

/* Conceptual Framework */ {Accounting Principle?}

Revenue Recognition ⇒ c1. Directs a company to recognize revenue in the period in which it is earned.

c2. Revenue is not considered earned until a product or service has been provided.

Expense Recognition ⇒ c1. Match expenses with associated revenues in the period in which the revenues were earned.

损耗与收入一一对应

c2. Would be no reliability in statements if expenses were recorded separately from the revenue generated.

Cost principle ⇒ Everything the company owns or controls (assets) must be recorded at (historical cost) its value at the date of acquisition.

Full Disclosure ⇒ c1. A business must report any business activities that could affect what is reported on the financial statements.

c2. Usually recorded in footnotes on the statements or in addenda to the statements.

Separate Entity Concept ⇒ c1. A business may only report activities on financial statements that are specifically related to company operations.

c2. The business is considered an entity separate and apart from its owners.

Conservatism ⇒ if there is uncertainty in a potential financial estimate, a company should err on the side of caution and report the most conservative amount.

Monetary Measurement Concept ⇒ need a monetary unit to record a transaction "stable monetary unit".

Going-concern Acpt ⇒ c1. A company will continue to operate in the foreseeable future.

c2. A common time frame might be 12 months.

Time Period Acpt ⇒ c1. Company can present useful info in shorter time periods, such as years, quarters, or months.

c2. Broken into time frames to make comparisons and evaluations easier.

/* Ratios */

{Profitability Ratios?} ⇒ Earnings or operating success

LIQUIDITY

* Current ratio = Current assets / Current liabilities

* Quick ratio = (Current assets - Inventory) / Current liabilities

LEVERAGE

Debt ratio = Total liabilities / Total assets

Alternative debt ratio = (Total liabilities + Minority interest under Canadian GAAP) / Total assets

Debt to worth = Total liabilities / Shareholders' equity

Equity ratio = Shareholders' equity / Total assets

Debt to tangible net worth = Total liabilities / Tangible net worth

COVERAGE

Interest coverage = EBIT / Interest expense

Fixed-charge coverage = EBIT / (Interest expense + CMLTD)

Cash flow coverage = (Net income + Depreciation and amortization) / CMLTD

Operating cash flow ratio = Operating cash flow / Current liabilities

PROFITABILITY

* Return on asset (ROA) [HB] = Net profit / Total assets

* Return on equity (ROE) = Net profit / Equity

Comprehensive-ROA = Comprehensive income / Total assets

Comprehensive-ROE = Comprehensive income / Shareholders' equity

Return on invested capital = Operating profit / (Total liabilities + Shareholders' equity)

* Gross profit margin (GPM) [HB] = Gross profit / Net sales

Operating profit margin = Operating profit / Net sales

EBITDA margin = EBITDA / Net sales

* Net profit margin = Net profit / Net sales

* Asset turnover [HB] = Net sales / Total assets

* Fixed asset turnover = Net sales / Fixed assets

* Price-earnings (PE) ratio [HB] = Stock price / Basic earnings per share

Price-to-diluted earnings ratio = Stock price / Diluted earnings per share

Reverse PE ratio = Basic earnings per share / Stock price

Reverse diluted PE ratio = Diluted earnings per share / Stock price

GPM ⇒ Margin between selling price and COGS [HB]

Profit Margin ⇒ Net earnings generated by each dollar of sales [HB], higher means better control over its costs;

$$PM = \frac{\text{Net Earnings}}{\text{Net Sales}} = \frac{\text{Rev} - \text{COGS} - \text{Other expenses}}{\text{Net Sales}}$$

Return on Common Shareholders' Equity ⇒ Measure overall profitability of SH's investment;

$$RCE = \frac{(\text{Net Earnings} - \text{Preferred Dividends}) / \text{Avg Common SHE [HB]}}{\text{Residual income Avg invested capital by SH for the time.}}$$

Earnings Per Share (EPS) ⇒ net earnings earned on each common share;

$$EPS = \frac{(\text{Net earnings} - \text{Preferred Dividends})}{\text{Weighted Avg num of common shares}}$$

Not comparable between companies.

