Financial Formulas

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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 `t`, `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 Data Item #	Quarterly Data Item #

Statements of Changes in Financial Position (Total $)

Cash Flow ($ millions)

Definition 1

Income Before Extraordinary Items *plus* Depreciation and Amortization	123 + 125	● 76 + 77

Definition 2

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

Definition 3

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

Statements of Changes in Financial Position ($ per Share)

	Annual Data Item #	Quarterly Data Item #
Capital Expenditures		
Capital Expenditures (Statement of Cash Flows) *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	128/(54 * 27)	● 90/(15 * 17)
Cash Flow		
Definition 1		
(Income Before Extraordinary Items (Statement of Cash 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)	(123 +125)/(54 * 27)	● (76 + 77)/(15 * 17)
Definition 2		
(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) *plus* Minority Interest (Income Account)) *divided by*(Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	(123 + 125 + 126 + 106 + 124 + 49)/(54 * 27)	NA
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* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	(123 + 125 + 126 + 106 + 124)/(54 * 27)	● (76 + 77 + 79 + 80 + 78)/(15 * 17)
Equity in Earnings per Share		
Equity in Net Loss (Earnings) (Statement of Cash Flows) *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	106/(54 * 27)	● 80/(15 * 17)

Income Statement (Total $)

	Annual Data Item #	Quarterly Data Item #
Cash Flow ($ millions)		
Income Before Extraordinary Items *plus* Depreciation and Amortization	18 + 14	8 + 5
Preferred Dividend Coverage		
Income Before Extraordinary Items *divided by* Dividends – Preferred	18/19	8/24
Pretax Income Available for Interest		
Pretax Income *plus* Interest Expense	170 + 15	23 + 22
Tax Rate		
Income Taxes – Total *divided by* Pretax Income	(16/170) * **100**	(6/23) * **100**

Income Statement ($ per Share)

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

Income Statement ($ per Share) (cont.)

	Annual Data Item #	Quarterly Data Item #
Earnings per Share (Diluted)		
Excluding Extraordinary Items		
Earnings per Share (Diluted) – Excluding Extraordinary Items *divided by* Adjustment Factor (Cumulative) by Ex-Date	57/27	9/17
Including Extraordinary Items		
Earnings per Share (Diluted) – Including Extraordinary Items *divided by* Adjustment Factor (Cumulative) by Ex-Date	169/27	7/17
Earnings per Share (Basic)		
Excluding Extraordinary Items		
Earnings per Share (Basic) – Excluding Extraordinary Items *divided by* Adjustment Factor (Cumulative) by Ex-Date	58/27	19/17
Excluding Extraordinary Items – 12-Months Moving		
Earnings per Share (Basic) – Excluding Extraordinary Items – 12-Months Moving *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	27/17
Including Extraordinary Items		
Earnings per Share (Basic) – Including Extraordinary Items *divided by* Adjustment Factor (Cumulative) by Ex-Date	53/27	11/17
Equity in Earnings		
Equity in Earnings *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	55/(54 * 27)	NA
Extraordinary Items		
Extraordinary Items *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	192/(54 * 27)	119/(15 * 17)
Extraordinary Items and Discontinued Operations		
Extraordinary Items and Discontinued Operations *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	48/(54 * 27)	26/(15 * 17)

Income Statement ($ per Share) (cont.)

	Annual Data Item #	Quarterly Data Item #
Interest Expense		
Interest Expense *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	15/(54 * 27)	22/(15 * 17)
Labor and Related Costs		
Labor and Related Expenses *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	42/(54 * 27)	NA
Nonoperating Income (Expense)		
Nonoperating Income (Expense) *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	61/(54 * 27)	31/(15 * 17)
Operating Income After Depreciation		
Operating Income After Depreciation *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	178/(54 * 27)	(21 – 5)/(15 * 17)
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)	13/(54 * 27)	21/(15 * 17)
Operating Income Before Depreciation (Restated)		
Sales (Restated) *minus* Cost of Goods Sold (Restated) *minus* Selling, General, and Administrative Expense (Restated)	117-131-132	NA
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)	43/(54 * 27)	NA

Income Statement ($ per Share) (cont.)

	Annual Data Item #	Quarterly Data Item #
Pretax Income		
Pretax Income *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	170/(54 * 27)	23/(15 * 17)
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)	46/(54 * 27)	4/(15 * 17)
Sales (Net)		
Sales (Net) *divided by* (Common Shares Used to Calculate Earnings per Share (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	12/(54 * 27)	2/(15 * 17)

Operating Margins

	Annual Data Item #	Quarterly Data Item #
(Item) as a % of sales		
Advertising Expense		
Advertising Expense *divided by* Sales (Net)	(45/12) * **100**	NA
Available For Interest		
(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 Data Item #	Quarterly Data Item #

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

Pension and Retirement Expense
Pension and Retirement Expense *divided by* Sales (Net)

	Annual	Quarterly
Pension and Retirement Expense	(43/12) * **100**	NA
Rental Expense	(47/12) * **100**	NA
Research and Development Expense	(46/12) * **100**	(4/2) * **100**
Selling, General, and Administrative Expenses	(189/12) * **100**	(1/2) * **100**

Rental Expense
Rental Expense *divided by* Sales (Net)

Research and Development Expense
Research and Development Expense *divided by* Sales (Net)

Selling, General, and Administrative Expenses
Selling, General, and Administrative Expenses *divided by* Sales (Net)

