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STRATEGIC FINANCIAL RATIO ANALYSIS

HOME MANAGEMENT

Evaluate a firm's performance and management strategies (For investors and students)

by Richard K. Lindgren

Requires: ATARI BASIC Language Cartridge
Diskette version (1): (APX–20217)
ATARI 810 Disk Drive
32K RAM

Edition A

CONSUMER-WRITTEN PROGRAMS FOR

ATARI® HOME COMPUTERS

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Introduction

OVERVIEW

STRATEGIC FINANCIAL RATIO ANALYSIS is a five-part program for investors to use at home or in the office. The program measures a firm's financial performance, and aids in interpreting the business strategies its management has used. The five parts are:

1. DATA SET EDITOR - enables you to compile, document, modify, and save up to two sets of financial data:
   - For two different companies.

   -or-

   - For two different time periods for one company.

   -or-

   - For a parent company and its subsidiary.

2. SEQUENTIAL DATA INPUT - a faster version of DATA SET EDITOR for entering data to be edited or analyzed later.

3. STRATEGIC RATIO COMPUTATION - computes a set of 15 ratios for either or both of the active data sets, and displays or prints them in a special format to simplify analysis.

4. MISCELLANEOUS RATIO COMPUTATION - computes an additional 15 ratios commonly used with strategic analysis.

5. GLOSSARY & DISK DIRECTORY - displays definitions of the ratios, and assists with management of the data in your diskette files.

To help you understand how the program works, and to illustrate its functions, the diskette contains two sample data sets, SAMPLE1 and SAMPLE2, which you can transfer to your active files for practice work.

Financial ratio analysis, a tool used by investors, assesses the current performance of a company by comparing it with its performance in past years or with the performance of other companies. Using data published in financial statements, you can compute ratios to measure a firm's profitability, liquidity, and use of debt. The computer is ideally suited for the repetitive task of computing these measures.

STRATEGIC FINANCIAL RATIO ANALYSIS goes beyond most simple ratio computation programs by providing a visual aid to interpretation of the ratios. Computed values are displayed in a graphic, relational format that makes it easier to see what the figures mean and how they relate to each other.

Taken together, "strategic" ratios can be used to uncover the choices that managers have made to position their company among the competition and create a special niche for their firm. For example, a retailer can increase profits by cutting prices and then increasing sales volume, or by making a higher profit per unit on a few select sales. These managerial choices may not be evident from the numbers alone. This program helps uncover those strategies by presenting a set of key ratios in a "tree" structure that shows how each element of a strategy contributes to the company's success or failure.

You can also use the program for "what if" analysis, to predict what could happen to the ratios under varying conditions. What if analysis is useful in determining how far the firm may be off target, or what different assumptions for the future might mean.

REQUIRED ACCESSORIES

ATARI BASIC Language Cartridge
32K RAM
ATARI 810 or ATARI 1050 Disk Drive

OPTIONAL ACCESSORIES

ATARI 825 80-Column Printer
ATARI 822 Thermal Printer
ATARI 820 40-Column Printer
ATARI 1020 Printer
ATARI 1027 Printer
ATARI 1025 Printer

CONTACTING THE AUTHOR

Users wishing to contact the author about STRATEGIC FINANCIAL RATIO ANALYSIS may write to him at:

315 Zion's Ridge
Lamoni, Iowa 50140

SUGGESTED RESOURCES

Most books on business financial management include sections on ratio analysis. Their approaches and their ratio definitions may differ, but they can show the financial relationships at work. The author recommends:

Schall, L.D., and C.W. Haley. Introduction to Financial Management, 2nd edition. New York: McGraw-Hill, 1980, pp. 387-433.

Getting started

LOADING STRATEGIC FINANCIAL RATIO ANALYSIS INTO COMPUTER MEMORY

1. Make sure your computer is turned off.

2. Insert the ATARI BASIC Language Cartridge into the cartridge slot of your computer console.

3. If you plan to use a printer, turn it on. If your printer is linked to a ATARI 850 Interface Module, turn it on.

4. Turn on your disk drive.

5. When the BUSY light goes out, open the disk drive door and insert the STRATEGIC FINANCIAL RATIO ANALYSIS diskette, making sure its label is in the lower right-hand corner nearest to you. (Use disk drive #1 if you have more than one drive.)

6. Turn on your computer and your TV set. While the program automatically loads into computer memory, it displays a "loading" message, followed by the main menu.

7. To save the data you enter and work with during this session, when the main menu is displayed, remove the program diskette from the disk drive and insert a diskette formatted with DOS II.

ENTERING DATA

Throughout STRATEGIC FINANCIAL RATIO ANALYSIS, you enter data and select options by responding to prompts or questions displayed on the screen. In most cases, it isn't necessary to press the RETURN key after entering a response, but in some cases you must. If your response isn't processed immediately, press the RETURN key.

THE MAIN MENU

Use either the DATA SET EDITOR or SEQUENTIAL DATA INPUT to enter one or more data sets. You can display or print ratios for these sets by selecting either STRUCTURED RATIO COMPUTATION or MISCELLANEOUS RATIO COMPUTATION.

Return to the DATA SET EDITOR to modify values, then recompute ratios for what if analysis.

To make your work easier, the menu for each option listed in the main menu gives you immediate access to the other two parts of the program. The following main menu is displayed immediately after you've successfully loaded the program into computer memory.

```
STRATEGIC FINANCIAL RATIO ANALYSIS
  COPYRIGHT 1982 - R.K.LINDGREN

1: DATA SET EDITOR #1
2: DATA SET EDITOR #2
3: STRUCTURED RATIO COMPUTATION
4: MISCELLANEOUS RATIO COMPUTATION
5: SEQUENTIAL DATA INPUT
6: GLOSSARY/DISK FILE DIRECTORY

WHICH OPTION (1-6)?
```

Type the number next to the option to select one of the program sections. Instructions for using each option follow.

Using the DATA SET EDITOR

PURPOSE

Use the DATA SET EDITOR to create and modify the data sets you use for computing ratios. This program provides two DATA SET EDITORS. You can keep two sets of data available at the same time for display or computation. Editors #1 and #2 are identical in operation -- all instructions for using DATA SET EDITOR #1 apply to #2 as well. To help you avoid confusion, the data set number is displayed at the top left of the screen, and the screens for EDITOR #2 appear in the inverse colors of the set for EDITOR #1.

Press 1 (DATA SET EDITOR #1) or 2 (DATA SET EDITOR #2) on the main menu to work with the DATA SET EDITOR. Option #5 (SEQUENTIAL DATA INPUT) is an alternative method of data input that allows you to enter all the data rapidly, in response to a series of prompts, for display or computation later. It's described at the end of this section of the manual.

You don't have to return to the main menu to work with the DATA SET EDITORs. You can select either, even though you're already working with the menu for another option. (How to do this is described later.) This feature allows you to get to either EDITOR quickly to change data. If the menu item doesn't distinguish between EDITORs #1 and #2, the EDITOR you accessed most recently is displayed. An additional feature: if the program finds errors in the data during its computations, you're automatically returned to the EDITOR to make corrections.

