are interested. Chip Sanders, a prospering attorney, has expressed interest in two firms in the music, video, and book retail sector, and he wants to know if either one will make for a good investment. These firms are Barnes & Noble and Borders, both of which are listed on the New York Stock Exchange.

Barnes & Noble is the nation's largest bookseller, operating about 800 superstores throughout 49 states and the District of Columbia, and employing 40,000 under the Barnes & Noble and B. Dalton names. The company also does business online under the Barnesandnoble.com name, which since its inception in 1999, has become the world's sixth largest online e-commerce site. It is a Fortune 500 company, and for 2002, sales were \$5.2 billion.

Borders is the #2 bookstore operator in the United States after Barnes & Noble. Borders Group has stores in all 50 U.S. states, as well as in the UK, Australia, New Zealand, Puerto Rico, and Singapore. Its more than 1,200 retail stores include about 435 Borders superstores, about 780 mall-based Waldenbooks stores, and more than 35 UK-based Books Etc. Like Barnes & Noble, Borders focuses on both in-store and online sales. Borders' Web site is run by Amazon.com, the leading online bookseller in the world. In 2002, sales were \$3.4 billion. Both companies offer common stock.

To make sound recommendations, BIA's analysts must carefully examine a company's financial statements. The purpose of financial statements is to identify the major sources, uses, and flows of funds within an organization. The three principal financial statements used in business are income statements, balance sheets, and cash flow statements.

Income statements (also called operating statements) summarize the income, expenses, and profits of businesses for a specified period. The purpose of income statements is to show the profitability or unprofitability of firms during a specified period, usually a year, quarter, or month.

Balance sheets identify the assets, liabilities, and owners' (or shareholders') equity of a firm at a particular point in time. The difference between assets and liabilities is net worth or equity (literally what the organization is worth net of all other factors). Cash flow statements provide detailed information on total receipts and disbursements of cash. Cash flow statements are like checking account registers for individuals.

Certain financial ratios based on figures from financial statements have been traditionally used to assess a company's financial health and performance. There are five kinds of financial ratios that you can apply to assess the financial position of a firm.

1. Liquidity Ratios

Various liquidity ratios measure a firm's liquidity, its ability to draw on cash and other current assets to pay its financial obligations. Two commonly used liquidity ratios are the current ratio and the quick ratio, or acid test.

$$(a) \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$(b) \text{ Quick Ratio, or Acid Test} = \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}}$$

The current ratio is the most commonplace measure of short-term solvency. If current liabilities are rising faster than current assets, this may be a harbinger of financial difficulty. The quick ratio measures the firm's ability to pay off short-term obligations without relying on the sale of inventory, which is the least liquid of the firm's current assets.

2. Asset Management Ratios

Another group of ratios measures how effectively a firm is managing its assets. One of these is the *total assets utilization ratio*, which measures the utilization or turnover of all of the firm's assets.

$$(c) \text{ Total assets utilization} = \frac{\text{Sales}}{\text{Total assets}}$$

3. Debt Management Ratios

These ratios determine the extent to which a firm uses debt financing. If equity, or owner-supplied funds, accounts for only a small portion of a firm's total financing, the risks of the firm are borne mainly by creditors. On the other hand, by raising funds through debt, owners can control the firm with a smaller investment of their own. If the firm returns more on the borrowed funds than it pays in interest, the return on the owner's capital is magnified, or leveraged. An important ratio is the *debt ratio*, which measures the percentage of a firm's total funds provided by creditors.

$$(d) \text{ Debt ratio} = \frac{\text{Total liabilities}}{\text{Total assets}}$$

Creditors prefer low debt ratios, whereas it may be advantageous for owners to seek higher debt to leverage their money and earnings. However, a debt ratio that is too high signals trouble repaying loans and too much reliance on borrowed money to pay for the firm's operations.