Cash Flow Margin

Definition 1
(Income Before Extraordinary Items (Statement of Cash Flows) *plus* Depreciation and Amortization (Statement of Cash Flows)) *divided by* Sales (Net)

$$((123 + 125)/12) * \textbf{100} \quad \bullet \quad ((76 + 77)/2) * \textbf{100}$$

Definition 2
(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) *plus* Minority Interest (Income Account)) *divided by* Sales (Net)

$$((123 + 125 + 126 + 106 + 124 + 49)/12) * \textbf{100} \quad ((76 + 77 + 79 + 80 + 78 + 3)/2 * \textbf{100}$$

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)))

$$((123 + 125 + 126 + 106 + 124)/12) * \textbf{100} \quad \bullet \quad ((76 + 77 + 79 + 80 + 78)/2) * \textbf{100}$$

Definition 4
(Income Before Extraordinary Items *plus* Depreciation and Amortization) *divided by* Sales (Net)

$$((18 + 14)/12) * \textbf{100} \quad ((8 + 5)/2) * \textbf{100}$$

Net Profit Margin (After-tax Profit Margin)

Income Before Extraordinary Items *divided by* Sales (Net)

$$(18/12) * \textbf{100} \quad (8/2) * \textbf{100}$$

Operating Margins (cont.)

	Annual Data Item #	Quarterly Data Item #
Operating Profit Margin After Depreciation		
(Operating Income Before Depreciation *minus* Depreciation and Amortization) *divided by* Sales (Net)	$((13 - 14)/12) * \textbf{100}$ *or* $(178/12) * \textbf{100}$	$((21 - 5)/2) * \textbf{100}$
Operating Profit Margin Before Depreciation		
Operating Income Before Depreciation *divided by* Sales (Net)	$(13/12) * \textbf{100}$	$(21/2) * \textbf{100}$
Pretax Profit Margin		
Pretax Income *divided by* Sales (Net)	$(170/12) * \textbf{100}$	$(23/2) * \textbf{100}$

Balance Sheet (Total $ Millions)

	Annual Data Item #	Quarterly Data Item #
Gross Assets		
Assets – Total/Liabilities and Stockholders/Equity – Total *plus* Depreciation, Depletion, and Amortization (Accumulated)	6 + 196	44 + 41
Invested Capital (Total)		
Definition 1		
Invested Capital – Total	37	62
Definition 2		
Invested Capital – Total *minus* Minority Interest (Balance Sheet)	37 – 38	62 – 53
Definition 3		
Invested Capital – Total *plus* Deferred Taxes and Investment Tax Credit (Balance Sheet) *minus* Minority Interest (Balance Sheet)	37 + 35 – 38	62 + 52 – 53
Definition 4		
Invested Capital – Total *plus* Deferred Taxes and Investment Tax Credit (Balance Sheet)	37 + 35	62 + 52

Balance Sheet (Total $ Millions) (cont.)

	Annual Data Item #	Quarterly Data Item #
Net Operating Assets		
Property, Plant, and Equipment – Total (Net) *plus* Current Assets – Total *minus* Current Liabilities – Total	8 + 4 – 5	42 + 40 – 49
Stockholders' Equity (Net Worth)		
Alternative Definition		
Preferred Stock – Liquidating Value *plus* Common Equity – Tangible	10 + 11	NA
Total Debt		
Long- Term Debt – Total *plus* Debt in Current Liabilities	9 + 34	51 + 45
Total Earning Assets		
Property, Plant, and Equipment – Total (Net) *plus* Current Assets – Total	8 + 4	42 + 40
Working Capital		
Current Assets – Total *minus* Current Liabilities – Total	4 – 5	40 – 49

Balance Sheet ($ per Share)

	Annual Data Item #	Quarterly 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)	30/(25 * 27)	NA
Common Equity – Tangible		
Common Equity – Tangible *divided by* (Common Shares Outstanding *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	11/(25 * 27)	NA
Common Equity – Liquidating Value		
Common Equity – Liquidation Value *divided by* (Common Shares Outstanding *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	235/(25 * 27)	NA

Balance Sheet ($ per Share) (cont.)

	Annual Data Item #	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)	(6 + 196)/(25 * 27)	(44 + 41)/(61 * 17)
Invested Capital		
Definition 1		
Invested Capital – Total *divided by* (Common Shares Outstanding *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	37/(25 * 27)	62/(61 * 17)
Definition 2		
(Invested Capital – Total *minus* Minority Interest (Balance Sheet)) *divided by* (Common Shares Outstanding *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	(37 – 38)/(25 * 27)	(62 – 53)/(61 * 17)
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)	(37 + 35 – 38)/(25 * 27)	(62 + 52 – 53)/(61 * 17)
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)	(37 + 35)/(25 * 27)	(62 + 52)/(61 * 17)
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)	(8 + 4 – 5)/(25 * 27)	(42 + 40 – 49)/(61 * 17)

Balance Sheet ($ per Share) (cont.)

