## Financial Formulas

## 3

Financial Formulas ..... i
In this chapter... ..... 1
Formulas Used in Financial Calculations ..... 1
Statements of Changes in Financial Position (Total \$) ..... 1
Cash Flow (\$ millions) ..... 1
Statements of Changes in Financial Position (\$ per Share) ..... 2
Capital Expenditures ..... 2
Cash Flow ..... 2
Equity in Earnings per Share ..... 2
Income Statement (Total \$) ..... 3
Cash Flow (\$ millions) ..... 3
Preferred Dividend Coverage ..... 3
Pretax Income Available for Interest ..... 3
Tax Rate ..... 3
Income Statement (\$ per Share) ..... 3
Cash Flow ..... 3
Depreciation and Amortization ..... 3
Discontinued Operations ..... 3
Earnings per Share (Diluted) ..... 4
Earnings per Share (Basic) ..... 4
Equity in Earnings ..... 4
Extraordinary Items ..... 4
Extraordinary Items and Discontinued Operations ..... 4
Interest Expense ..... 5
Labor and Related Costs ..... 5
Nonoperating Income (Expense) ..... 5
Operating Income After Depreciation ..... 5
Operating Income Before Depreciation ..... 5
Operating Income Before Depreciation (Restated) ..... 5
Pension Expense ..... 5
Pretax Income ..... 6
Research and Development Expense ..... 6
Sales (Net) ..... 6
Operating Margins ..... 6
(Item) as a \% of sales ..... 6
Cash Flow Margin ..... 7
Net Profit Margin (After-tax Profit Margin) ..... 7
Operating Profit Margin After Depreciation ..... 8
Operating Profit Margin Before Depreciation ..... 8
Pretax Profit Margin ..... 8
Balance Sheet (Total \$ Millions) ..... 8
Gross Assets ..... 8
Invested Capital (Total) ..... 8
Net Operating Assets ..... 9
Stockholders' Equity (Net Worth) ..... 9
Total Debt ..... 9
Total Earning Assets ..... 9
Working Capital ..... 9
Balance Sheet (\$ per Share) ..... 9
Capital Expenditures ..... 9
Common Equity - Tangible ..... 9
Common Equity - Liquidating Value ..... 9
Common Equity - Total ..... 10
Gross Assets ..... 10
Invested Capital ..... 10
Net Operating Assets ..... 10
Property, Plant, and Equipment - Total (Net) ..... 11
Total Net Assets ..... 11
Working Capital ..... 11
Retained Earnings Statement (Total \$) ..... 12
Retained Earnings ..... 12
Turnover Ratios ..... 12
Accounts Receivable Turnover ..... 12
(Item) as a \% of Sales ..... 12
Inventory Turnover ..... 12
Number of Days' Sales ..... 13
Sales per \$ Cash and Short-Term Investments ..... 13
Sales per \$ Common Equity ..... 13
Sales per \$ Gross Assets ..... 13
Sales per \$ Inventory ..... 13
Sales per \$ Invested Capital ..... 14
Sales per \$ Net Assets ..... 14
Sales per \$ Property, Plant, and Equipment ..... 14
Sales per \$ Receivable - Current ..... 14
Sales per \$ Stockholders’ Equity ..... 14
Rates of Return ..... 15
After-tax Return ..... 15
Pretax Return ..... 17
Sales per \$ Working Capital ..... 18
Working Capital as a \% of Sales ..... 18
Capitalization Ratios ..... 18
Invested Capital ..... 18
Criteria of Financial Soundness ..... 20
(Item) as a \% of Average Long-Term Debt ..... 20
(Item) as a \% of Average Total Debt ..... 21
(Item) as a \% of Current Assets ..... 21
(Item) as a \% of Intangibles ..... 21
(Item) as a \% of Total Assets ..... 21
(Item) as a \% of Total Debt ..... 22
(Item) as a \% of Total Liabilities ..... 22
(Item) as a \% of Total Liabilities and Stockholders' Equity ..... 23
Capital Expenditure Coverage ..... 23
Current Ratio ..... 23
Debt/Equity Ratios ..... 23
Interest Coverage ..... 24
Quick Ratio (Acid Test) ..... 24
Management Decision Statistics ..... 24
(Item) as a \% of Cash Flow ..... 24
(Item) as a \% of Income Before Extraordinary Items - Adjusted for Common Stock Equivalents ..... 25
(Item) as a \% of Property, Plant, and Equipment - Total (Gross) ..... 25
(Item) as a \% of Property, Plant, and Equipment - Total (Net) ..... 25
Price and Market Data ..... 26
Price - High - Adjusted ..... 26
Price - Low - Adjusted ..... 26
Price - Close - Adjusted ..... 26
Common Shares Outstanding - Adjusted ..... 27
Common Shares Traded - Adjusted ..... 27
Common Shares Used to Calculate Earnings per Share (Basic) - Adjusted ..... 27
Common Shares Used to Calculate Earnings per Share - 12 Months Moving - Adjusted ..... 27
Market Return ..... 27
Market to Book (Fiscal Year End/Quarter End) ..... 28
Treasury Stock - Number of Common Shares ..... 28
Market Value Statistics ..... 28
Income Before Extraordinary Items Adjusted for Common Stock Equivalents per \$100 of Market Value ..... 28
Income Before Extraordinary Items per \$100 of Market Value ..... 29
Market Value of Common Stock ..... 29
Pretax Income per $\$ 100$ of Market Value ..... 29
Sales per $\$ 100$ of Market Value ..... 29
Price Ratios ..... 30
Price - Earnings Ratio ..... 30
Dividend Payout Ratio ..... 30
Dividend Yield ..... 30
Formulas Used in COMPUSTAT Prices, Dividends, and Earnings (PDE) Financial Calculations ..... 31
Company Data ..... 31
Index Data ..... 32
Relative Performance Analysis ..... 33
Industry Analysis ..... 33
Industry Comparisons ..... 33
Beta Analysis ..... 33
Technical Price Analysis ..... 33
S\&P Industry Relatives ..... 33

## In this chapter...

To assist you in your financial applications, COMPUSTAT (North America) has developed a number of predefined formulas and calculations. These commonly used formulas are by no means all-inclusive; rather, they offer a starting point upon which you can expand.

Due to the availability of certain data, not all of the calculations can be applied to all companies. However, the calculations are designed to help you obtain a basic understanding of COMPUSTAT (North America) data, their definitions, and their usage.

Within the equations, numbers shown in a different typeface and boldface (for example, 100) are actual values and do not refer to data item numbers. When doing calculations based on ratios, take into account annual and quarterly time periods. Be aware of time period references (subscript $\mathbf{t}, \mathbf{t - 1}$, etc.) in these calculations.

Period information refers to quarterly calculations that include quarterly items that return year-to-date data. This is because the quarterly data items used in the calculation are cash flow data, which is year-to-date information.

## Formulas Used in Financial Calculations

Legend

- Period information
Annual
Quarterly
Data Item \#


## Statements of Changes in Financial Position (Total \$)

## Cash Flow (\$ millions)

## Definition 1

Income Before Extraordinary Items plus Depreciation and
Amortization

## Definition 2

Income Before Extraordinary Items plus Depreciation and
$123+125+126+106+\quad$ NA Amortization plus Deferred Taxes plus Equity in Net Loss $124+49$
(Earnings) plus Extraordinary Items and Discontinued
Operations plus Minority Interest (Income Account)

## Definition 3

Income Before Extraordinary Items plus Depreciation and $123+125+126+106+\bullet 76+77+79+80+78$ Amortization plus Deferred Taxes plus Equity in Net Loss 124 (Earnings) (Statement of Cash Flows) plus Extraordinary Items and Discontinued Operations

| Annual | Quarterly |
| :--- | :--- | :--- |
| Data Item \# |  |

## Capital Expenditures

Capital Expenditures (Statement of Cash Flows) divided by 128/(54 * 27)

- $90 /(15 * 17)$
(Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)


## Cash Flow

## Definition 1

(Income Before Extraordinary Items (Statement of Cash $(123+125) /(54 * 27)$

- $(76+77) /(15 * 17)$ Flows) plus Depreciation and Amortization (Statement of Cash Flows)) divided by (Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)


## Definition 2

(Income Before Extraordinary Items (Statement of Cash
$(123+125+126+106$
NA
Flows) plus Depreciation and Amortization (Statement of $+124+49) /(54 * 27)$
Cash Flows) plus Deferred Taxes (Statement of Cash Flows) plus Equity in Net Loss (Earnings) (Statement of Cash Flows) plus Extraordinary Items and Discontinued Operations (Statement of Cash Flows) plus Minority Interest (Income Account)) divided by(Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Definition 3