Each EDITOR contains four "screens":

(1) The Set Description,

(2) Income Statement Data

(3) Asset Data

(4) Equities Data

The Set Description Screen

The Set Description Screen looks like this:

```
                    SET DESCRIPTION #1

A.Data File Name:                    SAMPLE1
B.Descrip.:        NO-BRAND FOODS, INC.
C.Pct. of Sales on Credit             100.00


 CHOOSE LETTERED OPTIONS
 TO CHANGE A DATA ITEM,
 NUMBERED LINES FOR NEW MENU.


 ____________________________________
|                    |               |
| 1.INCOME STATEMENT | 5.DATA SET EDIT #2 |
| 2.LOAD FROM DISK   | 6.COMPUTE RATIOS   |
| 3.SAVE ON DISK     | 7.SEQ. DATA INPUT  |
| 4.PRINT DATA       | 8.GLOSSARY/FILES   |
|____________________|_______________|

    WHICH OPTION ?
```

Figure 1. Set Description Screen for File SAMPLE1

Use this screen to get organized before you start. (It's easy to get lost among all the possible analysis combinations if you don't.) Select the name you've chosen for your data file (item A) and the name of the company (item B) now; the program uses these to keep track of each data set used in each analysis.

As shown in Figure 1, the screen title and data set number are displayed at the top of the screen: SET DESCRIPTION #1. Below them are the lettered data items (on this screen, A through C) you're going to enter or modify. These items are described individually later in this section. You can enter or modify data items in any order.

Numbered options appear in the boxes at the bottom of the screen. In response to "Which Option?" you can enter either the letter of one of the data items listed above, or the number of one of the options. Until you change them, all data items are set to blanks or zeros. (Figure 1 above shows the display you see when you select option #2, "Load from Disk" using the first sample data set, SAMPLE1.)

When you select a letter in response to "Which Option?", the description that follows the letter you chose appears in the prompt area at the bottom of the screen. Enter a value for this item and press the RETURN key. The value you entered now appears at the top of the screen beside its item description. The program prompts you to select another option.

When you enter a number in response to "Which Option?", the program processes the option selected. If you select "Income Statement" (#1), for example, the next screen of the EDITOR is displayed. (Figure 2, below.)

NOTE: When you're using the DATA SET EDITOR, Option 1 always moves you to the next screen in the sequence.

"Load from Disk" (Option #2) causes the program to display an existing data file from the diskette. Likewise, "Save on Disk" (Option #3) causes the program to write the data set currently displayed into a file on your own DOS-formatted diskette. Remember, before a file is stored on diskette, you must enter a file name in option "A" (Data File Name). If this item is blank, the program requests a data file name. It also asks you to verify the load (or save) before it proceeds. This protects you from accidentally destroying data already on file.

Use "Print Data" (Option #4) to print the current data set. Options #5 through #8 allow you to access the other sections of the program.

Income Statement Screen

To see the Income Statement screen, select Option #1 of the Set Description screen. It looks like this:

```
                    INCOME STATEMENT #1

A.Sales Revenue                    4722.20
B.Gains & Other Rev.                130.20
C.Cost of Goods Sold               2992.90
D.Depreciation Exp.                  99.50
E.Interest Expense                   57.60
F.Income Tax Expense                132.50
G.Other Expense #1                 1384.00
H.Other Expense #2                    0.00
I.Losses                              0.00
J.Preferred Dividends                 6.00
K.Common Dividends                   72.30

 NET INCOME= $185.90

 ____________________ ____________________
|                    |                    |
| 1.ASSET DATA       | 5.DATA SET EDIT #2 |
| 2.LOAD FROM DISK   | 6.COMPUTE RATIOS   |
| 3.SAVE ON DISK     | 7.SEQ. DATA INPUT  |
| 4.PRINT DATA       | 8.GLOSSARY/FILES   |
|____________________|____________________|

    WHICH OPTION ?
```

Figure 2. Income Statement Screen for File SAMPLE1

Use this screen to enter data normally found in the firm's published income statement (their statement of profit and loss for the preceding year). The lettered items show the data you've either transferred from a data file or just entered. The amounts for these items can be in dollars, thousands of dollars, millions of dollars, or in any other unit (or currency) as long as you use the unit (or currency) consistently.

The method for selecting options and entering or changing data is the same as for the SET DESCRIPTION screen above. The numbered options are identical, except for Option #1, now titled "Asset Data." As always, select Option #1 to see the next screen.

The amount labeled "Net Income" in Figure 2 is the total of the data in items A through K. This amount is updated every time you change one of items A through K. Increases in items "A" and "B" increase the total by the amount of the data item. Increases in items "C" through "I" reduce the total. Changes in items "J" and "K", distributions of Net Income, have no effect on the total. If you enter these items correctly, the total shown on the screen is the same as the figure printed in the firm's Income Statement.

Asset Data Screen

For the Asset Data screen, select option #1, "Asset Data," from the Income Statement screen. It looks like this:

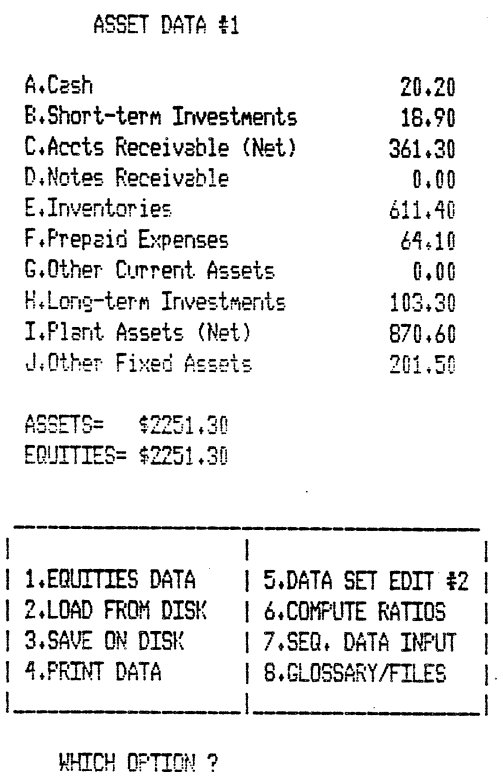

Figure 3. Asset Data Screen for File SAMPLE1

Use this screen to enter data from the left or top half of the firm's Balance Sheet (also called the Statement of Financial Position). This amounts represent the financial resources the firm owns or leases and uses to produce income during the time period covered in the report.

The method for selecting options and entering or changing data is the same as for the NET INCOME screen above. To change or

enter financial data, select letters A through J. The numbered options are identical to those in the INCOME STATEMENT screen, except for Option #1, now titled "Equities Data." As always, select Option #1 to see the next screen.

Between the lettered and numbered options are two lines, "ASSETS =" and "EQUITIES =", showing the computed total assets (all items in this screen), and total equities (all items in the next screen). Each time you enter or modify data that affects one of these items (such as "Net Income"), the program updates it. Use these totals to check your data input. Total assets must equal total equities to make the Balance Sheet balance.

Equities Data Screen

Choose the Equities Data screen by selecting Option #1, "Equities Data," on the Asset Data screen. It looks like this:

```
                    EQUITIES DATA #1

  A.Current Liabilities          738.60
  B.Long-term Liabilities        417.30
  C.Preferred Stock Equity        50.00
  D.Common Stock Equity          190.00
  E.Retained Earnings            855.40

  ASSETS=   $2251.30
  EQUITIES= $2251.30

 ____________________________________________
|                    |                       |
| 1.SET DESCRIPTION  | 5.DATA SET EDIT #2    |
| 2.LOAD FROM DISK   | 6.COMPUTE RATIOS      |
| 3.SAVE ON DISK     | 7.SEQ. DATA INPUT     |
| 4.PRINT DATA       | 8.GLOSSARY/FILES      |
|____________________|_______________________|

      WHICH OPTION ?
```

Figure 4. Equities Data Screen for File SAMPLE1

Use this screen to enter data from the right or bottom half of

the firm's Balance Sheet. The items represent the financial claims on the firm's assets, either its debt (liabilities) or owners' equity.