	Annual Data Item #	Quarterly Data Item #
Net Operating Assets (cont.)		
Fiscal Year		
Price – Fiscal Year – High *divided by* Adjustment Factor (Cumulative) by Ex-Date	199/27	NA
1st Month of Quarter		
Price – Close– 1st Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	12/17
2nd Month of Quarter		
Price – Close – 2nd Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	13/17
3rd Month of Quarter		
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* (Common Shares Outstanding *multiplied by* Adjustment – Factor (Cumulative) Ex-Date)	8/(25 * 27)	42/(61 * 17)
Total Net Assets		
Assets – Total/Liabilities and Stockholders' Equity – Total *divided by* (Common Shares Outstanding *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	6/(25 * 27)	44/(61 * 17)
Working Capital		
(Current Assets – Total *minus* Current Liabilities – Total) *divided by* (Common Shares Outstanding *multiplied by* Adjustment Factor (Cumulative) by Ex-Date)	(4 – 5)/(25 * 27)	(40 – 49)/(61 * 17)

Retained Earnings Statement (Total $)

	Annual Data Item #	Quarterly Data Item #
Retained Earnings		
Beginning of Year		
Retained Earnings *t minus 1*	36(**t** – **1**)	58(**t** – **1**)
End of Year		
Retained Earnings *t*	36**t**	58**t**
Other Changes		
Retained Earnings *t minus* Retained Earnings *t minus 1 minus* Retained Earnings Restatement *minus* Income Before Extraordinary Items (Statement of Cash Flows) *minus* Extraordinary Items and Discontinued Operations (Statement of Cash Flows) *plus* Cash Dividends (Statement of Cash Flows)	36**t** – 36(**t** – **1**) – 99 – 123 – 124 + 127	NA

Turnover Ratios

	Annual Data Item #	Quarterly Data Item #
Accounts Receivable Turnover		
Sales (Net) *divided by* ((Receivables – Total *t plus* Receivables – Total *t minus 1*) *divided by* 2)	12/((2**t** + 2(**t** – **1**))/**2**)	2/((37**t** + 37(**t** – **1**))/**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* Inventories – Total *t minus 1*) *divided by* 2)	41/((3**t** + 3(**t** – **1**))/**2**)	30/((38**t** + 38(**t** – **1**))/**2**)
Definition 2		
Sales (Net) *divided by* ((Inventories – Total *t plus* Inventories – Total *t minus* 1) *divided by* 2)	12/((3**t** + 3(**t** – **1**))/**2**)	2/((38**t** + 38(**t** – **1**))/**2**)

Turnover Ratios (cont.)

	Annual Data Item #	Quarterly Data Item #
Number of Days' Sales		
in Inventories – Definition 1		
((Inventories – Total *t plus* Inventories – Total *t minus 1*) *divided by* 2) *divided by* (Cost of Goods Sold *divided by* 365)	$((3t + 3(t-1))/2)/(41/365)$	$((38t + 38(t-1))/2)/(30/90)$
in Inventories – Definition 2		
((Inventories – Total t *plus* Inventories – Total *t minus 1*) *divided by* 2) *divided by* (Sales (Net) *divided by* 365)	$(3t + 3(t-1)/2)/(12/365)$	$(38t + 38(t-1)/2)/(2/90)$
in Receivables		
((Receivables – Total t *plus* Receivables – Total *t minus 1*) *divided by* 2) *divided by* (Sales (Net) *divided by* 365)	$((2t + 2(t-1))/2)/(12/365)$	$((37t + 37(t-1))/2)/(2/90)$
Sales per $ Cash and Short-Term Investments		
Sales (Net) *divided by* Cash and Short-Term Investments	12/1	2/36
Sales per $ Common Equity		
Sales (Net) *divided by* Common Equity – Total	12/60	2/59
Tangible		
Sales (Net) *divided by* Common Equity – Tangible	12/11	NA
Liquidating Value		
Sales (Net) *divided by* Common Equity – Liquidation Value	12/235	NA
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	12/3	2/38

Turnover Ratios (cont.)

	Annual Data Item #	Quarterly Data Item #
Sales per $ Invested Capital		
Definition 1		
Sales (Net) *divided by* Invested Capital – Total	12/37	2/62
Definition 2		
Sales (Net) *divided by* (Invested Capital – Total *minus* Minority Interest (Balance Sheet))	12/(37 – 38)	2/(62 – 53)
Definition 3		
Sales (Net) *divided by* (Invested Capital – Total *plus* Deferred Taxes and Investment Tax Credit(Balance Sheet) *minus* Minority Interest (Balance Sheet))	12/(37 + 35 – 38)	2/(62 + 52 – 53)
Definition 4		
Sales (Net) *divided by* (Invested Capital – Total *plus* Deferred Taxes and Investment Tax Credit (Balance Sheet))	12/(37 + 35)	2/(62 + 52)
Sales per $ Net Assets		
Sales (Net) *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	12/6	2/44
Sales per $ Property, Plant, and Equipment		
Gross		
Sales (Net) *divided by* Property, Plant, and Equipment – Total (Gross)	12/7	2/(41 + 42)
Net		
Sales (Net) *divided by* Property, Plant, and Equipment – Total (Net)	12/8	2/42
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 Value *plus* Common Equity – Tangible)	12/(10 + 11)	NA
Total		
Sales (Net) *divided by* Stockholders' Equity – Total	12/216	2/60

Rates of Return

	Annual Data Item #	Quarterly 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)

$(237/((60\mathbf{t} + 60(\mathbf{t} - \mathbf{1}))/\mathbf{2})) * \mathbf{100}$ $(25/((59\mathbf{t} + 59(\mathbf{t} - \mathbf{1}))/\mathbf{2})) * \mathbf{100}$

on Common Equity – Tangible
Income Before Extraordinary Items – Adjusted for Common Stock Equivalents *divided by* Common Equity – Tangible

$(237/11) * \mathbf{100}$ NA

on Common Equity – Total
Income Before Extraordinary Items – Adjusted for Common Stock Equivalents *divided by* Common Equity – Total

$(237/60) * \mathbf{100}$ $(25/59) * \mathbf{100}$

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))

$(18/(6 + 196)) * \mathbf{100}$ $(8/(44 + 41)) * \mathbf{100}$

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))