(Income Before Extraordinary Items (Statement of Cash Flows) plus Depreciation and Amortization (Statement of $(123+125+126+106$

- $(76+77+79+80+$ Cash Flows) plus Deferred Taxes (Statement of Cash Flows) plus Equity in Net Loss (Earnings) (Statement of Cash Flows) plus Extraordinary Items and Discontinued Operations (Statement of Cash Flows)) divided by (Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)
$+124) /(54 * 27)$
$78) /(15 * 17)$


## Equity in Earnings per Share

Equity in Net Loss (Earnings) (Statement of Cash Flows) 106/(54 * 27)

- 80/(15 * 17)
divided by (Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

| Annual | Quarterly <br> Data Item \# | Data Item \# |
| :--- | :--- | :--- |

## Cash Flow (\$ millions)

Income Before Extraordinary Items plus Depreciation and $18+14$
$8+5$
Amortization

## Preferred Dividend Coverage

Income Before Extraordinary Items divided by Dividends 18/19 8/24
Preferred

## Pretax Income Available for Interest

Pretax Income plus Interest Expense

## Tax Rate

Income Statement (\$ per Share)
$\square$

| Annual | Quarterly |
| :--- | :--- |
| Data Item \# | Data Item \# |

## Cash Flow

(Income Before Extraordinary Items plus Depreciation and
$(18+14) /(54 * 27)$
$(8+5) /(15 * 17)$
Amortization) divided by (Common Shares Used to
Calculate Earnings per Share (Basic) multiplied by
Adjustment Factor (Cumulative) by Ex-Date)

## Depreciation and Amortization

Depreciation and Amortization divided by (Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Discontinued Operations

Discontinued Operations divided by (Common Shares

Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

66/(54 * 27) $33 /(15 * 17)$
14/(54 * 27)
5/(15 * 17)

## Income Statement (\$ per Share) (cont.)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## Earnings per Share (Diluted)

Excluding Extraordinary Items
Earnings per Share (Diluted) - Excluding Extraordinary
Items divided by Adjustment Factor (Cumulative) by Ex Date

Including Extraordinary Items
Earnings per Share (Diluted) - Including Extraordinary 169/27 7/17
Items divided by Adjustment Factor (Cumulative) by ExDate

## Earnings per Share (Basic)

## Excluding Extraordinary Items

Earnings per Share (Basic) - Excluding Extraordinary 58/2
Items divided by Adjustment Factor (Cumulative) by ExDate

Excluding Extraordinary Items - 12-Months Moving
Earnings per Share (Basic) - Excluding Extraordinary
NA
Items - 12-Months Moving divided by Adjustment Factor
(Cumulative) by Ex-Date
Including Extraordinary Items
Earnings per Share (Basic) - Including Extraordinary Items 53/27
divided by Adjustment Factor (Cumulative) by Ex-Date

## Equity in Earnings

Equity in Earnings divided by (Common Shares Used to 55/(54 * 27)

NA
Calculate Earnings per Share (Basic) multiplied by
Adjustment Factor (Cumulative) by Ex-Date)

## Extraordinary Items

Extraordinary Items divided by (Common Shares Used to
192/(54 * 27)
$119 /(15 * 17)$
Calculate Earnings per Share (Basic) multiplied by
Adjustment Factor (Cumulative) by Ex-Date)

## Extraordinary Items and Discontinued Operations

Extraordinary Items and Discontinued Operations divided 48/(54 * 27)

26/(15 * 17)
by (Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Income Statement (\$ per Share) (cont.)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |
| Interest Expense <br> Interest Expense divided by (Common Shares Used to <br> Calculate Earnings per Share (Basic) multiplied by <br> Adjustment Factor (Cumulative) by Ex-Date) | $15 /(54 * 27)$ | $22 /(15 * 17)$ |

## Labor and Related Costs

Labor and Related Expenses divided by (Common Shares
$42 /(54 * 27)$
NA
Used to Calculate Earnings per Share (Basic) multiplied by
Adjustment Factor (Cumulative) by Ex-Date)

## Nonoperating Income (Expense)

Nonoperating Income (Expense) divided by (Common $61 /(54 * 27)$ $31 /(15 * 17)$
Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Operating Income After Depreciation

Operating Income After Depreciation divided by (Common 178/(54 * 27) $(21-5) /(15 * 17)$ Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Operating Income Before Depreciation

Operating Income Before Depreciation divided by
(Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Operating Income Before Depreciation (Restated)

Sales (Restated) minus Cost of Goods Sold (Restated) 117-131-132 minus Selling, General, and Administrative Expense (Restated)

## Pension Expense

Pension and Retirement Expense divided by (Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

Income Statement (\$ per Share) (cont.)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## Pretax Income

Pretax Income divided by (Common Shares Used to 170/(54 * 27)
$23 /(15 * 17)$ Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Research and Development Expense

Research and Development Expense divided by (Common Shares Used to Calculate Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Sales (Net)

Sales (Net) divided by (Common Shares Used to Calculate
$12 /(54 * 27)$
$2 /(15 * 17)$
Earnings per Share (Basic) multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Operating Margins

|  | Annual Data Item \# | Quarterly <br> Data Item \# |
| :---: | :---: | :---: |
| (ltem) as a \% of sales |  |  |
| Advertising Expense |  |  |
| Advertising Expense divided by Sales (Net) | $(45 / 12) * 100$ | NA |
| Available For Interest <br> (Pretax Income plus Interest Expense) divided by Sales (Net) | $((170+15) / 12) * 100$ | $((23+22) / 2) * 100$ |
| Cost of Goods Sold |  |  |
| Cost of Goods Sold divided by Sales (Net) | $(41 / 12) * 100$ | $(30 / 2) * 100$ |
| Depreciation and Amortization |  |  |
| Depreciation and Amortization divided by Sales (Net) | $(14 / 12) * 100$ | $(5 / 2) * 100$ |
| Interest Expense |  |  |
| Interest Expense divided by Sales (Net) | $(15 / 12) * 100$ | $(22 / 2) * 100$ |
| Labor and Related Expenses |  |  |
| Labor and Related Expenses divided by Sales (Net) | $(42 / 12) * 100$ | NA |
| Nonoperating Income (Expense) |  |  |
| Nonoperating Income (Expense) divided by Sales (Net) | $(61 / 12) * 100$ | $(31 / 2) * 100$ |

## Operating Margins (cont.)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## (Item) as a \% of sales (cont.)

Pension and Retirement Expense
Pension and Retirement Expense divided by Sales (Net)
$(43 / 12) * 100$
NA

## Rental Expense

Rental Expense divided by Sales (Net)
$(47 / 12)$ * 100
NA

## Research and Development Expense

Research and Development Expense divided by Sales (Net)
$(46 / 12) * 100$
$(4 / 2) * 100$

## Selling, General, and Administrative Expenses

Selling, General, and Administrative Expenses divided by
$(189 / 12)$ * 100
$(1 / 2) * 100$

## Cash Flow Margin

## Definition 1

(Income Before Extraordinary Items (Statement of Cash $((123+125) / 12) * 100 \bullet((76+77) / 2) * 100$ Flows) plus Depreciation and Amortization (Statement of Cash Flows)) divided by Sales (Net)

## Definition 2

(Income Before Extraordinary Items (Statement of Cash
$((123+125+126+106 \quad((76+77+79+80+78$ Flows) plus Depreciation and Amortization (Statement of Cash Flows) plus Deferred Taxes (Statement of Cash Flows) plus Equity in Net Loss (Earnings) (Statement of Cash Flows) plus Extraordinary Items and Discontinued Operations (Statement of Cash Flows) plus Minority Interest (Income Account)) divided by Sales (Net)

## Definition 3

(Income Before Extraordinary Items (Statement of Cash Flows) plus Depreciation and Amortization (Statement of Cash Flows) plus Deferred Taxes (Statement of Cash Flows) plus Equity in Net Loss (Earnings) (Statement of Cash Flows) plus Extraordinary Items and Discontinued Operations (Statement of Cash Flows divided by Sales (Net)))

## Definition 4

(Income Before Extraordinary Items plus Depreciation and Amortization) divided by Sales (Net)
$((123+125+126+106 \bullet \quad((76+77+79+80+$ $+124) / 12) * 100 \quad 78) / 2) * 100$

$$
((8+5) / 2) * 100
$$

## Net Profit Margin (After-tax Profit Margin)

$$
(18 / 12) * 100
$$

$$
(8 / 2) * 100
$$

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## Operating Profit Margin After Depreciation

(Operating Income Before Depreciation minus
Depreciation and Amortization) divided by Sales (Net)
$((13-14) / 12) * 100 \quad((21-5) / 2) * 100$
or
$(178 / 12) * 100$