Payout Ratio ⇒ % of earnings distributed in cash dividends; [HB] for income-seeking investors; $(1 - \text{POR})\% = \text{retention ratio}$

$$\text{POR} = \frac{\text{Cash Dividends}}{\text{Net Earnings}}$$

↑, less company needs w money to grow the business.

{Double-Entry Bookkeeping?}

* Accounts & general ledger

* Must record a change in at least two different accounts.

* At least one Debit & one Credit.

* $\Sigma Dr = \Sigma Cr$

{Standards?}

* FASB ⇒ Both private & public; include GAAP; It uses a Conceptual framework.

* IASB ⇒ guide F/S.

* SEC ⇒ Ensuring companies adhere to GAAP requirements.

{Characteristics?}

* Relevance ⇒ Predict the future & Make decisions

* Faithful representation ⇒ Neutral & Free of errors

* Comparability, verifiability, Timeliness, understandability.

* Gross profit = Net sales - COGS

* Net Earnings = Gross profit - Operating expenses

* Merchandise inventory = inv + Pur - COGS

* Account payable = A/P + Pur - Cash payment to suppliers

* Net sales = COGS + Gross profit

* Operating exp = Gross profit - Net earnings

* Pur of merchandise inventory = End inv + COGS - End inv

* Long-term asset turnover = Tot operating rev ÷ LT assets

* RE = Tot Assets - Common share - Tot liabilities

* Weighted avg = $\frac{\Sigma WX}{W}$

COGS = 与商品制造、贩售直接相关的耗费

Variable Cost 随产量变化而变化

Contribution margin = (Rev - COGS) ; ratio = CM / Tot Rev

Margin of safety = Actual sale - BEP ; in dollars \$ X, in % : / Current sales

Predictive: % change in profit = % change in sales x (1/mos) Re Operating Risk

* Rev = (Profit + Expense) ÷ CM Ratio

Better working capital:

* Pay a special dividend

* Pay cash dividends

* Buy inv if significant discount

* Discounts offered by suppliers

{Liquidity Ratios?}

* ST ability to pay its maturing obligations & meet unexpected needs for cash.

Working Capital ⇒ ST debt paying ability; $WC = \text{Curr Assets} - \text{Curr Liabilities}$ [HB]

Current Ratio ⇒ ST debt paying ability; $CR = \text{Curr Assets} \div \text{Curr Liabilities}$ [HB]

Inventory Turnover ⇒ liquidity of inventory; $IT = \text{COGS} \div \text{Avg Inventory}$ [HB]

Days in Inventory ⇒ # days inventory is held before sold; Trend ↑ means slower sales or inventory is outdated; $D = 365 \div IT$ [LB]

Receivables Turnover ⇒ liquidity of receivables; High R means company on a cash basis, or extension of cr & collection of A/R is efficient; Low R company should re-assess its credit policies; $R/T = \text{Net credit sales} \div \text{Avg Gross Receivables}$ [HB]

Average Collection period ⇒ Amount of time to collect accounts receivable on avg;

$$\text{Avg Collec P} = 365 \div R/T \text{ [LB]} = \text{Tot operating Rev} \div \text{Avg A/R}$$

Cash Current Debt Coverage ⇒ ST debt-paying ability on a cash basis;

$$CCDC = \frac{\text{Cash provided by operating Activities} \div \text{Avg Curr Liabilities. [HB]}}{\text{Avg Curr Liabilities. [HB]}}$$

{Solvency Ratios?}

* Negative trends indicate deteriorating financial strength

Debt to Total Assets Ratio ⇒ % of Total assets provided by creditors;

$$D/T A = \frac{\text{Total Liabilities} \div \text{Total Assets. [HB]}}{\text{Total Assets. [HB]}}$$