$((18 + 15)/(6 + 196)) * \mathbf{100}$ $((8 + 22)/(44 + 41) * \mathbf{100})$

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 Stockholders' Equity – Total *plus* Depreciation, Depletion, and Amortization (Accumulated) (Balance Sheet))

$((18 + (15 * (\mathbf{1} - (16/170))))/(6 + 196)) * \mathbf{100}$ $((8 + (22 * (\mathbf{1} - (6/23))))/(44 + 41)) * \mathbf{100}$

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))

$((18 + 15 + 49)/(6 + 196)) * \mathbf{100}$ $((8 + 22 + 3)/(44 + 41)) * \mathbf{100}$

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))

$((18 + (15 * (\mathbf{1} - (16/170))) + 49)/(6 + 196)) * \mathbf{100}$ $((8 + (22 * (\mathbf{1} - (6/23))) + 3)/(44 + 41)) * \mathbf{100}$

Rates of Return (cont.)

	Annual Data Item #	Quarterly Data Item #

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

$((18 + 15 + 49)/37) * 100$ $((8 + 22 + 3)/62) * 100$

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)) *divided by* Invested Capital – Total

$((18 + (15 * (1 - (16/170))) + 49)/37) * 100$ $((8 + (22 * (1 - (6/23)) + 3)/62) * 100)$

on Invested Capital – Definition 2A
(Income Before Extraordinary Items *plus* Interest Expense) *divided by* (Invested Capital – Total *minus* Minority Interest (Balance Sheet))

$((18 + 15)/(37 - 38)) * 100$ $((8 + 22)/(62 - 53)) * 100$

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))

$((18 + (15 * (1 - (16/170))))/(37 - 38)) * 100$ $((8 + (22 * (1 - (6/23))))/(62 - 53)) * 100$

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))

$((18 + 15)/(37 + 35 - 38)) * 100$ $((8 + 22)/(62 + 52 - 53)) * 100$

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))

$((18 + (15 * (1 - (16/170))))/(37 + 35 - 38)) * 100$ $((8 + (22 * (1 - 6/23))))/(62 + 52 - 53)) * 100$

on Invested Capital – Definition 4A
(Income Before Extraordinary Items *plus* Interest Expense *plus* Minority Interest (Income Account)) *divided by* (Invested Capital – Total *plus* Deferred Taxes and Investment Tax Credit (Balance Sheet))

$((18 + 15 + 49)/(37 + 35)) * 100$ $((8 + 22 + 3)/(62 + 52)) * 100$

on Invested Capital – Definition 4B
(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* (Invested Capital – Total *plus* Deferred Taxes and Investment Tax Credit (Balance Sheet))

$((18 + (15 * (1 - (16/170))) + 49)/(37 + 35)) * 100$ $((8 + (22 * (1 - (6/23))) + 3)/(62 + 52)) * 100$

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)	(18/8) * **100**	(8/42) * **100**
on Property, Plant, and Equipment – Total (Net) – Definition 2		
(Income Before Extraordinary Items *plus* Interest Expense) *divided by* Property, Plant, and Equipment – Total (Net)	((18 + 15)/8) * **100**	((8 + 22)/42) * **100**
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)	((18 + (15 * (**1** – (16/170))))/8) * **100**	((8 + (22 * (**1** – (6/23))))/42) * **100**
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)	((18 + 15 + 49)/8) * **100**	((8 + 22 + 3)/42) * **100**
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)	((18 + (15 * (**1** – (16/170))) + 49)/8) * **100**	((8 + (22 * (**1** – (6/23))) + 3)/42) * **100**
on Stockholders' Equity – Definition 1		
Income Before Extraordinary Items *divided by* Stockholders' Equity – Total	(18/216) * **100**	(8/60) * **100**
on Stockholders' Equity – Definition 2		
Income Before Extraordinary Items *divided by* (Preferred Stock – Liquidating Value *plus* Common Equity – Tangible)	(18/(10 + 11)) * **100**	NA
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)	((13 – 14)/(8 + 4 – 5)) * **100** *or* (178/(8 + 4 – 5)) * **100**	((21 – 5)/(42 + 40 – 49)) * **100**

Rates of Return (cont.)

	Annual Data Item #	Quarterly 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)

$((13 – 14)/(8 + 4)) * 100$
or
$(178/(8 + 4)) * 100$

$((21 – 5)/(42 + 40)) * 100$

Sales per $ Working Capital

Sales (Net) *divided by* (Current Assets – Total *minus* Current Liabilities – Total)

$12/(4 – 5)$

$2/(40 – 49)$

Working Capital as a % of Sales

(Current Assets – Total *minus* Current Liabilities – Total) *divided by* Sales (Net)

$((4 – 5)/12) * 100$

$((40 – 49)/2) * 100$

Capitalization Ratios

	Annual Data Item #	Quarterly Data Item #

Invested Capital

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

$9 + 130 + 60 + 38$

$51 + 55 + 59 + 53$

Common Equity – Tangible as a % of Invested Capital

$(11/37) * 100$

NA

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

$(38/37) * 100$

$(53/62) * 100$

Preferred Stock – Carrying Value as a % of Invested Capital

$(130/37) * 100$

$(55/62) * 100$

Preferred Stock – Liquidating Value as a % of Invested Capital

$(10/37) * 100$

NA

Capitalization Ratios (cont.)