The method for selecting options and entering or changing data is the same as for the ASSET DATA screen above. The numbered options are identical, except for Option #1, now titled "Set Description." As is always the case, select Option #1 to see the next screen. As in the preceding screen, both the currently computed total ASSETS and total EQUITIES are displayed between the lettered items and the numbered options.

SEQUENTIAL DATA INPUT

Now select Option #7, "Sequential Data Input," on the DATA SET EDITOR screen. (This is also Option #5 on the main menu.) This section of the program allows you to enter each of the items you've seen displayed in the four screens above sequentially, without having to select individual items as you do in DATA SET EDITOR.

When you select this item, the program asks you to select the number of the data set (1 or 2). Starting with option "A" in the Set Description screen (Data File Name), the program displays an item description at the bottom of the screen and prompts you to enter a value. Type the desired value and press the RETURN key. The next value to be entered is automatically displayed.

You can shift to DATA SET EDITOR at any time in this process by entering the letter X. You return to DATA SET EDITOR automatically after you enter the last value in the entire sequence. At that point, you can then modify, print, or save the data, or you can compute ratios.

ITEM DESCRIPTIONS

Find the data you need for entering values in the item descriptions for publicly traded firms in the firms' annual reports, or the "10-K" reports that most sizable firms submit to the U.S. Securities and Exchange Commission. (The program will use the values you enter to calculate the financial ratios you're seeking.) You can obtain these reports from stockbrokers, libraries, investor information services, or directly from the corporate secretary at the firm's headquarters.

Find all the items for the Income Statement screen in the firm's

Income Statement (or Statement of Operations) for the year you're analyzing. All data for the Asset Data screen is at the left or top of the Balance Sheet (or Statement of Financial Position). Likewise, all data for the Equities Data screen is at the right or bottom of the Balance Sheet.

As previously mentioned, you can enter the numbers in dollars, thousands of dollars, or any other unit (or currency), as long as you use that unit (or currency) consistently. When there's more detail in the statements than the program requires, add the related items in the category together. Also, if the program requests a number that's not provided in the statements, just enter a zero.

DESCRIPTIONS OF DATA ITEMS

Below are descriptions of the data items displayed in the four screens of DATA SET EDITORs #1 and #2. These items are also displayed when you use Sequential Data Input.

Set Description Screen

A. DATA FILE NAME

Enter the file name for the data you're entering or using for your DATA SET EDIT. The name can be up to eight characters long. (If you insert a period after the last character, you can add up to three additional characters to the title.) If the file is to be saved to or loaded from a second disk drive, specify the disk drive number before you type the file name by typing D, then the number of the disk drive, then the file name. (The file name can be up to eight characters long. It can be extended by typing a period after the last character, then adding up to three additional letters.) A typical entry for a file to be saved to disk drive #2 would look like this: D2:SAMPLE.DAT

B. DESCRIPTION

Enter a description of up to 25 characters. This might be the name of the firm, statement year, or analysis number.

C. PERCENT OF SALES ON CREDIT

Enter the percent of annual sales that this firm makes on credit, as distinguished from cash sales. You can't usually find this percentage in the statements themselves, but it may be in accompanying notes. When in doubt, enter 100, because firms who do business exclusively with other firms, rather than directly with the consumer, typically make sales on credit.

Income Statement Screen

A. SALES REVENUE

Enter the dollar amount of revenue received this year from operations. This is usually the first item on the income statement.

B. GAINS & OTHER REVENUE

Enter the total of all other items on the income statement that increase net income. This is typically revenue from peripheral operations, and gains on the sale of non-inventory assets.

C. COST OF GOODS SOLD

This is the largest single expense for most firms. It's usually listed first among the expenses that reduce net income.

D. DEPRECIATION EXPENSE

Enter this expense if it's listed separately. It's an important item: it decreases net income, but doesn't result from an outlay of cash.

E. INTEREST EXPENSE

This item may either be listed among the operational expenses, (near the beginning of the income statement), or closer to the bottom. Really a cost that results from financing, it has little to do with operations.

F. INCOME TAX EXPENSE

Find this item either among the operational expenses or as one of the last deductions for determining net income. It may be

called "Estimated Income Taxes" or "Provision for Income Taxes."

G. OTHER EXPENSE #1
and
H. OTHER EXPENSE #2

You can use these two categories to group the other expenses and deductions required to compute net income. Enter all of them in OTHER EXPENSE #1 if you wish.

I. LOSSES

Enter this item if it's listed separately on the income statement. It results from disposing of assets at less than their stated value.

J. PREFERRED DIVIDENDS

This item appears on the income statement only if the firm issues preferred stock. It's a record of the distribution of net income to these stockholders (not an expense).

K. COMMON DIVIDENDS

This item isn't an expense, but it's found on a corporation's income statement or statement of retained earnings. It represents the portion of net income, past or present, distributed to holders of common stock during the period covered in the report.

Asset Data Screen

A. CASH

Enter the amount of cash from the current assets section of the Balance Sheet. Current assets are cash and items that will turn into cash within the normal operating cycle of the firm.

B. SHORT-TERM INVESTMENTS

This item is also a current asset. It may be called "Marketable Securities" on the Balance Sheet.

C. ACCOUNTS RECEIVABLE (NET)

This is the amount of short-term trade credit extended to the

firm's customers. If an "allowance for doubtful accounts" or "allowance for bad debts" is stated separately, deduct that amount from the Accounts Receivable total to compute the "net" amount.

D. NOTES RECEIVABLE

This amount represents credit extended to customers that has not been paid as of the end of the period covered in the report. Enter the amount in this item only if it's in the "Current Assets" category of the Balance Sheet. Otherwise, enter it under H. LONG-TERM INVESTMENTS.

E. INVENTORIES

Enter the value of all goods held for eventual resale, including raw materials, work in process, and finished goods inventories. Enter the total if they're listed separately.

F. PREPAID EXPENSES

These are short-term advance payments on such items as rent and insurance. The cash value of inventories of office supplies are sometimes included in this category.

G. OTHER CURRENT ASSETS

Make a total of all remaining items in the "current assets" section of the Balance Sheet and enter it under this item heading.

H. LONG-TERM INVESTMENTS

This figure shows the cash value of other companies' stocks and bonds which are either being held by this firm for the long term, or which aren't readily marketable. This item is sometimes titled "Equity in Subsidiaries" on the Balance Sheet.

I. PLANT ASSETS (NET)

Enter total of the amounts listed for equipment, land, and buildings the firm owns. If accumulated depreciation on these items is listed separately, subtract that amount before you enter the total.

J. OTHER FIXED ASSETS

Enter the total of all other items. Include such items as

intangible assets (for example, patents and goodwill), and long-term deferred charges.

Equities Data Screen

A. CURRENT LIABILITIES

Enter the total of all items listed in the current liabilities section of the right or bottom half of the Balance Sheet. These include accounts payable, taxes payable, and other payables.

