

DEFINITIONS FOR FINANCIAL ANALYSIS

ON BALANCE SHEET

Net Operating Assets = Net PP&E + Net Intangibles

Funded by Equity of LT Debt

Invested Capital = Shareholder's Equity + Capital Leases + Long-term Debt + Short-term Debt [e.g. Notes Payable]

Investment = Short Term Investments + Total Non-Current Assets

Capital Employed = Net Operating Assets + Net Working Capital

Working Capital = Total Current Assets - Total Current Liabilities

Net Working Capital = (Total Current Assets - Cash - ST Investments) - (Total Current Liabilities - Short Term Debt)

Liquidity

Cash Ratio = (Cash + Short Term Investments) / Total Current Liabilities [aka as Liquidity 1. degree]

Current Ratio = Total Current Assets / Total Current Liabilities

Quick Ratio = (Cash + Short Term Investments + Accounts Receivable) / Total Current Liabilities = (Total Current Assets - Inventory) / Total Current Liabilities

Defensive Interval = (Cash + Short Term Investments + Accounts Receivable) / Capital Expenditure = (Total Current Assets - Inventory) / Capital Expenditure

Equity Utilization

Gearing = (Total Liabilities - Cash - Short Term Investments) / Shareholder's Equity

Equity-Asset-Ratio = Shareholder's Equity / Total Assets

Debt-Asset-Ratio = Total Liabilities / Total Assets

Long-term Debt Ratio = Long-term Debt / (Long-term Debt + Shareholder's Equity)

Debt-Equity-Ratio = Total Liabilities / Shareholder's Equity

Leverage = Total Assets / Shareholder's Equity

Leverage Ratio = Shareholder's Equity / Total Assets

Goodwill Ratio = Goodwill / Shareholder's Equity

Intensity

Current-Total-Asset-Ratio = Current Assets / Total Assets

Non-Current-Total-Asset-Ratio = Non-Current Assets / Total Assets

NC Asset cover degree I = Shareholder's Equity / Non-current Assets

NC Asset cover degree II = (Shareholder's Equity + Long-term Debt) / Non-current Assets

Investment-Ratio = Invested Capital / Total Assets

Capital Employment-Ratio = Capital Employed / Total Assets

Wear and Tear

Degree of Tangible Assets Depreciation = (Accumulated Depreciation of PPE + Accumulated Depreciation of Lease Object) / (PPE + Lease Object)

Degree of Intangible Assets Amortization = Accumulated Amortization / Intangibles

ON INCOME STATEMENT

Absolute Performance of Operating Activities

EBITDA (Earnings Before Income, Tax, Depreciations & Amortizations)
= Earnings Before Interest & Tax (EBIT) + Depreciations & Amortizations

NOPLAT (Net Operating Profit Less Adjusted Tax) = Operating Income x (100% - Tax Rate%)

ON INCOME STATEMENT & BALANCE SHEET

Sustainability

Investment Rate = CapEx / NOPLAT

Profitability

Tax Rate = $\text{EBT} > 0 ? \text{Taxes} / \text{EBT} : 0$ (NOTATION) true or false ? this if true : that if false

Return On \emptyset Equity = $\text{Net Income} / [(\text{Shareholder's Equity}_{\text{last}} + \text{Shareholder's Equity}_{\text{current}}) / 2]$

Return On \emptyset Assets = $(\text{Net Income} + \text{Interest Expenses}) / [(\text{Total Assets}_{\text{last}} + \text{Total Assets}_{\text{current}}) / 2]$

Return On \emptyset Investment = $(\text{Net Income} + \text{Interest Expenses}) / [(\text{Investment}_{\text{last}} + \text{Investment}_{\text{current}}) / 2]$

Return On \emptyset Net Operating Assets = $\text{NOPLAT} / [(\text{Net Operating Assets}_{\text{last}} + \text{Net Operating}_{\text{current}}) / 2]$