	Annual Data Item #	Quarterly 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	$((9 + 34)/37) * 100$	$((51 + 45)/62) * 100$
Definition 2 Long-Term Debt – Total *plus* Preferred Stock – Carrying Value *plus* Common Equity – Total	$9 + 130 + 60$	$51 + 55 + 59$
Common Equity – Tangible as a % of Invested Capital	$(11/(37 – 38)) * 100$	NA
Common Equity – Total as a % of Invested Capital	$(60/(37 – 38)) * 100$	$(59/(62 – 53)) * 100$
Long-Term Debt as a % of Invested Capital	$(9/(37 – 38)) * 100$	$(51/(62 – 53)) * 100$
Preferred Stock – Carrying Value as a % of Invested Capital	$(130/(37 – 38)) * 100$	$(55/(62 – 53)) * 100$
Preferred Stock – Liquidating Value as a % of Invested Capital	$(10/(37 – 38)) * 100$	NA
Total Debt as a % of Invested Capital (Long-Term Debt – Total *plus* Debt in Current Liabilities) *divided by* (Invested Capital – Total *minus* Minority Interest (Balance Sheet)	$((9 + 34)/(37 – 38)) * 100$	$((51 + 45)/(62 – 53)) * 100$
Definition 3 Long-Term Debt – Total *plus* Preferred Stock – Carrying Value *plus* Common Equity – Total *plus* Deferred Taxes and Investment Tax Credit (Balance Sheet)	$9 + 130 + 60 + 35$	$51 + 55 + 59 + 52$
Common Equity – Tangible as a % of Invested Capital	$(11/(37 + 35 – 38)) * 100$	NA
Common Equity – Total as a % of Invested Capital	$(60/(37 + 35 – 38)) * 100$	$(59/(62 + 52 – 53)) * 100$
Deferred Taxes and Investment Tax Credit as a% of Invested Capital	$(35/(37 + 35 – 38)) * 100$	$(52/(62 + 52 – 53)) * 100$
Long-Term Debt as a % of Invested Capital	$(9/(37 + 35 – 38)) * 100$	$(51/(62 + 52 – 53)) * 100$
Preferred Stock – Carrying Value as a % of Invested Capital	$(130/(37 + 35 – 38)) * 100$	$(55/(62 + 52 – 53)) * 100$
Preferred Stock – Liquidating Value as a % of Invested Capital	$(10/(37 + 35 – 38)) * 100$	NA

Capitalization Ratios (cont.)

	Annual Data Item #	Quarterly 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 Value *plus* Minority Interest (Balance Sheet) *plus* Deferred Taxes and Investment Tax Credit (Balance Sheet) *plus* Common Equity – Total	9 + 130 + 38 + 35 + 60	52 + 55 + 53 + 52 + 59
Common Equity – Tangible as a % of Invested Capital	(11/(37 + 35)) * **100**	NA
Common Equity – Total as a % of Invested Capital	(60/(37 + 35)) * **100**	(59/(62 + 52)) * **100**
Deferred Taxes and Investment Tax Credit as a % of Invested Capital	(35/(37 + 35)) * **100**	(52/(62 + 52)) * **100**
Long-Term Debt as a % of Invested Capital	(9/(37 + 35)) * **100**	(51/(62 + 52)) * **100**
Minority Interest (Balance Sheet) as a % of Invested Capital	(38/(37 + 35)) * **100**	(53/(62 + 52)) * **100**
Preferred Stock – Carrying Value as a % of Invested Capital	(130/(37 + 35)) * **100**	(55/(62 + 52)) * **100**
Preferred Stock – Liquidating Value as a % of Invested Capital	(10/(37 + 35)) * **100**	NA
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))	((9 + 34)/(37 + 35)) * **100**	((51 + 45)/(62 + 52)) * **100**

Criteria of Financial Soundness

	Annual Data Item #	Quarterly Data Item #
(Item) as a % of Average Long-Term Debt		
Interest (Interest Expense *divided by* ((Long-Term Debt – Total t *plus* Long-Term Debt – Total *t minus 1*) *divided by* 2)	$(15/((9\mathbf{t} + 9(\mathbf{t} - 1))/\mathbf{2})) * \mathbf{100}$	$(22/((52\mathbf{t} + 51(\mathbf{t} - 1))/\mathbf{2})) * \mathbf{100}$

Criteria of Financial Soundness (cont.)

	Annual Data Item #	Quarterly Data Item #
(Item) as a % of Average Total Debt		
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)	$(15/((9\mathtt{t} + 9(\mathtt{t} - \mathbf{1}) + 34\mathtt{t} + 34(\mathtt{t} - \mathbf{1}))/\mathbf{2})) * \mathbf{100}$	$(22/((51\mathtt{t} + 51(\mathtt{t} - \mathbf{1}) + 45\mathtt{t} + 45(\mathtt{t} - \mathbf{1}))/\mathbf{2})) * \mathbf{100}$
(Item) as a % of Current Assets		
Cash and Short-Term Investments		
Cash and Short-Term Investments *divided by* Current Assets – Total	$(1/4) * \mathbf{100}$	$(36/40) * \mathbf{100}$
Current Assets – Other		
Current Assets – Other *divided by* Current Assets – Total	$(68/4) * \mathbf{100}$	$(39/40) * \mathbf{100}$
Inventory		
Inventories – Total *divided by* Current Assets – Total	$(3/4) * \mathbf{100}$	$(38/40) * \mathbf{100}$
Receivables		
Receivables – Total *divided by* Current Assets – Total	$(2/4) * \mathbf{100}$	$(37/40) * \mathbf{100}$
(Item) as a % of Intangibles		
Goodwill		
Goodwill *divided by* Intangibles	$(204/33) * \mathbf{100}$	NA
(Item) as a % of Total Assets		
Assets – Other		
Assets – Other *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	$(69/6) * \mathbf{100}$	$(43/44) * \mathbf{100}$
Current Assets		
Current Assets – Total *divided by* Assets – Total/Liabilities and Stockholder's Equity – Total	$(4/6) * \mathbf{100}$	$(40/44) * \mathbf{100}$
Goodwill		
Goodwill *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	$(204/6) * \mathbf{100}$	NA
Intangibles		
Intangibles *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	$(33/6) * \mathbf{100}$	NA

Criteria of Financial Soundness (cont.)