Free Cash Flow ⇒ Cash available for paying dividends or expanding operations.

$$FCF = \text{Cash provided by operating Activities} - \text{Net Capital Expenditures} - \text{Dividends Paid [HB]}$$

Times Interest Earned ⇒ Ability to meet interest payments as they come due; $TIE = \frac{\text{Earning before Interest Expense and Income Tax Expense (EBIT)} \div \text{Interest Expense [HB]}}{\text{Interest Expense [HB]}}$

Cash Total Debt Coverage ⇒ LT debt-paying abilities (cash basis);

$$CTDC = \frac{\text{Cash provided by operating Activities} \div \text{Avg Total Liabilities. [HB]}}{\text{Avg Total Liabilities. [HB]}}$$

Dividend Yield ⇒ Earnings generated by each share, based on the market price per share; $DY = \frac{\$ \text{Dividend per Share} \div \$ \text{Market Price per Share. [HB for income-seeking investors]}}{\$ \text{Market Price per Share. [HB for income-seeking investors]}}$

General

Firm value (FV) = CF / r ; CashFlow, Discount rate

Pension plan ⇒ Lender: employee, employer

Borrower: retire

Basic interest rates ⇒ JPT, inflation ↓.

Overnight rate ⇒ overnight lending rate for bank.

Prime lending rate ⇒ what I paid if the bank lending money.

Basic points ⇒ $(1/100) \times 1\% = bp$

Time value

● $PV(1+r) = FV \Rightarrow FV > PV$; r = rate of return

● $PV(t=0) = \frac{FV_n}{(1+r)^n} \Rightarrow n$ is period

● $r = R_f + \beta \Rightarrow R_f$ = Risk-free rate; r is the discount rate; β is compensation for risk.

● Risk-free asset ⇒ stock: R_f ; Extra = β

● Risky asset ⇒ $r = R_f$; $P = \frac{CF}{(1+R_f)}$; treasury bill by gov.

● Price stock (P) = $CF / (1+r)$

● Simple (compounds) interest ⇒ $FV_n = PV \times (1+r)^n = S_1'$

$$S_1 = S_1' + FV_n$$

● Annuities ⇒ $FV_n = PMT \frac{(1+r)^n - 1}{r}$; $PV_0 = PMT \left[\frac{1 - (1+r)^{-n}}{r} \right]$

(Bonds)

Give us money at the end of each year.

● Annuity Due ⇒ $Ar = \left[\frac{1 - (1+r)^{-n}}{r} \right] (1+r)$

Get money at the beginning of each year;

Present value of annuity due > present value of ordinary Annuity.

● Perpetuities ⇒ $PV_0 = C/r$; C = the period CF (preferred stock (Preferred shares))

par val * % (coupon cost).

● Impact of Compounding ⇒ Effective annual interest rate

$r_{eff} = (1 + \frac{r}{m})^m - 1$; m = # of compounding periods per year.

● Monthly interest rate ⇒ $r_{per period} = (1 + \frac{r}{m})^{m/f} - 1$

● Mortgages ⇒ $K_{per period} = (1 + \frac{r}{m})^{m/f} - 1$

QR = quoted rate; m = compounding frequency, f = payment frequency.

● Balance outstanding (at $t=n$) after the first mortgage payment:

$$PV_0 = \frac{C}{r} \left[1 - \frac{1}{(1+r)^n} \right]$$

Bond & Bond valuation ⇒ Annuity

● $r \uparrow = R_f + \beta \uparrow$

MV (maturity value) ≈ Face value;

● The money that the investor get.

price of bond ⇒ $PV_{bond} = PVA(CPN) + \frac{MV}{(1+r)^n}$; r = YTM

CPN ⇒ Coupon interest; payment of interest.