## Operating Profit Margin Before Depreciation

Operating Income Before Depreciation divided by Sales (Net)

## Pretax Profit Margin

Pretax Income divided by Sales (Net)

## Balance Sheet (Total \$ Millions)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## Gross Assets

| Assets - Total/Liabilities and Stockholders/Equity - Total | $6+196$ | $44+41$ |
| :--- | :--- | :--- |
| plus Depreciation, Depletion, and Amortization |  |  |
| (Accumulated) |  |  |

## Invested Capital (Total)

Definition 1
Invested Capital - Total 37
62
Definition 2
Invested Capital - Total minus Minority Interest (Balance 37-38
$62-53$
Sheet)

Definition 3
Invested Capital - Total plus Deferred Taxes and
$37+35-38$
$62+52-53$
Investment Tax Credit (Balance Sheet) minus Minority
Interest (Balance Sheet)
Definition 4
Invested Capital - Total plus Deferred Taxes and $37+35$
$62+52$

Balance Sheet (Total \$ Millions) (cont.)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## Net Operating Assets

Property, Plant, and Equipment - Total (Net) plus Current $\quad 8+4-5 \quad 42+40-49$
Assets - Total minus Current Liabilities - Total

## Stockholders' Equity (Net Worth)

Alternative Definition
Preferred Stock - Liquidating Value plus Common Equity

- Tangible


## Total Debt

Long- Term Debt - Total plus Debt in Current Liabilities $\quad 9+34 \quad 51+45$

## Total Earning Assets

Property, Plant, and Equipment - Total (Net) plus Current
$8+4$
$42+40$
Assets - Total

## Working Capital

Current Assets - Total minus Current Liabilities - Total
$40-49$

Balance Sheet (\$ per Share)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## Capital Expenditures

Property, Plant, and Equipment - Capital Expenditures (Schedule V) divided by (Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Common Equity - Tangible

Common Equity - Tangible divided by (Common Shares $11 /(25 * 27)$ NA Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

$$
30 /(25 * 27)
$$

Common Equity - Liquidation Value divided by (Common 235/(25 * 27) NA
Shares Outstanding multiplied by Adjustment Factor
(Cumulative) by Ex-Date)
Annual

Data Item \# $\quad$| Quarterly |
| :--- | :--- |
| Data Item \# |

## Common Equity - Total

Common Equity - Total divided by (Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

60/(25 * 27)
59/(61 * 17)

## Gross Assets

(Assets - Total/Liabilities and Stockholders' Equity Total plus Depreciation, Depletion, and Amortization (Accumulated)) divided by (Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Invested Capital

Definition 1
Invested Capital - Total divided by (Common Shares 37/(25 * 27)

62/(61 * 17)
Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Definition 2

(Invested Capital - Total minus Minority Interest (Balance Sheet)) divided by (Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Definition 3

(Invested Capital - Total plus Deferred Taxes and Investment Tax Credit (Balance Sheet) minus Minority Interest (Balance Sheet)) divided by (Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Definition 4

(Invested Capital - Total plus Deferred Taxes and Investment Tax Credit (Balance Sheet)) divided by (Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Net Operating Assets

(Property, Plant, and Equipment - Total (Net) plus Current Assets - Total minus Current Liabilities - Total) divided by (Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

Balance Sheet (\$ per Share) (cont.)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :---: | :---: | :---: |
| Net Operating Assets (cont.) |  |  |
| Fiscal Year <br> Price - Fiscal Year - High divided by Adjustment Factor (Cumulative) by Ex-Date | 199/27 | NA |
| 1st Month of Quarter <br> Price - Close- 1st Month of Quarter divided by Adjustment Factor (Cumulative) by Ex-Date | NA | 12/17 |
| 2nd Month of Quarter <br> Price - Close - 2nd Month of Quarter divided by Adjustment Factor (Cumulative) by Ex-Date | NA | 13/17 |
| 3rd Month of Quarter <br> Price - Close - 3rd Month of Quarter divided by Adjustment Factor (Cumulative) by Ex-Date | NA | 14/17 |

## Property, Plant, and Equipment - Total (Net)

Property, Plant, and Equipment - Total (Net) divided by 8/(25 * 27)

42/(61 * 17)
(Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) Ex-Date)

## Total Net Assets

Assets - Total/Liabilities and Stockholders' Equity - Total $6 /(25 * 27)$ $44 /(61 * 17)$ divided by (Common Shares Outstanding multiplied by Adjustment Factor (Cumulative) by Ex-Date)

## Working Capital

(Current Assets - Total minus Current Liabilities - Total) $(4-5) /(25 * 27)$ $(40-49) /(61 * 17)$

Adjustment Factor (Cumulative) by Ex-Date)

Retained Earnings Statement (Total \$)

| Annual | Quarterly |
| :--- | :--- | :--- |
| Data Item \# |  |

## Retained Earnings

Beginning of Year
Retained Earnings $t$ minus $1 \quad 36(\mathbf{t}-\mathbf{1}) \quad 58(\mathbf{t}-\mathbf{1})$
End of Year
Retained Earnings $t \quad 36 \mathbf{t} \quad 58 \mathrm{t}$
Other Changes
Retained Earnings $t$ minus Retained Earnings $t$ minus 1 minus $36 \mathbf{t}-36(\mathbf{t}-\mathbf{1})-99$ - NA
Retained Earnings Restatement minus Income Before $\quad 123-124+127$
Extraordinary Items (Statement of Cash Flows) minus
Extraordinary Items and Discontinued Operations (Statement of Cash Flows) plus Cash Dividends (Statement of Cash Flows)

## Turnover Ratios

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## Accounts Receivable Turnover

Sales (Net) divided by ((Receivables - Total tplus
Receivables - Total t minus 1) divided by 2)

## (Item) as a \% of Sales

Accounts Receivables
Receivables - Total divided by Sales (Net)
$(2 / 12) * 100$
$(37 / 2) * 100$

Cash and Short-Term Investments
Cash and Short-Term Investments divided by Sales (Net)
$(1 / 12) * 100$
$(36 / 2) * 100$
Inventories
Inventories - Total divided by Sales (Net)
$(3 / 12) * 100$
$(38 / 2) * 100$

## Inventory Turnover

## Definition 1

Cost of Goods Sold divided by ((Inventories - Total t plus $\quad 41 /((3 \mathbf{t}+3(\mathbf{t}-\mathbf{1})) / \mathbf{2}) \quad 30 /((38 \mathbf{t}+38(\mathbf{t}-\mathbf{1})) / \mathbf{2})$ Inventories - Total t minus 1) divided by 2)

## Definition 2

Sales (Net) divided by ((Inventories - Total t plus Inventories - Total t minus 1) divided by 2)

## Turnover Ratios (cont.)

|  | Annual <br> Data Item \# | Quarterly <br> Data Item \# |
| :--- | :--- | :--- |

## Number of Days' Sales

in Inventories - Definition 1
((Inventories - Total tplus Inventories - Total t minus 1)

| $((3 t+3(t-1))$ | $((38 t+38(t-$ |
| :--- | :--- |
| $/ 2) /(41 / 365)$ | $\mathbf{1})) / 2) /(30 / 90)$ | 365)

in Inventories - Definition 2
((Inventories - Total t plus Inventories - Total t minus 1)
$(3 t+3(t-1) / 2)$
/(12/365)
$(38 t+38(t-1) / \mathbf{2})$
/(2/90)
in Receivables
((Receivables - Total t plus Receivables - Total t minus 1)
$((2 t+2(t-1)) / \mathbf{2})$
/(12/365)
$((37 t+37(t-1)) / \mathbf{2})$
/(2/90)

## Sales per \$ Cash and Short-Term Investments

Sales (Net) divided by Cash and Short-Term Investments

## Sales per \$ Common Equity

Sales (Net) divided by Common Equity - Total $\quad 12 / 60 \quad 2 / 59$

Tangible
Sales (Net) divided by Common Equity - Tangible NA

Liquidating Value
Sales (Net) divided by Common Equity - Liquidation NA Value

## Sales per \$ Gross Assets

Sales (Net) divided by (Assets - Total/Liabilities and Stockholders' Equity - Total plus Depreciation, Depletion, and Amortization (Accumulated))
$12 /(6+196)$
$2 /(44+41)$

## Sales per \$ Inventory

Sales (Net) divided by Inventories - Total

## Turnover Ratios (cont.)

Annual

Data Item \# $\quad$| Quarterly |
| :--- |
| Data Item \# |

## Sales per \$ Invested Capital

## Definition 1

$\begin{array}{lll}\text { Sales (Net) divided by Invested Capital - Total } & \text { 12/37 } & \text { 2/62 }\end{array}$