	Annual Data Item #	Quarterly Data Item #
(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	$((31 + 32)/6) * 100$	NA
Investments and Advances – Equity		
Investments and Advances – Equity Method *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	$(31/6) * 100$	NA
Property, Plant, and Equipment – Total (Gross)		
Property, Plant, and Equipment – Total (Gross) *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	$(7/6) * 100$	$((41 + 42)/44) * 100$
Property, Plant , and Equipment – Total (Net)		
Property, Plant, and Equipment – Total (Net) *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	$(8/6) * 100$	$(42/44) * 100$
Total Debt		
(Long-Term Debt – Total *plus* Debt in Current Liabilities) *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	$((9 + 34)/6) * 100$	$((51 + 45)/44) * 100$
(Item) as a % of Total Debt		
Short-Term Debt		
Debt in Current Liabilities *divided by* (Long-Term Debt – Total *plus* Debt in Current Liabilities	$(34/(9 + 34)) * 100$	$(45/(45 + 51)) * 100$
(Item) as a % of Total Liabilities		
Current Liabilities – Total *divided by* Liabilities – Total	$(5/181) * 100$	$(49/54) * 100$
Deferred Taxes and Investment Tax Credit		
Deferred Taxes and Investment Tax Credit (Balance Sheet) *divided by* Liabilities – Total	$(35/181) * 100$	$(52/54) * 100$
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	$(9/181) * 100$	$(51/54) * 100$

Criteria of Financial Soundness (cont.)

	Annual Data Item #	Quarterly Data Item #
(Item) as a % of Total Liabilities (cont.)		
Minority Interest		
Minority Interest (Balance Sheet) *divided by* Liabilities – Total	(38/181) * **100**	(53/54) * **100**
Preferred Stock – Carrying Value		
Preferred Stock – Carrying Value *divided by* Liabilities – Total	(130/180) * **100**	(55/54) * **100**
Preferred Stock – Liquidating Value		
Preferred Stock – Liquidating Value *divided by* Liabilities – Total	(10/181) * **100**	NA
(Item) as a % of Total Liabilities and Stockholders' Equity		
Common Equity – Total		
Common Equity – Total *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	(60/6) * **100**	(59/44) * **100**
Stockholders' Equity – Total		
Stockholders' Equity – Total *divided by* Assets – Total/Liabilities and Stockholders' Equity – Total	(216/6) * **100**	(60/44) * **100**
Capital Expenditure Coverage		
(Depreciation and Amortization *plus* Income Before Extraordinary Items – Adjusted for Common Stock Equivalents *minus* Dividends – Common)	(14 + 20 – 21)/30	NA
Current Ratio		
Current Assets – Total *divided by* Current Liabilities – Total	4/5	40/49
Debt/Equity Ratios		
Long-Term Debt – Definition 1		
Long-Term Debt – Total *divided by* Common Equity – Total	9/60	51/59
Long-Term Debt – Definition 2		
Long-Term Debt – Total *divided by* Common Equity – Tangible	9/11	NA
Long-Term Debt – Definition 3		
Long-Term Debt – Total *divided by* Stockholders' Equity – Total	9/216	51/60

Criteria of Financial Soundness (cont.)

	Annual Data Item #	Quarterly Data Item #
Debt/Equity Ratios (cont.)		
Long-Term Debt – Definition 4		
Long-Term Debt – Total *divided by* (Preferred Stock – Liquidating Value *plus* Common Equity – Tangible)	9/(10 + 11)	NA
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 – Liquidating Value *plus* Common Equity – Tangible)	181/(10 + 11)	NA
Interest Coverage		
After-tax		
(Interest Expense *plus* Income Before Extraordinary Items) *divided by* Interest Expense	(15 + 18)/15	(22 + 8)/22
Pretax		
(Interest Expense *Pretax Income*) *divided by* Interest Expense	(15 +170)/15	(22 + 23)/22
Quick Ratio (Acid Test)		
(Cash and Short-Term Investments *plus* Receivables – Total) *divided by* Current Liabilities – Total	(1 + 2)/5	(36 + 37)/49

Management Decision Statistics

	Annual Data Item #	Quarterly Data Item #
(Item) as a % of Cash Flow		
Cash Dividends – Definition 1		
Cash Dividends (Statement of Cash Flows) *divided by* (Income Before Extraordinary Items (Statement of Cash Flows) *plus* Depreciation and Amortization (Statement of Cash Flows))	(127/(123 + 125)) * **100** •	(89/(76 + 77)) * **100**

Management Decision Statistics (cont.)

	Annual Data Item #	Quarterly Data Item #

(Item) as a % of Cash Flow (cont.)