B. LONG-TERM LIABILITIES

Enter the total of all items listed in the long-term liabilities section of the Balance Sheet. These include bonds payable, mortgages payable, and deferred taxes.

C. PREFERRED STOCK EQUITY

Enter the total of all Balance Sheet items related to preferred stock, if there are any. These include preferred stock par value, and any premium on preferred stock.

D. COMMON STOCK EQUITY

Enter the total of all Balance Sheet items remaining on the Balance Sheet except retained earnings. These include common stock par value and premiums on common stock (also called "Paid in Capital in Excess of Par" or "Capital Surplus").

E. RETAINED EARNINGS

Enter the amount listed under "Retained Earnings" on the Balance Sheet. This may be called "Earned Surplus." If the amount is negative, it could be under the heading of "Accumulated Losses." Enter a negative amount by preceding the value with a minus sign.

SAMPLE DATA

Two sets of sample data are provided with the program diskette, SAMPLE1 and SAMPLE2. Follow the steps below to transfer the data elements in the SAMPLE1 file to their appropriate places on the four screens. Then transfer to DATA SET EDITOR #2 and repeat these steps to transfer the data elements in the file named SAMPLE2 to EDITOR #2.

To load any file, select Option # 2 (LOAD FROM DISK), then enter the number of the disk drive on which the file is located, and the file name. Always use this format:

1. The code letter D for disk drive.
2. The number of the disk drive to be accessed.
3. A colon.
4. The file name. (Up to eight characters. The file name can be extended by following the last letter used with a period, then three additional characters. See example below.)

If you're using only <u>one</u> disk drive, you can choose to skip steps 1-3 for the sake of speed.

Then press the RETURN key.

For example, to load the file named SAMPLE.DAT from disk drive #2, follow these steps:

SYSTEM PROMPT	YOUR RESPONSE
WHICH OPTION?	2 R
ENTER DATA FILE NAME?	D2:SAMPLE.DAT R

(If you're using only <u>one</u> disk drive, at this point just enter SAMPLE.DAT and press the RETURN key.)

Then the system displays the message:

```
INSERT DATA DISKETTE IN DRIVE 2
LOADING FROM FILE D2:SAMPLE.DAT
CONTINUE? ENTER Y OR N:
```

Enter Y to continue the transfer, or N to return to your previous display.

Type the file name accurately. If you make a mistake, you must select Option A on the SET DESCRIPTION screen and enter the corrected file name before you can restart the transfer.

Both SAMPLE1 and SAMPLE2 contain sample financial data you can use to see how this program works. When you're familiar with the steps to follow, you can enter, use, and store data you gathered from the financial reports of companies whose

performance you want to measure and compare.

SAMPLE1 contains financial data on No Brand Foods Company, which has found its niche by selling generic food products and by aiming at a high volume of sales to offset lower profit margins.

SAMPLE2, on the other hand, contains financial data on Premium Foods, a company that aims at a limited, top-quality market where volume is low, but profits are high.

The next section of the manual explores how this program can compare balance sheets for the two companies, and what you can learn from that information that's produced.

Figure 5 shows the data stored in SAMPLE1 and SAMPLE2.

SET DESCRIPTION #1
Data File Name: SAMPLE1
Descrip.: NO-BRAND FOODS INC.
Pct. of Sales on Credit 100.00

INCOME STATEMENT #1

Sales Revenue	4722.20
Gains & Other Rev.	130.20
Cost of Goods Sold	2992.90
Depreciation Exp.	99.50
Interest Expense	57.60
Income Tax Expense	132.50
Other Expense #1	1384.00
Other Expense #2	0.00
Losses	0.00
Preferred Dividends	6.00
Common Dividends	72.30

NET INCOME=$ 185.90

ASSET DATA #1

Cash	20.20
Short-term Investments	18.90
Accts Receivable (Net)	361.30
Notes Receivable	0.00
Inventories	611.40
Prepaid Expenses	64.10
Other Current Assets	0.00
Long-term Investments	103.30
Plant Assets (Net)	870.60
Other Fixed Assets	201.50

TOTAL ASSETS=$ 2251.30

EQUITIES DATA #1

Current Liabilities	738.60
Long-term Liabilities	417.30
Preferred Stock Equity	50.00
Common Stock Equity	190.00
Retained Earnings	855.40

TOTAL EQUITIES=$ 2251.30

Figure 5A. Listing of SAMPLE1 Data Set

SET DESCRIPTION #2
Data File Name: SAMPLE2
Descrip.: PREMIUM FOODS CORP.
Pct. of Sales on Credit 100.00

INCOME STATEMENT #2

Sales Revenue	5935.80
Gains & Other Rev.	25.20
Cost of Goods Sold	3141.40
Depreciation Exp.	139.90
Interest Expense	26.20
Income Tax Expense	305.40
Other Expense #1	1982.20
Other Expense #2	0.00
Losses	0.00
Preferred Dividends	0.00
Common Dividends	126.20

NET INCOME=$ 365.90

ASSET DATA #2

Cash	42.20
Short-term Investments	15.20
Accts Receivable (Net)	287.30
Notes Receivable	22.00
Inventories	831.30
Prepaid Expenses	19.00
Other Current Assets	0.00
Long-term Investments	103.30
Plant Assets (Net)	1513.50
Other Fixed Assets	

TOTAL ASSETS=$ 3014.10

EQUITIES DATA #2

Current Liabilities	336.60
Long-term Liabilities	512.20
Preferred Stock Equity	0.00
Common Stock Equity	74.00
Retained Earnings	91.30

TOTAL EQUITIES=$ 3014.10

Figure 5B. Listing of SAMPLE2 Data Set

Strategic ratio computation

OPERATION

This section of the program computes fifteen financial ratios from the data sets you entered when using DATA SET EDITOR or SEQUENTIAL DATA INPUT, and displays or prints them in a format illustrating their strategic relationships. These relationships help you analyze the choices the management of the firm has made.

To reach this section, either select option #3, STRATEGIC RATIO COMPUTATION, from the main menu, or option #6, COMPUTE RATIOS, from any of the four DATA SET EDITOR screens. If you haven't entered a set of data yet, the program requests the name of a data set stored on diskette (SAMPLE1, for example), and designates it as Data Set #1. The names of the two data sets currently in memory are displayed, followed by the menu below:

```
                STRATEGIC RATIOS

SET #1: NO-BRAND FOODS INC.
SET #2: PREMIUM FOODS CORP.

1: DISPLAY SET #1 RATIOS
2: DISPLAY SET #2 RATIOS
3: DISPLAY BOTH SETS

4: PRINT SET #1 RATIOS
5: PRINT SET #2 RATIOS
6: PRINT BOTH SETS

7: DATA SET EDITOR
8: MISCELLANEOUS RATIOS
9: GLOSSARY/DISK FILE DIRECTORY

 WHICH OPTION (1-9)?
```

Figure 6. Strategic Ratio Computation Menu

When you select Options #1 through #6 on this menu, the program computes ratios for one or both sets of data, then either displays the results on the screen or prints it. Options #7 through #9 provide access to other sections of the program.

