FIN 300 Tip Sheet

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TED ROGERS SCHOOL OF MANAGEMENT | Academic Success Centre

Net working capital = Current Assets – Current Liabilities

Market to book ratio= $\frac{Market\ value\ of\ equity}{Book\ value\ of\ equity}$

EPS= $\frac{Net\ income}{\#\ of\ Shares\ outstanding}$

Enterprise value = Market value of equity + debt – cash

Payout ratio = $\frac{Dividends}{Net\ income}$ **Retention rate** = 1 – Payout ratio

Profitability Ratios

Gross margin = $\frac{Gross\ profit}{Sales}$

Operating margin = $\frac{Operating\ income}{Total\ sales}$

Net Profit margin = $\frac{Net\ income}{Total\ sales}$

Liquidity ratios

Current ratio = $\frac{Current\ Assets}{Current\ Liabilities}$

Quick ratio = $\frac{Current\ assets - inventory}{Current\ liabilities}$

Asset Efficiency ratios

Asset Turnover = $\frac{Sales}{Total\ Assets}$

Fixed Asset Turnover = $\frac{Sales}{Fixed\ Assets}$

Capital intensity = $\frac{Total\ assets}{Sales}$

Interest Coverage

= $\frac{EBIT}{Interest}$

= $\frac{EBITDA}{Interest}$

TIE = $\frac{Earnings}{Interest}$

Working Capital Ratios

Acc. rec. days = $\frac{Acc.\ rec.}{Average\ daily\ sales}$

Acc. pay. days = $\frac{Acc.\ pay.}{Average\ daily\ COGS}$

Inv. turnover = $\frac{COGS}{Average\ inventory/year}$

Leverage Ratios

Debt-equity ratio = $\frac{total\ debt}{total\ equity}$

Debt-capital ratio = $\frac{total\ debt}{total\ equity + total\ debt}$

Debt-enterprise ratio = $\frac{total\ debt}{market\ value\ of\ equity + net\ debt}$

Net debt = total debt – excess cash and short-term investments

Equity multiplier = $\frac{total\ assets}{Book\ value\ of\ equity}$

Valuation Ratios

P/E ratio = $\frac{Market\ Capitalization}{Net\ income}$ = $\frac{Share\ price}{EPS}$

PEG ratio = $\frac{P/E}{Expected\ earnings\ growth}$

New net financing = Projected assets – Projected Liab. and Equity

Sustainable Growth rate = $\frac{Net\ income}{Beg\ equity}$ x (1-payout r.) = ROE x R.R

Internal Growth rate = $\frac{Net\ income}{Beg\ Assets}$ x (1-payout r.) = ROA x R.R

Operating Returns

ROE = $\frac{Net\ income}{Book\ value\ of\ equity}$

ROA = $\frac{Net\ income + interest\ expense}{Total\ assets}$

ROIC = $\frac{EBIT\ (1 - Tax\ rate)}{Book\ value\ of\ equity + Net\ debt}$

DUPONT Model

ROE = $\frac{Net\ income}{Equity}$ = Profit Margin x Asset Turnover x Financial Leverage

= $\frac{Net\ income}{Sales} \times \frac{Sales}{Total\ Assets} \times \frac{Total\ assets}{Total\ equity}$

Other formulas

PV of a cash flow stream : PV = $C_0 + \frac{C_1}{(1+r)} + \frac{C_2}{(1+r)^2} + \ldots + \frac{C_n}{(1+r)^n}$

PV of Perpetuity : PV = $\frac{C}{r}$

PV of Growing Perpetuity : PV = $\frac{C}{r-g}$

PV of Annuity = C x $\frac{1}{r}(1 - \frac{1}{(1+r)^n})$

FV of Annuity = C x $\frac{1}{r}((1+r)^n - 1)$

PV of Growing Annuity = C x $\frac{1}{r-g}(1 - (\frac{1+g}{1+r})^n)$

FV of Growing Annuity = C_1 x $\frac{1}{r-g}((1+r)^n - (1+g)^n)$

PMT = $\frac{P}{\frac{1}{r}(1 - \frac{1}{(1+r)^n})}$

Compound Interest:

$FV_n = C_0 \times (1 + r)^n$ (compounding)

PV = $\frac{C_n}{(1+r)^n}$ (discounting)

Interest rates

EPR = $(1 + \frac{APR}{C/Y})^{\frac{C/Y}{P/Y}} - 1$

EAR = $(1 + \frac{APR}{C/Y})^{C/Y} - 1$

If r = APR, change P/Y and C/Y

If r = EPR, P/y = 1 and C/Y = 1

Equivalent n-period Effective rate = $(1+r)^n - 1$

APR = no compounding (simple interest)

$1 + EAR = (1 + \frac{APR}{m})^m$, where m= # of compounding periods per year

Real rate = $\frac{Nominal\ Rate - Inflation\ Rate}{1 + Inflation\ rate}$