4. Profitability ratios

Profitability ratios illustrate the combined effects of liquidity, asset management, and debt management on profits. Important profitability ratios measure the *return on total assets (ROA)*, the *return on common equity (ROE)*, or return on stockholders' investments, and the *profit margin on sales*.

$$(e) \text{ Return on Total Assets (ROA)} = \frac{\text{Net profit after taxes}}{\text{Total assets}}$$

$$(f) \text{ Return on Equity (ROE)} = \frac{\text{Net profit after taxes}}{\text{Net worth (equity)}}$$

$$(g) \text{ Profit Margin} = \frac{\text{Net profit after taxes}}{\text{Sales}}$$

5. Market Value ratios

These ratios help indicate what investors think of the company's past performance and future prospects. The market value ratios (and stock price) will be high if a firm has strong liquidity, asset management, debt management, and profitability ratios. The most widely used market value ratio is the *price/earnings ratio*.

$$(h) \text{ Price/Earnings Ratio} = \frac{\text{Price per share}}{\text{Earnings per share}}$$

To evaluate a firm's financial ratios properly, you must compare the ratios to ratios for comparable businesses. You can find financial ratio data on comparable businesses in publications like Dun and Bradstreet's *Industry Norms & Key Business Ratios* and Robert Morris's *Annual Statement Studies*. Both publications group businesses by standard industry classification codes and provide financial ratio data by standard industry classification code.

Tasks

There are five tasks in this case:

1. Examine the 2002 income statements and balance sheets of Barnes & Noble and Borders, which can be found by loading the file **BROOKS.XLS**. All data are based on the publicly available 2002 annual reports of these firms.
2. Print out the financial statements so you have a hard copy to work with. Look at them very closely.

4. Assign range names to the income statement data, the balance sheet data, and the area of the worksheet containing the financial ratios. Create a table of range names below the worksheet. Format the ranges with the income statement and balance sheet data to display a comma with zero decimal places. Format the ranges with the financial ratios, earnings per share, and stock price to display two decimal places.
5. Calculate the eight financial ratios outlined above for each company at the end of the financial statements. Print out the ratios for both companies.
6. In a single paragraph, write an analysis of both companies. If possible, find statistics on financial ratios for comparable businesses using either the Dun and Bradstreet or the Robert Morris publication. Based on the information provided in this case, is each firm financially sound? Which would make the better investment? Review the financial statements of both companies for any items that might help explain their financial position.

Additional Problems

1. Obtain the current stock price for each of these companies and recalculate the Price/Earnings ratio.
2. Use the Web to search the EDGAR database [www.sec.gov/edgar.shtml] maintained by the Securities and Exchange Commission. This database contains companies' quarterly and annual financial reports, as well as other documents filed with the SEC. Use this information to recalculate the financial ratios for both companies. Would that make a difference in your decision?

Time Estimates

Expert: 45 minutes

Intermediate: 1 hour

Novice: 1.5 hours



Excel Tutorial for Spreadsheet Case 4

You do not need to use range names for the solution to this case, but they can be used if you wish when you use different formats for different ranges in your worksheet.

In Course.xls, name the range with the student grade data as GRADES. Name the range with the percentages used in the Assumptions section as PERCENT.

Naming Ranges

You can name a range with the **Insert/Name/Define** command. To name the range with the percentages PERCENT, you would do the following: highlight the three cells B9:B11, select **Name**

from the **Insert** menu, and then select **Define** from the sub-menu. A Define Name dialog box will appear, already containing the percentage range reference. Type the name PERCENT and click the OK button.

You can alternatively select **Insert/Name/Define**, then select the range once within the dialog box and type the name. Use either procedure to name the range B16:E19 as GRADES.

Creating a Table of Range Names

You can document your range names in a table in your worksheet using the **Insert/Name/Paste** command. Place the table in an unused portion of the worksheet where it will not overlay any data. The spreadsheet design principles introduced in Chapter 2 suggest placing the range name table below the left-most portion of the worksheet.

To create the range name table, move to the cell where you want the table to appear and select the **Insert/Name/Paste** command. A dialog box appears, listing the named ranges. The purpose of this dialog box is to paste a selected Name in the formula bar. However, we are using the alternative purpose of the dialog box: pasting a list of range names and their references onto the worksheet. To do this, click the Paste List button. This will result in a worksheet resembling that in Figure 3-4.

Figure 3-4