Figure 7, below, shows the STRATEGIC RATIOS output for option #6, PRINT BOTH SETS. (In this example, both sets of data have already been transferred to computer memory from a diskette file. Instructions for transferring a file to computer memory are given in the section, "How to Use the Data Set Editor.") The screen display is identical to the printed version, with three exceptions. The screen display version is:

- Compressed into 38 columns and 23 lines, as opposed to approximately 70 columns and 28 lines on the printer. (You can print the 38-column version by selecting Option #9 on the menu shown in Figure 6, then selecting Option #4 on the GLOSSARY/DISK DIRECTORY menu.)

- Uses special graphics characters to better depict the strategic ratio concept.

- Displays the ratios to only one decimal place; the printed version shows two decimal places.

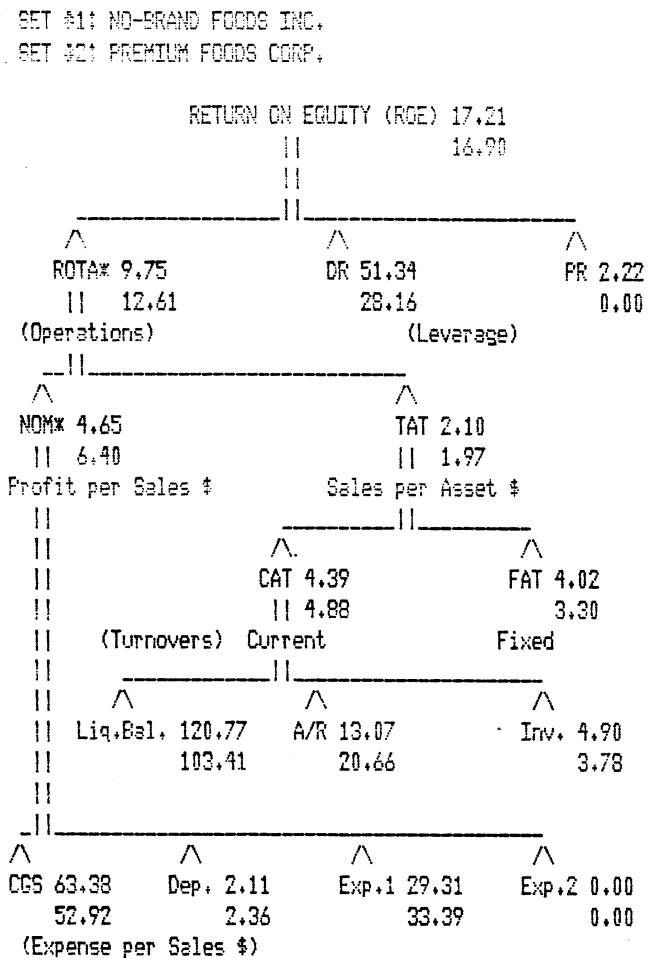

Figure 7. Strategic Ratios Example

THE STRATEGIC RATIO TREE

The format of the strategic ratio diagram isn't as difficult to interpret as it might seem at first glance. Look at it as an upside-down tree. Each branch illustrates a decision the company management must make. A later section of this manual describes each ratio in detail and interprets the ratios for the two sample companies shown in Figure 7. At this point, however, an overview of the tree is in order.

NOTE! Use the Glossary option if you need additional information while you're working with the program. In addition, a list of preliminary definitions appears at the end of this section.

Return on Equity

The objective of a profit-making enterprise is, of course, to deliver a profit to its owners. The top line, "Return on Equity," is a measure of this profit, derived by dividing the total earnings available to the holders of common stock in the corporation by the net worth of the corporation. That amount is the owners' investment in the firm. It's the end result of all the company's strategic decisions.

Operations vs. Leverage

Below the first line, the tree splits into two branches, "Operations" and "Leverage," since there are two different strategies for achieving a "Return on Equity." The "Operations" ratio, Return on Total Assets after taxes, or ROTA*, is a measure of the profit that management derived from the inventory, machinery, and other assets.

It's also possible, however, to "lever" a small profit on the assets into a larger profit for the owners by borrowing money or selling preferred stock in the firm. The owners get to invest all the borrowed funds and keep all the profits after paying interest to the lender. Using this method can earn a higher return from a smaller investment. The Debt Ratio (DR) and the Preferred Ratio (PR) are measures of this strategy.

Price vs. Volume

Continuing down the left side of the tree, two more branches form. These branches illustrate the classic "Price vs. Volume" choice. The firm can take the discounting approach, in which products are priced low, with the expectation that selling a high volume of goods can make up for the low profit margins. K-Mart, for example, uses this strategy successfully. The alternative is to price a little higher. The volume of sales might be lower, but the higher profit margin per sale makes up the difference. Many small specialty stores use this approach.

The branch on the left, represented by the Net Operating Margin after taxes, or NOM%, measures the profit margin by computing the profit per dollar of sales. The right branch, represented by Total Asset Turnover, or TAT, measures volume by computing the turnover, or how many dollars of sales are generated in a year for every dollar invested in assets. Beneath are displayed the two components of TAT, the Current Asset Turnover, or CAT (sales divided by total current assets), and Fixed Asset Turnover, or FAT (sales divided by total non-current assets).

Expenses vs. Profit Margin

The leftmost branch is subdivided by the way in which the company's profit margin is earned. In simple terms, the profit is what's left after the expenses are paid. Four expense categories are shown at the base of the tree:

1. Cost of Goods Sold (CGS).
2. Depreciation (Dep.).
3. Other Expenses - Category #1 (Exp.1)
4. Other Expenses - Category #2 (exp.2).

These four are compared to sales in the order in which expenses are cutting into the profit margin.

Current vs. Fixed Assets

On the right side of the tree, the ratios that can be used to assess volume of sales are grouped into Current Assets, such as cash and inventory, and Fixed Assets, such as buildings and machinery.

Some firms run their factories effectively -- inventory does not greatly exceed sales, and money that might be tied up in unsold finished goods is left free for investment or other uses. Other companies manage their inventories by keeping only the fastest-selling items in stock. The former type will have a high Current Asset Turnover (CAT). The CAT shows the sales generated per dollar invested in current assets. The latter type of company will have a high Fixed Asset Turnover (FAT). The FAT shows sales generated per dollar invested in all other assets.

The Composition of Current Assets

The way a company uses its current assets (also called "liquid" assets -- the term includes non-cash assets that can be quickly transformed into cash) can offer insights into its management style and profitability. It's safer to have a lot of cash and other liquid assets around to pay the bills when they become due, but this isn't always the most profitable cash management technique. It may be more profitable for a company to use this money for short-term and long-term investments. The last strategy illustrated by the tree shows which current assets are used most productively. How these liquid assets are used is measured by the "Liquid Balance Turnover" (Liq. Bal.).

A company's ability to give credit and then collect the money owed by its customers is another part of a successful cash management strategy. Some firms give liberal credit, hoping to attract more business, while others avoid giving credit to risky customers. "Accounts Receivable Turnover" shows the rate at which customer bills are paid, and provides a means of assessing the type and effectiveness of the company's credit strategy.

The last item is the "Inventory Turnover" (Inv.). It measures the rate at which the company purchases inventory, sells it, then purchases more with the profits and sells that, and so on. Companies that do that many times in a year have a high inventory turnover.

RATIO FORMULAS AND DESCRIPTIONS

A problem in ratio computation is that there is no consensus either on how to compute these ratios, or on what they mean. However, important patterns and trends can be interpreted from a comparison of ratios. For the tree in Figure 7, computed from the data in files SAMPLE1 and SAMPLE2, the author has used numbers available to the average investorand has integrated the interpretations of experts in the fields of finance and accounting.