## Definition 2

Sales (Net) divided by (Invested Capital - Total minus
12/(37-38)
2/(62-53)
Minority Interest (Balance Sheet))

Definition 3
Sales (Net) divided by (Invested Capital - Total plus $12 /(37+35-38)$ $2 /(62+52-53)$
Deferred Taxes and Investment Tax Credit(Balance Sheet) minus Minority Interest (Balance Sheet))

## Definition 4

Sales (Net) divided by (Invested Capital - Total plus
12/(37 + 35)
$2 /(62+52)$
Deferred Taxes and Investment Tax Credit (Balance Sheet))

## Sales per \$ Net Assets

| Sales (Net) divided by Assets - Total/Liabilities and | $12 / 6$ | $2 / 44$ |
| :--- | :--- | :--- |
| Stockholders' Equity - Total |  |  |

Sales per \$ Property, Plant, and Equipment

## Gross

Sales (Net) divided by Property, Plant, and Equipment -
Total (Gross)
Net
Sales (Net) divided by Property, Plant, and Equipment - 12/8 Total (Net)

## Sales per \$ Receivable - Current

Sales (Net) divided by Receivables - Total
12/2
2/37

## Sales per \$ Stockholders' Equity

## Tangible

| Sales (Net) divided by (Preferred Stock - Liquidating | $12 /(10+11)$ | NA |
| :--- | :--- | :---: |
| Value plus Common Equity - Tangible) |  |  |
| Total |  |  |
| Sales (Net) divided by Stockholders' Equity - Total | $12 / 216$ | $2 / 60$ |


| Annual | Quarterly |
| :--- | :--- |
| Data Item \# | Data Item \# |

## After-tax Return

## on Average Common Equity - Total

Income Before Extraordinary Items - Adjusted for
Common Stock Equivalents divided by ((Common Equity

- Total t plus Common Equity - Total t minus 1) divided by 2)


## on Common Equity - Tangible

Income Before Extraordinary Items - Adjusted for
Common Stock Equivalents divided by Common Equity Tangible

## on Common Equity - Total

Income Before Extraordinary Items - Adjusted for
Common Stock Equivalents divided by Common Equity Total
on Gross Assets - Definition 1
Income Before Extraordinary Items divided by (Assets Total/Liabilities and Stockholders' Equity - Total plus Depreciation, Depletion, and Amortization (Accumulated) (Balance Sheet))

## on Gross Assets - Definition 2

(Income Before Extraordinary Items plus Interest Expense) divided by (Assets - Total/Liabilities and Stockholders'
Equity - Total plus Depreciation, Depletion, and Amortization (Accumulated) (Balance Sheet))

$$
\begin{array}{ll}
(237 /((60 t+60(\mathbf{t}-\mathbf{1})) & (25 /(59 \mathbf{t}+59(\mathbf{t}-\mathbf{1})) \\
/ \mathbf{2})) * \mathbf{1 0 0} & / \mathbf{2})) * 100
\end{array}
$$

$(237 / 11) * 100$
NA

$$
(237 / 60) * 100
$$

$(25 / 59) * 100$
$(18 /(6+196)) * 100$
$(8 /(44+41)) * 100$
$((18+15) /(6+196))$ * 100
((18 + (15 * (1 -
$((8+(22 *(1-(6 / 23))))$
$(16 / 170)))) /(6+196))$ *
$/(44+41)) * 100$
$((8+22) /(44+41)$ *
100)

## on Gross Assets - Definition 3

(Income Before Extraordinary Items plus (Interest Expense multiplied by ( 1 minus (Income Taxes - Total divided by Pretax Income)))) divided by (Assets - Total/Liabilities and 100
Stockholders' Equity - Total plus Depreciation, Depletion, and Amortization (Accumulated) (Balance Sheet))

## on Gross Assets - Definition 4

(Income Before Extraordinary Items plus Interest Expense plus Minority Interest (Income Account)) divided by (Assets - Total/Liabilities and Stockholders' Equity Total plus Depreciation, Depletion, and Amortization (Accumulated) (Balance Sheet))

## on Gross Assets - Definition 5

(Income Before Extraordinary Items plus (Interest Expense multiplied by ( 1 minus (Income Taxes - Total divided by Pretax Income))) plus Minority Interest (Income Account)) divided by (Assets - Total/Liabilities and Stockholders' Equity - Total plus Depreciation, Depletion, and Amortization (Accumulated) (Balance Sheet))

$$
\begin{aligned}
& ((18+15+49) /(6+ \\
& 196)) * 100
\end{aligned}
$$



## After-tax Return (cont.)

on Invested Capital - Definition 1A
(Income Before Extraordinary Items plus Interest Expense plus Minority Interest (Income Account)) divided by Invested Capital - Total

## on Invested Capital - Definition 1B

(Income Before Extraordinary Items plus (Interest Expense multiplied by (1 minus (Income Taxes - Total divided by Pretax Income))) plus Minority Interest (Income Account))
$((18+(15 *(1-$ $(16 / 170)))+49) / 37)$ * 100 divided by Invested Capital - Total

## on Invested Capital - Definition 2A

(Income Before Extraordinary Items plus Interest Expense) divided by (Invested Capital - Total minus Minority Interest (Balance Sheet))

## on Invested Capital - Definition 2B

(Income Before Extraordinary Items plus (Interest Expense multiplied by (1 minus (Income Taxes - Total divided by Pretax Income)))) divided by (Invested Capital - Total minus Minority Interest (Balance Sheet))
on Invested Capital - Definition 3A
(Income Before Extraordinary Items plus Interest Expense) divided by (Invested Capital - Total plus Deferred Taxes and Investment Tax Credit (Balance Sheet) minus Minority Interest (Balance Sheet))

## on Invested Capital - Definition 3B

(Income Before Extraordinary Items plus (Interest Expense multiplied by (1 minus (Income Taxes - Total divided by Pretax Income)))) divided by(Invested Capital - Total plus Deferred Taxes and Investment Tax Credit (Balance Sheet) minus Minority Interest (Balance Sheet))
$((18+(15 *(1-$ $(16 / 170)))) /(37+35-$ $38)) * 100$
$((18+15+49) / 37) *$ 100
$((18+15) /(37-38)) *$ 100
$((18+(15 *(1-$ $(16 / 170)))) /(37-38))$ * 100

$$
((8+22+3) / 62) * \mathbf{1 0 0}
$$

$((8+(22 *(1-(6 / 23))+$ 3)/62) * 100)
$((8+22) /(62-53)) *$
100

$$
((8+(22 *(1-
$$

$$
(6 / 23)))) /(62-53)) *
$$

100
$((18+15) /(37+35-$ $38)) * 100$

$$
((8+22) /(62+52-53))
$$

$$
\text { * } 100
$$

on Invested Capital - Definition 4A
(Income Before Extraordinary Items plus Interest Expense plus Minority Interest (Income Account)) divided by
$((18+15+49) /(37+$ $35)) * 100$

$$
\begin{aligned}
& ((8+(22 *(1- \\
& 6 / 23)))) /(62+52-53)) * \\
& 100
\end{aligned}
$$

$((8+22+3) /(62+52))$ *
100

Rates of Return (cont.)

Annual
Data Item \#

Quarterly
Data Item \#

## After-tax Return (cont.)

on Property, Plant, and Equipment - Total (Net) -

## Definition 1

Income Before Extraordinary Items divided by Property, Plant, and Equipment - Total (Net)

## on Property, Plant, and Equipment - Total (Net) -

 Definition 2(Income Before Extraordinary Items plus Interest Expense) divided by Property, Plant, and Equipment - Total (Net)

## on Property, Plant, and Equipment - Total (Net) -

 Definition 3(Income Before Extraordinary Items plus (Interest Expense multiplied by (1 minus (Income Taxes - Total divided by Pretax Income)))) divided by Property, Plant, and Equipment - Total (Net)

## on Property, Plant, and Equipment - Total (Net) -

 Definition 4(Income Before Extraordinary Items plus Interest Expense plus Minority Interest (Income Account)) divided by Property, Plant, and Equipment - Total (Net)
on Property, Plant, and Equipment - Total (Net) Definition 5
(Income Before Extraordinary Items plus (Interest Expense multiplied by (1 minus (Income Taxes - Total divided by Pretax Income))) plus Minority Interest (Income Account)) divided by Property, Plant, and Equipment - Total (Net)

## on Stockholders' Equity - Definition 1

Income Before Extraordinary Items divided by
Stockholders' Equity - Total

## on Stockholders' Equity - Definition 2

Income Before Extraordinary Items divided by (Preferred
Stock - Liquidating Value plus Common Equity -
Tangible)