Return On \emptyset Invested Capital = $(\text{Net Income} + \text{Interest Expenses}) / [(\text{Invested Capital}_{\text{last}} + \text{Invested Capital}_{\text{current}}) / 2]$

Return On \emptyset Capital Employed = $\text{NOPLAT} / [(\text{Capital Employed}_{\text{last}} + \text{Capital Employed}_{\text{current}}) / 2]$

Times Interest Earned (Interest Coverage) = $\text{Operating Income} / \text{Net Interest Expenses}$

Equity Burn Rate_t = $\text{Net Income}_t < 0 ? \text{Shareholder's Equity}_{(t-1)} / |\text{Net Income}_t| : "-"$ (NOTATION) true or false ? this if true : that if false

Covenants

Debt-to-EBITDA = $\text{Total Liabilities} / \text{EBITDA}$

NetDebt-to-EBITDA = $(\text{Total Liabilities} - \text{Cash} - \text{Short Term Investments}) / \text{EBITDA}$

EBITDA-to-DebtPayments = $\text{EBITDA} / (\text{Net Interest Expenses} + \text{Debt Repayments})$

EBITDA-to-Interest = $\text{EBITDA} / \text{Net Interest Expenses}$

Efficiency

\emptyset Working Capital Turnover = $\text{Revenue} / [(\text{Working Capital}_{\text{last}} + \text{Working Capital}_{\text{current}}) / 2]$

\emptyset Working Capital Intensity = $1 / \emptyset$ Working Capital Turnover

\emptyset Total Asset Turnover = $\text{Revenue} / [(\text{Total Assets}_{\text{last}} + \text{Total Assets}_{\text{current}}) / 2]$

\emptyset Total Asset Intensity = $1 / \emptyset$ Total Asset Turnover

\emptyset Net Operating Asset Turnover = $\text{Revenue} / [(\text{Net Operating Assets}_{\text{last}} + \text{Net Operating Assets}_{\text{current}}) / 2]$

\emptyset Fixed Asset Turnover = $\text{Revenue} / [(\text{Fixed Assets}_{\text{last}} + \text{Fixed Assets}_{\text{current}}) / 2]$

Receivables Turnover = $\text{Revenue} / [(\text{Accounts Receivables}_{\text{last}} + \text{Accounts Receivables}_{\text{current}}) / 2]$

Days Sales Outstanding = $[(\text{Accounts Receivable}_{\text{last}} + \text{Accounts Receivable}_{\text{current}}) / 2] / (\text{Revenue} / 365)$

Inventory Turnover = $\text{Costs of Goods Sold (COGS)} / [(\text{Inventory}_{\text{last}} + \text{Inventory}_{\text{current}}) / 2]$

Days Inventory = $[(\text{Inventory}_{\text{last}} + \text{Inventory}_{\text{current}}) / 2] / (\text{COGS} / 365)$

Payables Period = $[(\text{Accounts Payable}_{\text{last}} + \text{Accounts Payable}_{\text{current}}) / 2] / (\text{COGS} / 365)$

Cash Conversion Cycle = $\text{Days Sales Outstanding} + \text{Days Inventory} - \text{Payables Period}$

DuPont RoE = ... x ... x ... x ... x ...

$\text{RoE} = \text{Net Income} / \emptyset \text{ Equity} = \text{Net Income} / \text{EBIT} \times \text{EBIT} / \text{Revenue} \times \text{Revenue} / \emptyset \text{ Net Operating Assets} \times \emptyset \text{ Net Operating Assets} / \emptyset \text{ Total Assets} \times \emptyset 1$

Growth

$\text{EBITDA YoY} = (\text{EBITDA}_{\text{current}} - \text{EBITDA}_{\text{last}}) / \text{EBITDA}_{\text{last}}$

$\text{EBIT YoY} = (\text{EBIT}_{\text{current}} - \text{EBIT}_{\text{last}}) / \text{EBIT}_{\text{last}}$