The ratio computations made in this program draw on the data items described in the DATA SET EDITOR section of this manual, or on the data whose preliminary definitions are provided below:

PRELIMINARY DEFINITIONS

Net Worth = Total Assets - Total Liabilities - Preferred Stock Equity

The "book value" of the common stockholders' ownership claim. This represents contributed capital plus earnings retained in the firm from prior years. This may differ significantly from the market value of the firm.

Earnings Available to Common = Net Income - Preferred Dividends

The amount of net income the common stockholders claim.

Earnings Before Taxes = Net Income + Income Tax Expense

The amount of earnings subject to income tax.

Earnings Before Interest & Taxes = Earnings Before Taxes + Interest Expense

This is an important measure of earnings because it represents the earnings made by managing the firm's assets. Interest Expense depends on where the money came from to buy the assets. Interest can be deducted when calculating income taxes. Remove these amounts, then, to get a figure that shows how well the company's management handled the resources shown on the left or top half of the Balance Sheet.

Tax Rate = Income Tax Expense / Earnings Before Taxes

The average percentage of income paid in taxes.

RETURN ON EQUITY (ROE)

Earnings Available to Common / Net Worth

The firm's profitability per common stockholder dollar invested. This is the pinnacle of the strategic tree. Whether this value is considered to be high or low depends on how well the company's competition is doing, and how well the firm did in previous years. Also, use this measure to help determine the firm's potential risk as an investment. A high-risk firm must have a relatively high ROE in order to attract stockholders.

DEBT RATIO (DR)

Total Liabilities / Total Assets

The percentage of assets financed by using debt. Generally, the higher the debt ratio, the higher the firm's risk, since the inability to pay interest on the debt could lead to bankruptcy. Stable companies, such as public utilities, can tolerate higher debt ratios than firms with unpredictable earnings.

Debt can be used to lever earnings because the money borrowed can be used to buy more assets for the purpose of generating income. In addition, the interest is tax-deductible, and once the payment is made, the owners get to keep what remains of the earnings. On the other hand, a firm with a low debt ratio is less likely to go under in poor times, since there's less interest to pay.

PREFERRED RATIO (PR)

Preferred Stock Equity / Total Assets

The percentage of assets financed by preferred stock. In many ways, preferred stock is closer to debt than to common stock. It levers earnings, and dividends on preferred stock must be paid before the common stockholders receive dividends. Preferred dividends, however, aren't tax-deductible, as interest is.

RETURN ON TOTAL ASSETS AFTER TAXES (ROTA*)

Earnings Before Interest & Taxes X (1 - tax rate) / Total Assets

The after-tax profitability per dollar of assets after removing both the interest and tax effects of debt (the asterisk denotes an "after-tax" ratio). Net income alone has factored into it the effects of the leverage noted above. This measure shows the management of the entire asset base of the firm more clearly, independent of where the funds came from to buy the assets. That's a separate strategic decision.

NET OPERATING MARGIN AFTER TAXES (NOM*)

Earnings Before Interest & Taxes X (1 - tax rate) / Sales

The profitability per sales dollar after removing the effects of debt (described above). This measures the contribution to profit made by the sale of finished goods during the year.

TOTAL ASSET TURNOVER (TAT)1

Sales / Total Assets

Sales generated per dollar of assets invested. This measures the sales volume of the firm, with high turnovers representing a higher volume of sales relative to the size of the firm. In a competitive market, firms have either a high turnover and a low Net Operating Margin, a low turnover and a high margin, or medium levels of both. It's desirable but difficult to maintain both a high margin and a high turnover. But firms that score poorly on both usually don't remain in business.

CURRENT ASSET TURNOVER (CAT)

Sales / Total Current Assets

Sales generated per dollar invested in current assets. This measures both relative sales volume and the firm's liquidity risk. A high turnover may mean efficient management or, on the negative side, that the firm isn't keeping enough cash and near-cash assets around to pay the bills that become due. Thus, a high CAT tends to increase both risk and return.

FIXED ASSET TURNOVER (FAT)

Sales / Total Non-current Assets

Sales generated per dollar invested in all other assets. A high turnover may show that the firm uses equipment efficiently to produce goods, or that it's seriously under-capitalized, not having invested in enough long-term assets, and it's losing potential profits. As with CAT, the proper interpretation depends on comparison with other ratios. Poor performance in other areas may have its roots in these two ratios.

LIQUID BALANCE TURNOVER

Sales / (Cash + Short-term Investments)

Sales generated per dollar invested in cash and assets that can be quickly converted into cash. Many firms use marketable securities such as treasury bills and other short-term investments as a cash buffer. The formula above produces a measure of how efficiently the company uses these assets. A high turnover shows that management runs the firm with relatively little cash.

ACCOUNTS RECEIVABLE TURNOVER

(Sales * Percent of Sales on Credit) / Accounts Receivable

Credit sales generated per dollar of assets invested in maintaining trade credit. This measures the firm's credit policy. A low turnover may mean either a liberal granting of credit or a failure to collect the accounts when they're due. It's hard to obtain the percentage of credit sales for many companies, but use it whenever possible, since cash sales require no investment in accounts receivable.

INVENTORY TURNOVER

Cost of Goods Sold / Inventory

The number of times the average inventory item is purchased, sold, and replaced in stock per year. While some analysts use Sales in the numerator, Cost of Goods Sold is more appropriate, since the value of the inventory sold is transferred to Cost of Goods Sold either with each sale or at the end of the year. A high turnover may mean either an efficient management of inventory or a company that's chronically out of stock. The latter condition surfaces in the sales profitability measures.

COST OF GOODS SOLD / SALES
DEPRECIATION EXPENSE / SALES
EXPENSE #1 / SALES
EXPENSE #2 / SALES

Percentage of the sales price that goes to cover Cost of Goods Sold, Depreciation, and the other expense categories. Net Operating Margin is really a residual (that which is left over after subtracting the expenses). A high or low NOM is probably caused by an abnormal value in one of the expense ratios.

A NOTE ON TURNOVER RATIOS

Financial experts often disagree about which asset numbers to use as denominators for the turnover and profitability ratios. Some prefer end-of-year inventory balances, for example, while others suggest beginning-of-year balances or an average of the two. Better yet would be monthly or even daily averages, although it's difficult to obtain these numbers.

This program uses the numbers you enter in the Asset Data screen of DATA SET EDITOR as the asset values. Generally, as long as you use consistent numbers, you get acceptable results -- as long as you're comparing values rather than looking for a solitary value with no context.

INTERPRETING THE SAMPLE DATA

An analysis of the ratio tree (Figure 7) gives you an idea of the usefulness of a ratio tree when making a strategic analysis. As stated earlier, the ratios in this tree have been calculated from figures data sets whose file names are SAMPLE1 and SAMPLE2. Each represents a company in the food manufacturing industry. An analysis of their ratios shows that they have approximately the same RETURN ON EQUITY, but have used distinctly different strategies for getting there.

No-Brand Foods has chosen a strategy of using leverage to get ROE rather than earning as high a return on the assets as Premium Foods does. The ROTA*, DR, and PR measures show that No-Brand purchased over half its assets with borrowed funds, while Premium purchased less than a third in this way.