## Pretax Return

on Net Operating Assets
(Operating Income Before Depreciation minus Depreciation and Amortization) divided by (Property, Plant, and Equipment - Total (Net) plus Current Assets Total minus Current Liabilities - Total) or Operating Income After Depreciation divided by (Property, Plant, and Equipment - Total (Net) plus Current Assets - Total minus Current Liabilities - Total)
$(18 /(10+11)) * 100$
NA
$(18 / 8) * 100$
$(8 / 42) * 100$
$((18+15) / 8) * \mathbf{1 0 0}$
$((8+22) / 42) * 100$
$((18+(15 *(1-$
$((8+(22 *(1-$ $(16 / 170)))) / 8) * 100$
$(6 / 23)))) / 42) * 100$
$((18+15+49) / 8) * 100$
$((8+22+3) / 42) * \mathbf{1 0 0}$

$$
((18+(15 *(1-\quad((8+(22 *(1-(6 / 23)))
$$

$(16 / 170)))+49) / 8)$ *
100
$(18 / 216) * 100$
$(8 / 60) * 100$
$((13-14) /(8+4-5)) * \quad((21-5) /(42+40-49))$
$100 \quad * 100$
$(178 /(8+4-5)) * 100$

Rates of Return (cont.)

| Annual | Quarterly <br> Data Item \# | Data Item \# |
| :--- | :--- | :--- |

## Pretax Return (cont.)

on Total Earning Assets
(Operating Income Before Depreciation minus Depreciation and Amortization) divided by (Property, Plant, and Equipment - Total (Net) plus Current Assets Total) or Operating Income After Depreciation divided by (Property, Plant, and Equipment - Total (Net) plus Current Assets - Total)

## Sales per \$ Working Capital

Sales (Net) divided by (Current Assets - Total minus
Current Liabilities - Total)

## Working Capital as a \% of Sales

(Current Assets - Total minus Current Liabilities - Total) divided by Sales (Net)
$12 /(4-5)$
$2 /(40-49)$
$((13-14) /(8+4)) * 100$
$((21-5) /(42+40)) *$
or
100
$(178 /(8+4)) * 100$
$((4-5) / 12) * 100$
$((40-49) / 2) * 100$

## Capitalization Ratios

| Annual | Quarterly <br> Data Item \# | Data Item \# |
| :--- | :--- | :--- |

## Invested Capital

Definition 1
Long-Term Debt - Total plus Preferred Stock - Carrying Value plus Common Equity - Total plus Minority Interest (Balance Sheet)

Common Equity - Tangible as a \% of Invested

$$
(11 / 37) * 100
$$

NA
Capital

Common Equity - Total as a \% of Invested Capital
$(60 / 37) * 100$
$(59 / 62) * 100$

Long-Term Debt - Total as a \% of Invested Capital
$(9 / 37) * 100$
$(51 / 62) * 100$

Minority Interest (Balance Sheet) as a \% of Invested Capital

Preferred Stock - Carrying Value as a \% of Invested Capital

Preferred Stock - Liquidating Value as a \% of
$(10 / 37) * 100$
$51+55+59+53$
$9+130+60+38$

Invested Capital

## Capitalization Ratios (cont.)

Annual

Data Item \# $\quad$| Quarterly |
| :--- |
| Data Item \# |

## Invested Capital (cont.)

Total Debt as a \% of Invested Capital
(Long-Term Debt - Total plus Debt in Current Liabilities)
$((9+34) / 37) * 100$
$((51+45) / 62) * 100$
divided by Invested Capital - Total

Definition 2
Long-Term Debt - Total plus Preferred Stock - Carrying
$9+130+60 \quad 51+55+59$
Value plus Common Equity - Total

Common Equity - Tangible as a \% of Invested $(11 /(37-38)) * 100$

NA Capital

Common Equity - Total as a \% of Invested Capita
60/(37-38)) * 100
$(59 /(62-53)) * 100$

Long-Term Debt as a \% of Invested Capital

Preferred Stock - Carrying Value as a \% of Invested Capital

Preferred Stock - Liquidating Value as a \% of Invested Capital

Total Debt as a \% of Invested Capital
(Long-Term Debt - Total plus Debt in Current Liabilities) divided by (Invested Capital - Total minus Minority
$((9+34) /(37-38))$ *
$((51+45) /(62-53))$ *

Interest (Balance Sheet)

Definition 3
Long-Term Debt - Total plus Preferred Stock - Carrying
$9+130+60+35$
$51+55+59+52$ and Investment Tax Credit (Balance Sheet)

Common Equity - Tangible as a \% of Invested Capital

Common Equity - Total as a \% of Invested Capital
$(11 /(37+35-38)) * \quad$ NA 100

100
$(35 /(37+35-38))$ *
100
$(9 /(37+35-38)) * 100$
$(130 /(37+35-38))$ *
100
$(10 /(37+35-38))^{*}$
100

## Capitalization Ratios (cont.)

| Annual | Quarterly <br> Data Item \# | Data Item \# |
| :--- | :--- | :--- |

## Invested Capital (cont.)

Total Debt as a \% of Invested Capital
(Long-Term Debt - Total plus Debt in Current Liabilities) divided by (Invested Capital - Total plus Deferred Taxes and Investment Tax Credit (Balance Sheet) minus Minority Interest (Balance Sheet))

```
((9 + 34)/(37 + 35-38)) *
100
((51 + 45)/(62 + 52 -
53)) * 100

Definition 4
Long-Term Debt - Total plus Preferred Stock - Carrying \(\quad 9+130+38+35+60 \quad 52+55+53+52+59\)
Value plus Minority Interest (Balance Sheet) plus Deferred
Taxes and Investment Tax Credit (Balance Sheet) plus
Common Equity - Total
Common Equity - Tangible as a \% of Invested
\((11 /(37+35)) * 100\)
NA
Capital
Common Equity - Total as a \% of Invested Capital
\((60 /(37+35)) * 100\)
\((59 /(62+52)) * 100\)
Deferred Taxes and Investment Tax Credit as a \%
\((35 /(37+35)) * 100\)
\((52 /(62+52)) * 100\)
of Invested Capital
Long-Term Debt as a \% of Invested Capital
\((9 /(37+35)) * 100\)
\((38 /(37+35)) * 100\)
\((51 /(62+52)) * 100\)

Minority Interest (Balance Sheet) as a \% of Invested Capital

Preferred Stock - Carrying Value as a \% of \((130 /(37+35)) * 100\)
\((55 /(62+52)) * 100\)
Invested Capital
Preferred Stock - Liquidating Value as a \% of \((10 /(37+35)) * 100\) NA Invested Capital

Total Debt as a \% of Invested Capital
(Long-Term Debt - Total plus Debt in Current Liabilities)
\(((9+34) /(37+35)) *\)
\(((51+45) /(62+52))\) * 100 100

\section*{Criteria of Financial Soundness}


\section*{(Item) as a \% of Average Long-Term Debt}

\section*{Interest}
(Interest Expense divided by ((Long-Term Debt - Total t
plus Long-Term Debt - Total t minus 1) divided by 2)
```

(15/((9t +9
(t-1))/2))*100

```
(22/((52t + 51
\((\mathbf{t}-\mathbf{1})) / \mathbf{2})\) ) 100

\section*{Criteria of Financial Soundness (cont.)}
\begin{tabular}{lll}
\hline & \begin{tabular}{l} 
Annual \\
Data Item \#
\end{tabular} & \begin{tabular}{l} 
Quarterly \\
Data Item \#
\end{tabular} \\
\hline
\end{tabular}

\section*{(Item) as a \% of Average Total Debt}

\section*{Interest}

Interest Expense divided by ((Long-Term Debt - Total \(t\) plus Long-Term Debt - Total \(t\) minus 1 plus Debt in Current Liabilities t plus Debt in Current Liabilities t minus 1) divided by 2)
```