$\text{Net Income YoY} = (\text{Net Income}_{\text{current}} - \text{Net Income}_{\text{last}}) / \text{Net Income}_{\text{last}}$

$\text{EBITDA YoY} = (\text{EBITDA}_{\text{current}} - \text{EBITDA}_{\text{last}}) / \text{EBITDA}_{\text{last}}$

CASH FLOW & BALANCE SHEET

Cash from Sales € = Revenue + (Account Receivables_current - Accounts Receivables_last)

CapEx € = (PPE_current - PPE_last) + (Intangible Assets_current - Intangible Assets_last)

Cash Flow Sufficiency

Fixed Charges Coverage = Operating Income / Fixed Charges

Cash Flow Ratio = Cash from Operations / Current Liabilities

Cash Flow Operations / Capital Expenditure = Cash from Operations / CapEx

Free Cash Flow = Cash from Operations - Capital Expenditure

Payout Ratio = Dividends Paid / Net Income

Free Cash Flow Generation

Free Cash Flow / Sales = Free Cash Flow / Sales

Free Cash Flow / Net Income = Free Cash Flow / Net Income

Cash Flow Operations / OI = Cash from Operations / Operating Income

VALUE & VALUATION

Economic Value Added = NOPLAT - WACC * Capital Employed

Economic Value Added % = ROCE - WACC

Earnings per Share = Earnings / Number of Shares

Market Capitalization = Floating Shares × Share Prices

Price/Earnings = Equity Value / Net Income = Price per Share / Earnings per Share

Price/Book = Equity Value / Book Value of Shareholder's Equity

Price/Sales = Equity Value / EBITDA

Price/Cash Flow = Equity Value / Cash Flow from Operation

Dividend Yield = Dividends Paid / Equity Value

Equity Value = Shares Outstanding * Price per Share

Enterprise Value = Equity Value + Total Liabilities - Cash - Short Term Investments - Non Operating Assets (e.g. Long Term Investments)

EV / EBITDA = Enterprise Value / EBITDA

EV / Ebit = Enterprise Value / EBIT

EV / Sales = Enterprise Value / Revenue

TERMINOLOGY

Asset Swap = Value in one asset position is exchanged with value in a different asset position

Balance Sheet Extension = Assets and liabilities simultaneously increase by the same amount.
This is neutral to the Income Statement

Balance Sheet Contraction = Assets and liabilities simultaneously decrease by the same amount.
This is neutral to the Income Statement.

EXPLANATIONS

WACC = Weighted Average Cost of Capital (after Tax)

SG&A = Sales, General & Administrative expense, e.g. payroll, sales and marketing, rent, office supplies, legal costs, insurance costs, utilities

COGS = Costs Of Goods Sold, e.g. labor directly tied to production, direct materials needed for the production of goods and services, utilities of the facilities tied to production

Expenses are _Costs_ that are matched with _Revenues_ on the income statement. Thus, all _Expenses_ are _Costs_, but not vice versa.

Thus, _Costs_ can either be an _Expense_ or an _Investment_. In the latter case, they are turned into an _Asset_ and end up on the B/S. Depreciation of the _Asset_ will then be an _Expense_.

Expenses associated with the main activity of the business are referred to as operating expenses. Expenses associated with a peripheral activity are nonoperating or other expenses.

DOUPLE ENTRY BOOKKEEPING

T-ACCOUNT				
DATE	DESCRIPTION	DEBIT (left side)	CREDIT (right side)	BALANCE
		Assets ↑	Assets ↓	
		Liabilities ↓	Liabilities ↑	
		Equity ↓	Equity ↑	
		Expenses ↑	Revenues ↑	
		Dividends ↑	Owners contrib. ↑	

Every position on the B/S, Income Statement, Cash-Flow Statement or Shareholder's Equity has its own T-Account.

Bookkeeping: from Debit (left side) to Credit (right side)

debited = increased what I own, gained, expended or lost OR decreased what I owe

credited = decreased what I own, gained, expended or lost OR increased what I owe