The NOM* and TAT measures show that No-Brand has elected a low-profit margin strategy as compared with Premium. Their volume isn't significantly higher, however, and this might be a trouble spot. The bottom line of ratios shows that the margin difference (mainly in the Cost of Goods relative to price) is higher in No-Brand. This usually indicates a lower selling price, since production costs are often similar in competing firms. No-Brand does pick up a little on the competition by spending less in the Expense #1 category. If you broke this down into component costs you might find, for example, that No-Brand spends less per sales dollar on advertising, thus saving some money.

No-Brand has a higher turnover of Fixed Assets, while Premium has a higher CURRENT ASSET TURNOVER. The lower No-Brand

CAT is apparently caused by a lower Accounts Receivable Turnover, which overshadows its higher turnovers in the other current categories because of the amount invested in trade credit. No-Brand probably has chosen longer and more liberal credit terms to attract customers.

In net, No-Brand and Premium appear to use two different strategies successfully. One problem might place No-Brand at a disadvantage, however, even though its RETURN ON EQUITY is slightly higher. Their higher use of debt puts them in a riskier financial position than Premium. Might they need a higher ROE to remain competitive? The next section, MISCELLANEOUS RATIO COMPUTATION, describes other ways to throw more light on these companies. We have approached the goal of analysis, however, by quantifying the results of the primary business strategies of companies in a format that allows us to make comparisons and develop hypotheses.

Miscellaneous ratio computation

OPERATION

This section covers 15 additional ratios commonly used with the strategic ratios. They are used to measure three business characteristics: liquidity, profitability, and leverage.

To reach this section, either select option #4, "Miscellaneous Ratio Computation," from the main menu, or option #8, "Miscellaneous Ratios," from the menu in the STRATEGIC RATIOS section. If you haven't entered a set of data yet, the program asks you to enter the name of a data set stored on diskette, which is designated as Data Set #1. The names of the two data sets currently in memory are displayed, followed by the menu shown below:

```
          MISCELLANEOUS RATIOS

SET #1: NO-BRAND FOODS INC.
SET #2: PREMIUM FOODS CORP.

1: DISPLAY SET #1 RATIOS
2: DISPLAY SET #2 RATIOS
3: DISPLAY BOTH SETS

4: PRINT SET #1 RATIOS
5: PRINT SET #2 RATIOS
6: PRINT BOTH SETS

7: DATA SET EDITOR
8: STRATEGIC RATIOS
9: GLOSSARY/DISK FILE DIRECTORY

 WHICH OPTION (1-9)?
```

Figure 8. Miscellaneous Ratio Computation Menu

This menu is identical to the STRATEGIC RATIOS menu with two exceptions:

- The title of this menu is MISCELLANEOUS RATIOS.

- The colors used in this display are the reverse of those used for the STRATEGIC RATIOS menu.

- Option #8 in this menu reads STRATEGIC RATIOS to allow you to return to that option quickly.

Use Options #1 through #6 on this menu to compute the miscellaneous ratios for either or both sets of data, and to direct the output to either the screen or the printer. The remaining options give you access to the other program sections.

Figure 9 shows the MISCELLANEOUS RATIOS output for option #6, "Print Both Sets," if you've loaded both sample sets via DATA SET EDITOR. The screen display version is identical to the printed version.

SET #1: NO-BRAND FOODS INC.
SET #2: PREMIUM FOODS CORP.

LIQUIDITY RATIOS	#1	#2
CURRENT RATIO (CR)	1.46	3.62
QUICK RATIO (QR)	0.54	1.09
AVG. AGE OF A/R	27.54	17.42
AVG. AGE OF INVENTORY	73.54	95.27
PROFITABILITY RATIOS		
RETURN ON INVESTMENT	8.26	12.14
RETURN ON TOTAL ASSETS	10.82	13.01
NET OPERATING MARGIN	7.96	11.75
GROSS PROFIT MARGIN	36.62	47.08
PROFIT MARGIN ON SALES	3.94	6.16
LEVERAGE/COVERAGE RATIOS		
TIMES INTEREST EARNED	6.53	26.62
DEBT-EQUITY RATIO	39.92	23.65
PAYOUT PERCENTAGE	40.19	34.49
AVERAGE TAX RATE	41.61	45.49
BEF.-TAX INTEREST RATE	4.98	3.09
PREFERRED DIVIDEND RATE	12.00	0.00

Figure 9. Miscellaneous Ratios Example

MISCELLANEOUS RATIO CATEGORIES

These ratios fall into three categories based on the type of information they convey:

- Liquidity Ratios measure the ability of the firm to pay their debts when due. This category includes Activity Ratios, which measure the activity in some current asset accounts. (A critical component of liquidity is the ability to turn inventory and accounts receivables into cash before the bills are due.)

- Profitability Ratios are shown here, rather than in the STRATEGIC RATIOS section, since they don't clearly distinguish between the firm's strategies. They're included, however, to allow comparison to other published methods of ratio computation.

- Leverage/Coverage Ratios are measures that show the company's use of debt to lever profits, and the risk in covering the interest payments.

LIQUIDITY RATIOS

CURRENT RATIO (CR)

Total Current Assets / Total Current Liabilities

Measures the ability of the firm to cover upcoming bills out of current assets. A value greater than one means there are more current assets than current liabilities. The firm's ability to pay the bills depends, though, on how quickly it can turn non-cash current assets, such as inventory and accounts receivable, into cash. A firm with a predictable pattern of cash inflows and outflows can generally operate with a small current ratio (approaching 1.00).

QUICK RATIO (QR)

(Current Assets - Inventory - Prepaid Expenses) / Current Liabilities

Measures the ability of the firm to cover upcoming bills out of the more liquid assets. Subtract the least liquid current assets, inventory and prepaid expenses, for a more conservative measure

of available funds. If the inventory turnover is low, this is a better measure of liquidity. Through careful management of cash, a firm can operate with a quick ratio of less than 1.00.

AVERAGE AGE OF ACCOUNTS RECEIVABLE

360 / Accounts Receivable Turnover

Measures how many days on average it takes to collect a bill from a customer. This measure shows the likelihood of getting more cash in the near term. A high average age may signal either that the firm offers liberal credit terms to customers, or that it has a problem in collecting overdue accounts. Use 360 as the number of days in the year to make the months equal at 30 days each.

AVERAGE AGE OF INVENTORY

360 / Inventory Turnover

Measures how many days the average inventory item has been in stock. Use this to estimate the likelihood of getting cash in the near term. Most businesses sell inventory on credit, so the current asset balance in inventory should become cash in the number of days of the sum of the two "average age" measures.

PROFITABILITY RATIOS

RETURN ON INVESTMENT (ROI)

Net Income / Total Assets

Measures the firm's profit per dollar invested in assets. This is one of the most common ratios used, but it obscures business strategy. It doesn't separate the effects of financing from the earnings from the assets.

RETURN ON TOTAL ASSETS (ROTA)

(Net Income + Interest Expense) / Total Assets

This modification of ROI removes the interest effect of debt, but not the tax effect of debt from the ROI calculation. An important benefit of the use of debt is the reduction in taxes,

because interest payments are deductible. Since this effect isn't separated in this measure, ROTA* (asterisk indicates "after taxes") is used in the STRATEGIC RATIOS calculations.

NET OPERATING MARGIN (NOM)

Earnings Before Interest & Taxes / Sales

Profit per sales dollar before deducting interest and taxes. This is sometimes called "operating income" divided by sales, although analysts disagree about what constitutes operating income.