(15/((9t+9(t-1)+
34t+34(t-1))/2))*
100
(22/((51t + 51(t-1) +
45t + 45(t-1))/2))*
100

```

\section*{(Item) as a \% of Current Assets}

Cash and Short-Term Investments
Cash and Short-Term Investments divided by Current
Assets - Total

Current Assets - Other
Current Assets - Other divided by Current Assets - Total
\((68 / 4) * 100\)
\((39 / 40) * 100\)

\section*{Inventory}

Inventories - Total divided by Current Assets - Total
\((3 / 4) * 100\)
\((38 / 40) * 100\)

Receivables
Receivables - Total divided by Current Assets - Total
\((2 / 4) * 100\)
\((37 / 40) * 100\)
(Item) as a \% of Intangibles

\section*{Goodwill}

Goodwill divided by Intangibles
\((204 / 33) * 100\) NA
(Item) as a \% of Total Assets

\section*{Assets - Other}

Assets - Other divided by Assets - Total/Liabilities and
\((69 / 6) * 100\)
\((43 / 44) * 100\)
Stockholders' Equity - Total

\section*{Current Assets}

Current Assets - Total divided by Assets - Total/Liabilities
\((4 / 6) * 100\)
\((40 / 44) * 100\)
and Stockholder's Equity - Total

\section*{Goodwill}

Goodwill divided by Assets - Total/Liabilities and
\((204 / 6) * 100\)
NA
Stockholders' Equity - Total

\section*{Intangibles}

Intangibles divided by Assets - Total/Liabilities and
\((33 / 6) * 100\)
NA

\section*{Criteria of Financial Soundness (cont.)}
\begin{tabular}{lll} 
& \begin{tabular}{ll} 
Annual \\
Data Item \#
\end{tabular} & \begin{tabular}{l} 
Quarterly \\
Data Item \#
\end{tabular} \\
\hline
\end{tabular}

\section*{(Item) as a \% of Total Assets (cont.)}

Investments and Advances
(Investments and Advances - Equity Method plus
Investment and Advances - Other) divided by Assets -
Total/Liabilities and Stockholders' Equity - Total
Investments and Advances - Equity
Investments and Advances - Equity Method divided by Assets - Total/Liabilities and Stockholders' Equity - Total

Property, Plant, and Equipment - Total (Gross)
Property, Plant, and Equipment - Total (Gross) divided by
\((7 / 6) * 100\)
\(((41+42) / 44) * 100\)
Assets - Total/Liabilities and Stockholders' Equity - Total
Property, Plant , and Equipment - Total (Net)
Property, Plant, and Equipment - Total (Net) divided by
Assets - Total/Liabilities and Stockholders' Equity - Total

\section*{Total Debt}
(Long-Term Debt - Total plus Debt in Current Liabilities)
\(((9+34) / 6) * 100\)
\(((51+45) / 44) * 100\)
Equity - Total
\(((31+32) / 6) * 100\) NA
\((31 / 6) * 100\)
NA
(8/6) \(* 100\)
\((42 / 44) * 100\)

\section*{(Item) as a \% of Total Debt}

\section*{Short-Term Debt}

Debt in Current Liabilities divided by (Long-Term Debt -
Total plus Debt in Current Liabilities

\section*{(Item) as a \% of Total Liabilities}

Current Liabilities - Total divided by Liabilities - Total
\((5 / 181) * 100\)
\((35 / 181) * 100\)
\((52 / 54) * 100\)
Deferred Taxes and Investment Tax Credit (Balance Sheet)
divided by Liabilities - Total
Interest
Interest Expense divided by Liabilities - Total
\((15 / 181) * 100\)
\((22 / 54) * 100\)
Liabilities - Other
Liabilities - Other divided by Liabilities - Total
\((75 / 181) * 100\)
\((501 / 54) * 100\)
Long-Term Debt
Long-Term Debt divided by Liabilities - Total
\((9 / 181) * 100\)
\((51 / 54) * 100\)

\section*{Criteria of Financial Soundness (cont.)}
\begin{tabular}{lll}
\hline & \begin{tabular}{l} 
Annual \\
Data Item \#
\end{tabular} & \begin{tabular}{c} 
Quarterly \\
Data Item \#
\end{tabular} \\
\begin{tabular}{lll} 
(Item) as a \% of Total Liabilities (cont.) \\
Minority Interest \\
Minority Interest (Balance Sheet) divided by Liabilities - \\
Total
\end{tabular} & \((38 / 181) * \mathbf{1 0 0}\) & \((53 / 54) * \mathbf{1 0 0}\) \\
\begin{tabular}{l} 
Preferred Stock - Carrying Value \\
Preferred Stock - Carrying Value divided by Liabilities - \\
Total
\end{tabular} & \((130 / 180) * \mathbf{1 0 0}\) & \((55 / 54) * \mathbf{1 0 0}\) \\
\begin{tabular}{l} 
Preferred Stock - Liquidating Value \\
Preferred Stock - Liquidating Value divided by Liabilities \\
- Total
\end{tabular} & \((10 / 181) * \mathbf{1 0 0}\) & NA
\end{tabular}
(Item) as a \% of Total Liabilities and Stockholders' Equity

\section*{Common Equity - Total}

Common Equity - Total divided by Assets -
Total/Liabilities and Stockholders' Equity - Total

\section*{Stockholders' Equity - Total}

Stockholders' Equity - Total divided by Assets -
Total/Liabilities and Stockholders' Equity - Total

\section*{Capital Expenditure Coverage}
(Depreciation and Amortization plus Income Before
Extraordinary Items - Adjusted for Common Stock
Equivalents minus Dividends - Common)

Current Ratio
\(\begin{array}{lll}\text { Current Assets - Total divided by Current Liabilities - } & 4 / 5 & 40 / 49 \\ \text { Total } & & \end{array}\)

\section*{Debt/Equity Ratios}

Long-Term Debt - Definition 1
\(\begin{array}{lll}\text { Long-Term Debt - Total divided by Common Equity - } & \text { 51/59 } \\ \text { Total }\end{array}\)

\section*{Total}

Long-Term Debt - Definition 2
Long-Term Debt - Total divided by Common Equity - \(9 / 11 \quad\) NA Tangible

\section*{Long-Term Debt - Definition 3}

Long-Term Debt - Total divided by Stockholders' Equity - 9/216 51/60
\((60 / 6) * 100\)
\((216 / 6) * 100\)
\((60 / 44) * 100\)
\((14+20-21) / 30\)
NA
\((59 / 44) * 100\)
\[
(216 / 6) * 100
\]

\section*{Criteria of Financial Soundness (cont.)}
\begin{tabular}{lll} 
& \begin{tabular}{l} 
Annual \\
Data Item \#
\end{tabular} & \begin{tabular}{l} 
Quarterly \\
Data Item \#
\end{tabular} \\
\hline
\end{tabular}

\section*{Debt/Equity Ratios (cont.)}

Long-Term Debt - Definition 4
Long-Term Debt - Total divided by (Preferred Stock - 9/(10+11) NA
Liquidating Value plus Common Equity - Tangible)
Total Liabilities - Definition 1
Liabilities - Total divided by Common Equity - Total 181/60
54/59
Total Liabilities - Definition 2
Liabilities - Total divided by Common Equity - Tangible 181/11
NA
Total Liabilities - Definition 3
Liabilities - Total divided by Stockholders' Equity - Total 181/216 54/60

Total Liabilities - Definition 4
Liabilities - Total divided by (Preferred Stock -
181/(10 + 11) NA
Liquidating Value plus Common Equity - Tangible)

\section*{Interest Coverage}

\section*{After-tax}
(Interest Expense plus Income Before Extraordinary Items)
\((15+18) / 15\)
\((22+8) / 22\)
divided by Interest Expense
Pretax
(Interest Expense Pretax Income) divided by Interest \((15+170) / 15\)
\((22+23) / 22\)
Expense

\section*{Quick Ratio (Acid Test)}
(Cash and Short-Term Investments plus Receivables \((1+2) / 5\)
\((36+37) / 49\)
Total) divided by Current Liabilities - Total

\section*{Management Decision Statistics}
\begin{tabular}{lll} 
Annual & \begin{tabular}{l} 
Quarterly \\
Data Item \#
\end{tabular} & \begin{tabular}{l} 
Data Item \#
\end{tabular} \\
\hline
\end{tabular}
(Item) as a \% of Cash Flow
Cash Dividends - Definition 1
Cash Dividends (Statement of Cash Flows) divided by \((127 /(123+125)) * 100 \bullet(89 /(76+77)) * 100\)
(Income Before Extraordinary Items (Statement of Cash
Flows) plus Depreciation and Amortization (Statement of
Cash Flows))

\section*{Management Decision Statistics (cont.)}
\begin{tabular}{lll} 
Annual & \begin{tabular}{l} 
Quarterly \\
Data Item \#
\end{tabular} & Data Item \#
\end{tabular}

\section*{(Item) as a \% of Cash Flow (cont.)}

\section*{Cash Dividends - Definition 2}

Cash Dividends (Statement of Cash Flows) divided by
\begin{tabular}{ll}
\((127 /(123+125+126+\) & \((89 /(76+77+79+80+\) \\
\(106+124+49)) * 100\) & \(78+3)) * 100\)
\end{tabular} Flows) plus Depreciation and Amortization (Statement of Cash Flows) plus Deferred Taxes (Statement of Cash Flows) plus Equity in Net Loss (Earnings) (Statement of Cash Flows) plus Extraordinary Items and Discontinued Operations (Statement of Cash Flows) plus Minority Interest (Income Account))

\section*{Cash Dividends - Definition 3}