Cash Dividends – Definition 2

Cash Dividends (Statement of Cash Flows) *divided by* (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) *plus* Minority Interest (Income Account))

Annual: $(127/(123 + 125 + 126 + 106 + 124 + 49)) * \mathbf{100}$

Quarterly: $(89/(76 + 77 + 79 + 80 + 78 + 3)) * \mathbf{100}$

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)

Annual: $(127/(123 + 124 + 125 + 126 + 106)) * \mathbf{100}$

● Quarterly: $(89/(76 + 77 + 78 + 79 + 80)) * \mathbf{100}$

(Item) as a % of Income Before Extraordinary Items – Adjusted for Common Stock Equivalents

Cash Dividends

Cash Dividends (Statement of Cash Flows) *divided by* Income Before Extraordinary Items – Adjusted for Common Stock Equivalents

Annual: $(127/20) * \mathbf{100}$

Quarterly: $(89/10) * \mathbf{100}$

(Item) as a % of Property, Plant, and Equipment – Total (Gross)

Depreciation Expense

Depreciation and Amortization *divided by* Property, Plan, and Equipment – Total (Gross)

Annual: $(14/7) * \mathbf{100}$

Quarterly: $(5/(41 + 42)) * \mathbf{100}$

Property, Plant, and Equipment – Total (Net)

Property, Plan, and Equipment – Total (Net) *divided by* Property, Plant, and Equipment – Total (Gross)

Annual: $(8/7) * \mathbf{100}$

Quarterly: $(42/(41 + 42)) * \mathbf{100}$

(Item) as a % of Property, Plant, and Equipment – Total (Net)

Depreciation Expense

Depreciation and Amortization *divided by* Property, Plant, and Equipment – Total (Net)

Annual: $(14/8) * \mathbf{100}$

Quarterly: $(5/42) * \mathbf{100}$

Price and Market Data

	Annual Data Item #	Quarterly Data Item #
Price – High – Adjusted		
Calendar Year		
Price – High *divided by* Adjustment Factor (Cumulative) by Ex-Date	22/27	NA
Fiscal Year		
Price – Fiscal Year – High *divided by* Adjustment Factor (Cumulative) by Ex-Date	197/27	NA
1st Month of Quarter		
Price – High – 1st Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	63/17
2nd Month of Quarter		
Price – High – 2nd Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	64/17
3rd Month of Quarter		
Price – High – 3rd Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	65/17
Price – Low – Adjusted		
Calendar Year		
Price – Low *divided by* Adjustment Factor (Cumulative) by Ex-Date	23/27	NA
Fiscal Year		
Price – Fiscal Year – Low *divided by* Adjustment Factor (Cumulative) by Ex-Date	198/27	NA
1st Month of Quarter		
Price – Low – 1st Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	66/17
2nd Month of Quarter		
Price – Low – 2nd Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	67/17
3rd Month of Quarter		
Price – Low – 3rd Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	68/17
Price – Close – Adjusted		
Calendar Year		
Price – Close *divided by* Adjustment Factor (Cumulative) by Ex-Date	24/27	NA

Price and Market Data (cont.)

	Annual Data Item #	Quarterly Data Item #
Price – Close – Adjusted (cont.)		
Fiscal Year		
Price – Fiscal Year – Close *divided by* Adjustment Factor (Cumulative) by Ex-Date	199/27	NA
1st Month of Quarter		
Price – Close – 1st Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	12/17
2nd Month of Quarter		
Price – Close – 2nd Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	13/17
3rd Month of Quarter		
Price – Close – 3rd Month of Quarter *divided by* Adjustment Factor (Cumulative) by Ex-Date	NA	14/17
Common Shares Outstanding – Adjusted		
Common Shares Outstanding *multiplied by* Adjustment Factor (Cumulative) by Ex-Date	25 * 27	61 * 17
Common Shares Traded – Adjusted		
Common Shares Traded *multiplied by* Adjustment Factor (Cumulative) by Ex-Date	28 * 27	18 * 17
Common Shares Used to Calculate Earnings per Share (Basic) – Adjusted		
Common Shares Used to Calculate Earnings per Share – (Basic) *multiplied by* Adjustment Factor (Cumulative) by Ex-Date	54 * 27	15 * 17
Common Shares Used to Calculate Earnings per Share – 12 Months Moving – Adjusted		
Common Shares Used to Calculate Earnings per Share – 12 Months Moving *multiplied by* Adjustment Factor (Cumulative) by Ex-Date	NA	28 * 17
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 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.	$(((199t + 26)/199 (t – 1)) – 1) * 100$	NA

Price and Market Data (cont.)

	Annual Data Item #	Quarterly Data Item #

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.

	Annual	Quarterly
	NA	$(((14 + 16t + 16(t-1) + 16(t-2) + 16(t-3)) / 14(t-1)) - 1) * 100$

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

	Annual	Quarterly
	$(((199t + 201)/199(t-1)) - 1) * 100$	NA

by Payable Date (Quarter End)

((Price – Close – 3rd Month of Quarter *plus* Dividends per Share by Payable Date *t plus* Dividends per Share by 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

	Annual	Quarterly
	NA	$(((14 + 72t + 72(t-1) + 72(t-2) + 72(t-3)) / 14(t-1)) - 1) * 100$

Market to Book (Fiscal Year End/Quarter End)

Price – Fiscal Year – Close (3rd Month of Quarter) *divided by* (Common Equity – Total *divided by* Common Shares Outstanding)

	Annual	Quarterly
	199/(60/25)	14/(59/61)

Treasury Stock – Number of Common Shares

Treasury Stock – Number of Common Shares *multiplied by* Adjustment Factor (Cumulative) by Ex-Date

	Annual	Quarterly
	87 * 27	NA

Market Value Statistics

	Annual Data Item #	Quarterly Data Item #

Income Before Extraordinary Items Adjusted for Common Stock Equivalents per $100 of Market Value

Calendar Year End

Income Before Extraordinary Items – Adjusted for Common Stock Equivalents *divided by* (Price – Close *multiplied by* Common Shares Outstanding)

	Annual	Quarterly
	20/((24 * 25)/ 100)	NA

Market Value Statistics (cont.)