GROSS PROFIT MARGIN

(Sales - Cost of Goods Sold) / Sales

The average markup on sales. This measures how much of the sales dollar is left after deducting the cost of the product sold (usually the largest single expense in a merchandising or manufacturing firm).

PROFIT MARGIN ON SALES

Net Income / Sales

Measures Net Income per dollar of sales.

LEVERAGE / COVERAGE RATIOS

TIMES INTEREST EARNED (TIE)

Earnings Before Interest & Taxes / Interest Expense

Measures the riskiness of the firm's debt by showing how many times the interest charges could be paid out of the earnings available to pay them. A high TIE shows that the firm can handle the debt, since there's plenty of income to pay the fixed interest charges. As this figure approaches 1.00, however, the firm risks defaulting on the interest payments.

DEBT-EQUITY RATIO

Long-term Liabilities / Net Worth

The relative use of long-term debt compared to owners' equity to finance the firm's assets. A value of 1.00 indicates an equal use of long-term debt and owners' equity.

PAYOUT PERCENTAGE

Common Dividends / Earnings Available to Common

The percentage of earnings paid to common stockholders in dividends. Firms with high growth rates typically have low payout percentages since they need all their funds for expansion.

AVERAGE TAX RATE (t)

Income Tax Expense / Earnings Before Taxes

The average percentage of income paid to the government in taxes.

BEFORE-TAX INTEREST RATE (i)

Interest Expense / Total Liabilities

The average interest rate being paid on outstanding debt. Since interest is tax-deductible, you can convert it to its after-tax cost by multiplying the rate by (1 - tax rate).

PREFERRED DIVIDEND RATE (p)

Preferred Dividends / Preferred Stock Equity

The average cost of preferred stock as a financing source. Since preferred dividends aren't tax-deductible, the after-tax and before-tax rates are the same.

SOME IMPORTANT RELATIONSHIPS

With these additional measures, we can see the relationship between the RETURN ON EQUITY and RETURN ON TOTAL

ASSETS AFTER TAX developed in the STRATEGIC RATIOS section:

$$ROE = \frac{ROTA\% - (i \times (1 - t) \times DR) - (p \times PR)}{1 - (DR + PR)}$$

You can state a relationship between TOTAL ASSET TURNOVER and NET OPERATING MARGIN AFTER TAX:

$$ROTA\% = NOM\% \times TAT$$

INTERPRETING THE SAMPLE DATA

Most of the additional information you can glean from the miscellaneous ratios in this case is found in the liquidity section. No-Brand is operating with a CURRENT RATIO and a QUICK RATIO at less than half of its competitor. Especially in the latter measure, No-Brand appears to have a problem paying its bills on time. They have a faster-moving inventory than Premium Foods, but the slower collections of accounts receivable (see "Average Age") reduces the collection of cash from sales.

No-Brand also appears to have a problem in the TIMES INTEREST EARNED measure in the leverage section. Their coverage of the interest payments is a quarter of the competition's. If earnings drop, the firm could be in jeopardy of bankruptcy.

Without clarity in interpreting the profitability measures, as noted above, it's difficult to derive any meaning from these alone. As an aid in making an analysis, you could compare these values with standard ratios for the industry that appear in trade and investment publications.

USING THE RATIOS IN A PROPRIETORSHIP OR A PARTNERSHIP

Most major businesses are corporations, but many smaller businesses are not. Most of these relationships apply to both corporate and non-corporate forms of business organization. The only modification required: use the value of the owners' contributions and undistributed earnings in place of Common Stock Equity when using the DATA SET EDITOR.

Using the glossary/disk file directory

OPERATION

This section provides support for program operation. Select option #6, "Glossary/Disk File Directory," on the main menu. You can also reach it from options in the other program menus. The menu looks like this:

```
GLOSSARY/DISK DIRECTORY

1: DISPLAY GLOSSARY OF RATIOS
   (PROGRAM DISK MUST BE IN DRIVE 1)

2: DISPLAY DISK DIRECTORY

3: DELETE DISK FILES

4: 40-COLUMN PRINT OPTION
   (CURRENTLY SET TO 80)

5: SET DECIMAL PLACES ON PRINTING
   (CURRENTLY SET TO 2)

6: DATA SET EDITOR
7: COMPUTE RATIOS
8: SEQUENTIAL DATA INPUT

 WHICH OPTION (1-8)?
```

Figure 10. Glossary/Disk File Directory Menu

DISPLAY GLOSSARY OF RATIOS

Choose Option #1, "Display Glossary of Ratios," to check a ratio computation or definition. Make sure the program diskette is in drive #1 before you select Option #1. The program displays the abbreviated versions of the definitions from the preceding two

sections of this manual. This is displayed one screen "page" at a time, along with a prompt to press the OPTION key to return to the menu above, or to press the START key to display the next screen "page" of definitions.

NOTE: When you're using the glossary, you can only page forward. To see a definition you have passed, return to the GLOSSARY menu and select Option #2 again.

DISPLAY DISK DIRECTORY

This option displays the names of the files currently on any diskette. First enter the drive number to be listed (1 - 4). The program then lists the names of all diskette files, one screen "page" at a time, and instructs you to press the START key to display the next "page" of file names.

DELETE DISK FILES

Use this option to delete diskette files without going to the DOS menu. The program first requests the name of the file you wish to delete from the diskette. You don't have to precede the name with the disk number if it's on drive #1. The program then asks you to verify the deletion before it actually removes the file from the diskette.

40-COLUMN PRINT OPTION

Use this option to print the STRATEGIC RATIOS on a 40-column printer. After you select this option, all the information is compressed to fit into 40 columns. This is a "toggle" option. In other words, once you've selected it, you can change it back to the 80-column mode. Just select this menu item again.

SET DECIMAL PLACES ON PRINTING

Use this option to change the number of decimal places in DATA SET EDITOR from the default of 2. The program requests a number of decimal places, from zero to five, and checks your data for any values which would then be too large for the program (more than 9 significant digits). If there are any, an error message displays and the decimal point setting returns to its previous value.

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Review Form

We're interested in your experiences with APX programs and documentation, both favorable and unfavorable. Many of our authors are eager to improve their programs if they know what you want. And, of course, we want to know about any bugs that slipped by us, so that the author can fix them. We also want to know whether our instructions are meeting your needs. You are our best source for suggesting improvements! Please help us by taking a moment to fill in this review sheet. Fold the sheet in thirds and seal it so that the address on the bottom of the back becomes the envelope front. Thank you for helping us!

1. Name and APX number of program.

2. If you have problems using the program, please describe them here.

3. What do you especially like about this program?

4. What do you think the program's weaknesses are?

5. How can the catalog description be more accurate or comprehensive?

6. On a scale of 1 to 10, 1 being "poor" and 10 being "excellent", please rate the following aspects of this program:

   _____ Easy to use
   _____ User-oriented (e.g., menus, prompts, clear language)
   _____ Enjoyable
   _____ Self-instructive
   _____ Use (non-game programs)
   _____ Imaginative graphics and sound

7. Describe any technical errors you found in the user instructions (please give page numbers).

8. What did you especially like about the user instructions?

9. What revisions or additions would improve these instructions?

10. On a scale of 1 to 10, 1 representing "poor" and 10 representing "excellent", how would you rate the user instructions and why?

11. Other comments about the program or user instructions:

From

STAMP

APX

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