Cash Dividends (Statement of Cash Flows) divided by (Income Before Extraordinary Items (Statement of Cash Flows) plus Extraordinary Items and Discontinued Operations (Statement of Cash Flows) plus Depreciation and Amortization (Statement of Cash Flows) plus Deferred Taxes (Statement of Cash Flows) plus Equity in Net Loss (Earnings) (Statement of Cash Flows)

\section*{(Item) as a \% of Income Before Extraordinary Items - Adjusted for Common Stock Equivalents}

\section*{Cash Dividends}

Cash Dividends (Statement of Cash Flows) divided by (127/20)*100 (89/10)*100 Income Before Extraordinary Items - Adjusted for Common Stock Equivalents

\section*{(Item) as a \% of Property, Plant, and Equipment - Total (Gross)}

\section*{Depreciation Expense} and Equipment - Total (Gross)

Property, Plant, and Equipment - Total (Net)
Property, Plan, and Equipment - Total (Net) divided by
\((8 / 7) * 100\)
\((42 /(41+42)) * 100\)
\[
\begin{array}{ll}
(127 /(123+124+125+ & (89 /(76+77+78+79+ \\
126+106)) * 100 & 80)) * 100
\end{array}
\]

Property, Plant, and Equipment - Total (Gross)
(Item) as a \% of Property, Plant, and Equipment - Total (Net)

\section*{Depreciation Expense}

Depreciation and Amortization divided by Property, Plant,
\((14 / 8) * 100\)
\((5 / 42) * 100\)
\begin{tabular}{lll} 
Annual & \begin{tabular}{l} 
Quarterly \\
Data Item \#
\end{tabular} & Data Item \# \\
\hline
\end{tabular}

\section*{Price - High - Adjusted}

\section*{Calendar Year}

Price - High divided by Adjustment Factor (Cumulative) 22/27
by Ex-Date
Fiscal Year
Price - Fiscal Year - High divided by Adjustment Factor 197/27 NA
(Cumulative) by Ex-Date
1st Month of Quarter
Price - High - 1st Month of Quarter divided by Adjustment NA 63/17
Factor (Cumulative) by Ex-Date
Factor (Cumulative) by Ex-Date
2nd Month of Quarter
\(\begin{array}{lll}\text { Price - High - 2nd Month of Quarter divided by } & \text { NA } & \text { 64/17 } \\ \text { Adjustment Factor (Cumulative) by Ex-Date }\end{array}\)
3rd Month of Quarter
Price - High - 3rd Month of Quarter divided by NA 65/17 Adjustment Factor (Cumulative) by Ex-Date

Price - Low - Adjusted

\section*{Calendar Year}

Price - Low divided by Adjustment Factor (Cumulative) by 23/27
Ex-Date
Fiscal Year
\(\begin{array}{lll}\text { Price - Fiscal Year - Low divided by Adjustment Factor } & \text { 198/27 NA } \\ \text { (Cumulative) by Ex-Date }\end{array}\)
1st Month of Quarter
Price - Low - 1st Month of Quarter divided by Adjustment NA 66/17
Factor (Cumulative) by Ex-Date
2nd Month of Quarter
Price - Low - 2nd Month of Quarter divided by
NA
Adjustment Factor (Cumulative) by Ex-Date
3rd Month of Quarter
Price - Low - 3rd Month of Quarter divided by Adjustment NA 68/17
Factor (Cumulative) by Ex-Date

Price - Close - Adjusted
Calendar Year
Price - Close divided by Adjustment Factor (Cumulative) 24/27 NA by Ex-Date

Price and Market Data (cont.)
\(\left.\begin{array}{lll} & \begin{array}{l}\text { Annual } \\ \text { Data Item \# }\end{array} & \begin{array}{l}\text { Quarterly } \\ \text { Data Item \# }\end{array} \\ \text { Price - Close - Adjusted (cont.) } \\ \text { Fiscal Year } \\ \text { Price - Fiscal Year - Close divided by Adjustment Factor } \\ \text { (Cumulative) by Ex-Date }\end{array}\right)\)

\section*{Common Shares Used to Calculate Earnings per Share - 12 Months Moving - Adjusted}

Common Shares Used to Calculate Earnings per Share - 12 NA \(28 * 17\)
Months Moving multiplied by Adjustment Factor
(Cumulative) by Ex-Date

\section*{Market Return}
by Ex-Date (Fiscal Year End) This excludes the affects of cash equivalent distributions
((Price - Fiscal Year - Close t plus Dividends per Share by
\[
\begin{array}{ll}
(((199 t+26) / 199 & \text { NA } \\
(t-1))-1) * 100 &
\end{array}
\]

Ex-Date) divided by Price - Fiscal Year - Close
t minus 1) minus 1
To calculate a total return including the affects of cash equivalent distributions, you must use the PDE file, see the calculation for Total Investment Return on page 32.

\section*{Price and Market Data (cont.)}
Annual
Data Item \# \(\quad\)\begin{tabular}{ll} 
Quarterly \\
Data Item \#
\end{tabular}

\section*{Market Return (cont.)}
by Ex-Date (Quarter End) This excludes the affects of cash equivalent distributions
((Price - Close - 3rd Month of Quarter plus Dividends per
Share by Ex-Date \(t\) plus Dividends per Share by Ex-Date
\(t\) minus 1 plus Dividends per Share by Ex-Date \(t\) minus 3)
divided by Price - Close - 3rd Month of Quarter \(t\) minus 1) minus 1
To calculate a total return including the affects of cash equivalent distributions, you must use the PDE file, see the calculation for Total Investment Return on page 32.
by Payable Date (Fiscal Year End)
((Price - Fiscal Year - Close \(t\) plus Dividends per Share by
Payable Date) divided by Price - Fiscal Year - Close \(t\) minus 1) minus 1
by Payable Date (Quarter End)
((Price - Close - 3rd Month of Quarter plus Dividends per
NA
\((((14+72 \mathbf{t}+72(\mathbf{t}-\mathbf{1})\)
\(+72(\mathbf{t}-\mathbf{2})+72(\mathbf{t}-\mathbf{3}))\)
\(/ 14(\mathbf{t}-1))-\mathbf{1}) * 100\)
Payable Date \(t\) minus 1 plus Dividends per Share by
Payable Date \(t\) minus 3) divided by Price - Close - 3rd Month of Quarter t minus 1) minus 1
\[
(((199 \mathbf{t}+201) / 199 \quad \mathrm{NA}
\]

NA
\((t-1))-1) * 100\)

199/(60/25)
14/(59/61)
3))

Price - Fiscal Year - Close (3rd Month of Quarter) divided by (Common Equity - Total divided by Common Shares Outstanding)
\((((14+16 t+16(t-1)\)
\(+16(t-2)+16(t-\)
\(/ 14(t-1))-1) * 100\)

\section*{Treasury Stock - Number of Common Shares}

Treasury Stock - Number of Common Shares multiplied by \(87 * 27\) NA

\section*{Market Value Statistics}
\begin{tabular}{lll} 
Annual & Quarterly \\
Data Item \#
\end{tabular}\(\quad\)\begin{tabular}{l} 
Data Item \#
\end{tabular}

\section*{Income Before Extraordinary Items Adjusted for Common Stock Equivalents per \$100 of Market Value}

Calendar Year End
Income Before Extraordinary Items - Adjusted for 20/((24 * 25)/ 100) NA Common Stock Equivalents divided by (Price - Close multiplied by Common Shares Outstanding)

\section*{Market Value Statistics (cont.)}
\begin{tabular}{lll} 
Annual & \begin{tabular}{l} 
Quarterly \\
Data Item \#
\end{tabular} & Data Item \#
\end{tabular}

\section*{Income Before Extraordinary Items Adjusted for Common Stock Equivalents per \$100 of Market Value (cont.)}

\section*{Fiscal Year End/Quarter End}

Income Before Extraordinary Items - Adjusted for \(\quad 20 /((199 * 25) / 100) \quad 10 /((14 * 61) / 100)\)
Common Stock Equivalents divided by (Price - Fiscal Year
- Close multiplied by Common Shares Outstanding)

Income Before Extraordinary Items per \$100 of Market Value

\section*{Calendar Year End}

Income Before Extraordinary Items divided by (Price -
18/((24 * 25)/ 100)
NA Close multiplied by Common Shares Outstanding)

Fiscal Year End/Quarter End
Income Before Extraordinary Items divided by (Price Fiscal Year - Close multiplied by Common Shares Outstanding)
\[
18 /((199 * 25) / 100) \quad 8 /(14 * 61) / 100)
\]

\section*{Market Value of Common Stock}

\section*{Calendar Year End}

Fiscal Year End/Quarter End
Price - Fiscal Year - Close multiplied by Common Shares
\(199 * 25\)
\(14 * 61\)
Outstanding

\section*{Pretax Income per \$100 of Market Value}

\section*{Calendar Year End}

Pretax Income divided by (Price - Close multiplied by
170/((24*25)/ 100) NA
Common Shares Outstanding)

\section*{Fiscal Year End/Quarter End}

Pretax Income divided by (Price - Fiscal Year - Close
\(170 /((199 * 25) / 100)\)
\(23 /((14 * 61) / 100)\) multiplied by Common Shares Outstanding)

\section*{Sales per \$100 of Market Value}

\section*{Calendar Year End}

Sales (Net) divided by (Price - Close multiplied by \(\quad 12 /((24 * 25) / 100) \quad\) NA Common Shares Outstanding)