	Annual Data Item #	Quarterly Data Item #

Income Before Extraordinary Items Adjusted for Common Stock Equivalents per $100 of Market Value (cont.)

Fiscal Year End/Quarter End

	Annual Data Item #	Quarterly Data Item #
Income Before Extraordinary Items – Adjusted for Common Stock Equivalents *divided by* (Price – Fiscal Year – Close *multiplied by* Common Shares Outstanding)	20/((199 * 25)/ **100**)	10/((14 * 61)/ **100**)

Income Before Extraordinary Items per $100 of Market Value

Calendar Year End

	Annual Data Item #	Quarterly Data Item #
Income Before Extraordinary Items *divided by* (Price – Close *multiplied by* Common Shares Outstanding)	18/((24 * 25)/ **100**)	NA

Fiscal Year End/Quarter End

	Annual Data Item #	Quarterly Data Item #
Income Before Extraordinary Items *divided by* (Price – Fiscal Year – Close *multiplied by* Common Shares Outstanding)	18/((199 * 25)/ **100**)	8/(14 * 61)/ **100**)

Market Value of Common Stock

Calendar Year End

	Annual Data Item #	Quarterly Data Item #
Price – Close *multiplied by* Common Shares Outstanding	24 * 25	NA

Fiscal Year End/Quarter End

	Annual Data Item #	Quarterly Data Item #
Price – Fiscal Year – Close *multiplied by* Common Shares Outstanding	199 * 25	14 * 61

Pretax Income per $100 of Market Value

Calendar Year End

	Annual Data Item #	Quarterly Data Item #
Pretax Income *divided by* (Price – Close *multiplied by* Common Shares Outstanding)	170/((24 * 25)/ **100**)	NA

Fiscal Year End/Quarter End

	Annual Data Item #	Quarterly Data Item #
Pretax Income *divided by* (Price – Fiscal Year – Close *multiplied by* Common Shares Outstanding)	170/((199 * 25)/ **100**)	23/((14 * 61)/ **100**)

Sales per $100 of Market Value

Calendar Year End

	Annual Data Item #	Quarterly Data Item #
Sales (Net) *divided by* (Price – Close *multiplied by* Common Shares Outstanding)	12/((24 * 25)/ **100**)	NA

Fiscal Year End/Quarter End

	Annual Data Item #	Quarterly Data Item #
Sales (Net) *divided by* (Price – Fiscal Year – Close *multiplied by* Common Shares Outstanding)	12/((199 * 25)/ **100**)	2/((14 * 61)/ **100**)

Price Ratios

	Annual Data Item #	Quarterly Data Item #
Price – Earnings Ratio		
Fiscal Year End		
Price – Fiscal Year – Close *divided by* Earnings per Share (Basic) – Excluding Extraordinary Items	199/58	NA
Quarter End		
Price – Close – 3rd Month of Quarter *divided by* Earnings per Share (Basic) – Excluding Extraordinary Items – 12-Months Moving	NA	14/27
Dividend Payout Ratio		
Dividends – Common *divided by* Income Before Extraordinary Items – Adjusted for Common Stock Equivalents	21/20	NA
Dividend Yield		
Fiscal Year End		
Dividends per Share by Ex-Date *divided by* Price – Fiscal Year – Close	(26/199) * **100**	NA
Quarter End		
Dividends – Common – Indicated Annual *divided by* Price – Close – 3rd Month of Quarter	NA	(20/14) * **100**

Formulas Used in COMPUSTAT Prices, Dividends, and Earnings (PDE) Financial Calculations

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.

Annualized Dividend Rate

Book Value per Share

Cash Equivalent Distributions per Share by Ex-Date

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)

Net Asset Value per Share

Price – Close

Price – High

Price – Low

Price to Earnings Ratio
Price (High, Low, or Close)/Earnings per Share – 12 Months Moving

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

Average Monthly Price
$$\sum A / B$$
A = prices
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

Company Data (cont.)

Current Price Deviation from Mean Price

$$\sum n \frac{C}{((A_n + B_n) / 2) / n}$$

A = monthly high price
B = monthly low price
C = current close price
n = number of months

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**

Dividend Payout Ratio
($\sum$ Dividends per Share Paid – 12 Months /Earnings per Share) * **100**

Total Investment Return
$(((A + (\sum B + \sum D))/C) - 1 * \textbf{100}$

A = current close price
B = dividends per share, beginning month through last month
C = close price, beginning month
D = cash equivalent distributions

Market Value of Shares Traded
Price – Close * Common Shares Traded

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 Comparisons

- ❑ Beta Analysis

- ❑ Technical Price Analysis

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.

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.

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.

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.

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.

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.

Year End Price
(Company Price – Close /Industry Price – Close) * **100**

Earnings per Share – 12 Months Moving
(Company Earnings per Share – 12 Months Moving/Industry Earnings per Share – 12 Months Moving) * **100**

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 S&P Industry Index return over a 12-month period.)

$$B = \frac{n\sum XY - \sum X \sum Y}{n\sum X^2 - (\sum X)^2}$$

B = Beta

X = S&P Industrial Index Δ in Price + Yield ((Annualized Dividend Rate/Price)/**12**)

Y = Company Δ in Price + Yield ((Annualized Dividend Rate/Price)/**12**)

n = Number of time periods minus **1**; **13** months – **1**