Fiscal Year End/Quarter End
Sales (Net) divided by (Price - Fiscal Year - Close \(\quad 12 /((199 * 25) / 100) \quad 2 /((14 * 61) / 100)\) multiplied by Common Shares Outstanding)

\section*{Price Ratios}
\begin{tabular}{lll} 
Annual & \begin{tabular}{l} 
Quarterly \\
Data Item \#
\end{tabular} & Data Item \#
\end{tabular}

\section*{Price - Earnings Ratio}

Fiscal Year End
Price - Fiscal Year - Close divided by Earnings per Share 199/
(Basic) - Excluding Extraordinary Items

Quarter End
Price - Close - 3rd Month of Quarter divided by Earnings NA per Share (Basic) - Excluding Extraordinary Items - 12-
Months Moving

\section*{Dividend Payout Ratio}

Dividends - Common divided by Income Before 21/20
Extraordinary Items - Adjusted for Common Stock
Equivalents

\section*{Dividend Yield}

Fiscal Year End
Dividends per Share by Ex-Date divided by Price - Fiscal (26/199) * 100 NA Year - Close

\section*{Quarter End}

Dividends - Common - Indicated Annual divided by Price NA
A
\((20 / 14) * 100\)

\section*{Formulas Used in COMPUSTAT Prices, Dividends, and Earnings (PDE) Financial Calculations}

\section*{Company Data}

The following is a list of formulas used in various calculations. These formulas are by no means all-inclusive and can be used in most cases for monthly, quarterly, yearly, 5-year, and 10-year analysis. Remember that the data on the PDE file is adjusted. To readjust the data to its originally reported state, multiply all per share data (price, earnings) by the cumulative adjustment factor and divide the shares traded data by the cumulative adjustment factor.

\section*{Annualized Dividend Rate}

\section*{Book Value per Share}

\section*{Cash Equivalent Distributions per Share by Ex-Date}

\section*{Common Shares Outstanding}

Common Shares Traded

Common Stock Float Shares (Canadian PDE file)
Dividends per Share
Earnings per Share from Operations - 12 Months Moving
Earnings per Share - 12 Months Moving
Historical Earnings per Share (Canadian PDE file)

\section*{Net Asset Value per Share}

\section*{Price - Close}

Price - High

\section*{Price - Low}

\section*{Price to Earnings Ratio}

Price (High, Low, or Close)/Earnings per Share - 12 Months Moving

\section*{Price - High to Earnings as a Percentage of Price - Low to Earnings}
((Price - High/Earnings per Share)/(Price - Low/Earnings per Share))* 100

\section*{Average Monthly Price}
\(\sum \mathrm{A} / \mathrm{B}\)
\(\mathrm{A}=\) prices
\(\mathrm{B}=\) months

Price - High to Earnings as a Percentage of Price - Low to Earnings
((Price - High/Earnings per Share)/(Price - Low/Earnings per Share))* 100

\section*{Company Data (cont.)}

\section*{Current Price Deviation from Mean Price}
\[
\sum_{n} \frac{C}{\left(\left(A_{n}+B_{n}\right) / 2\right) / n}
\]

A = monthly high price
\(\mathrm{B}=\) monthly low price
\(\mathrm{C}=\) current close price
\(\mathrm{n}=\) number of months

\section*{Dividend Yield - High}
(Annualized Dividend Rate/ Price - High) * 100
Dividend Yield - Low
(Annualized Dividend Rate/ Price - Low) * 100

Dividend Yield - Close
(Annualized Dividend Rate/ Price - Close) * 100

\section*{Dividend Payout Ratio}
( \(\sum\) Dividends per Share Paid - 12 Months /Earnings per Share) * 100

\section*{Total Investment Return}
\(\left(\left(\left(\mathrm{A}+\left(\sum \mathrm{B}+\sum \mathrm{D}\right)\right) / \mathrm{C}\right)-\mathbf{1} * \mathbf{1 0 0}\right.\)
A = current close price
\(\mathrm{B}=\) dividends per share, beginning month through last month
\(\mathrm{C}=\) close price, beginning month
\(\mathrm{D}=\) cash equivalent distributions
Market Value of Shares Traded
Price - Close * Common Shares Traded

\section*{Index Data}

The index data contained in the PDE file has a wide range of potential uses. Some of these general areas of usage are:
- Relative Performance Analysis
- Industry Analysis
- Industry ComparisonsBeta AnalysisTechnical Price Analysis

\section*{Relative Performance Analysis}

This technique involves the comparison of various company data with industry data for the industry in which the company is classified or with the total market as identified by the S\&P Industrial Index or S\&P 500 Index data. For example, price relatives can be calculated by dividing the company price by the index price at the same point in time. Price relatives, when observed over time, can be useful in projecting the company's future price performance compared to the market or compared to the company's industry.

The same type of analysis can be performed with earnings, price to earnings ratios, dividends, dividend yields, book values, returns on book value, and total investment returns (holding period returns). For instance, both the industry price and 12 months-moving earnings per share can be obtained from the PDE file for any selected month and used to calculate the industry price to earnings ratio. This figure can then be divided into the calculated price to earnings for the company for the same month. This company data is available via the various COMPUSTAT data files.

\section*{Industry Analysis}

The index data in the PDE file can also be used independently of other data in attempting to obtain a clear picture of the performance of specific industries. For example, compound or least-squares growth rates of various index data such as earnings per share, price, dividends per share, annualized dividend rate, and book value per share can be calculated over varying periods to aid in determining the future direction and growth of the industry.

\section*{Industry Comparisons}

The various calculations performed with the industry data can be compared with the same calculations for other industries and for the market in order to determine past relative performances and project future performance. For example, various regression techniques could be used to compare monthly price variability of selected industries with each other or with the market.

\section*{Beta Analysis}

The S\&P Industrial Index and S\&P 500 Index contained on the PDE file are exceptionally well-suited for the calculations necessary in beta analysis.

\section*{Technical Price Analysis}

It is possible to apply various technical formulas to the price data available on the PDE file. Technical analysis can also be applied to price to relative data calculated from the industry index data on the PDE file.

\section*{S\&P Industry Relatives}

Relatives may also be calculated against the S\&P 500, S\&P Industrial, S\&P Transportation, S\&P Utilities, and S\&P Financial indexes, as well as, the New York Stock Exchange.

Virtually all items, which can be calculated for an individual company, can also be calculated on a relative basis.

\section*{Year End Price}
(Company Price - Close /Industry Price - Close) * 100

\section*{Earnings per Share - \(\mathbf{1 2}\) Months Moving}
(Company Earnings per Share - 12 Months Moving/Industry Earnings per Share - 12 Months Moving) * 100

\section*{Year End Close Price to Earnings}
((Company Price - Close /Earnings per Share - 12 Months Moving)/(Industry Close Price/Earnings per Share - 12
Months Moving)) * 100

Year End Yield
((Company Annualized Dividend Rate/company Price - Close)/(Industry Annualized Dividend Rate/Industry Price (Close)) * 100
(Example: Comparing the company return in relation to the \(\mathrm{S} \& \mathrm{P}\) Industry Index return over a 12 -month period.)
\(B=\frac{n \sum X Y-\sum X \sum Y}{n \sum X^{2}-\left(\sum X\right)^{2}}\)
B \(=\) Beta
\(\mathrm{X}=\mathrm{S} \& \mathrm{P}\) Industrial Index \(\Delta\) in Price + Yield ((Annualized Dividend Rate/Price)/12)
\(\mathrm{Y}=\) Company \(\Delta\) in Price + Yield ((Annualized Dividend Rate/Price)/12)
\(\mathrm{n}=\) Number of time periods minus 1; 13 months -1```