● $P = \sum_{t=1}^n \frac{CPN}{(1+r)^t} + \frac{Principal}{(1+r)^n}$; p = price in dollars, n = # of

periods, CPN = Coupon payment, t

$PV = CA_T + \frac{Principal}{(1+r)^T}$; T = time period when payment is received, r = periodic interest rate

● Price-yield Relationship ⇒ $P \uparrow$, Demand $\uparrow$; $T \uparrow$, $P \uparrow$.

● Semi-Annual Coupon ⇒ $CPN = MV * CR \% / 2$; CR = Coupon Rate.

● Price ($t=0$) = $\frac{CPN}{(1+r/2)} + \frac{CPN}{(1+r/2)^2} + \dots + \frac{CPN + MV}{(1+r/2)^n}$; r is semi-annual maturity rate. (YTM)

● For semi-annual coupons ⇒ size of coupon payment ($\div 2$); YTM ($\div 2$); num of periods ($\times 2$)

● Quoted prices ⇒ PV of the remaining CFs as of last CF pmt.

● Cash price = Quoted price + Accrued Interest = $QP + \$bond * CR * (days/365)$.

Stock Evaluation ⇒ Perpetuity

● Primary Markets ⇒ Initial Public Offering

Secondary Markets ⇒ Secondary offering; No new capitals flow into; involving "stock exchanges", "OTC" (over the counter markets ⇒ Bonds, small cap stocks, etc.).

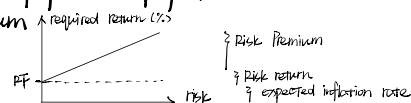
$$\bar{A} = L + O/E$$

● Income ≈ Interest + Dividends + Capital Gains

● Preferred stock ⇒ PDV is the same, but indefinite period.

Common stock ⇒ Dividend payments = payout ratio * NI; All mature.

● $r = R_f + \text{Risk Premium}$



● Preferred share valuation

$Pps = D_p / r_p$; Pps is market price (or PV); D_p is annual fixed dividend amount, r_p is required rate of return investor demand (discount rate).

● Preferred stock ⇒ Perpetuity

$$Price = \frac{D_1}{(1+r)} + \frac{D_2}{(1+r)^2} + \dots + \frac{D_n}{(1+r)^n}$$

$D_1 \Rightarrow \% \times \text{par val (or issuing val)}$; $r = R_f + \beta$

● Common share valuation (using DDM).

$$P_0 = \frac{D_0 (1+g)}{(1+r-g)} = \frac{D_1}{(1+r-g)}$$

● Constant growth rate

stock price $\uparrow$ if: i. Dividends $\uparrow$; ii. Growth rate $\uparrow$; iii. Investors required return decreases.

price $\uparrow$ of a common share linked to: i. Corporate profitability $\uparrow$; ii. General level of interest rates (e.g.: $R_f \downarrow$); iii. Risk (e.g.: Risk Premium required by investors $\downarrow$).

Applied when: Assume the growth rate can sustain in very long term.

Relation holds when $r < g$

● $r = D_1 / P_0 + g$ = Dividend Yield + Capital Gains Yield

● Price of Common stock ⇒ $PV_1 / (1+r) + PV_2 / (1+r)^2 + \dots + PV_n / (1+r)^n$

● Multi-stage Growth $P_0 = \frac{D_1(1+g_1)}{(1+r)^1} + \frac{D_2(1+g_2)(1+g_1)}{(1+r)^2} + \dots + \frac{D_n(1+g_{n-1})(1+g_{n-2}) \dots (1+g_1)}{(1+r)^n}$

$$= F_0 + \frac{D_1}{(1+r)^1} + \frac{D_2}{(1+r)^2} + \frac{D_3}{(1+r)^3}$$

● Growth rate of dividends ⇒ $g = b * ROE$

b = Firm's earnings retention ratio

$= 1 - \text{firm's dividend payout ratio}$

ROE = Firm's return on common equity = $\$NI / \SHE

$= NI / \text{Sales} \times \text{Sales} / \text{Total Assets} \times \text{Total Assets} / \text{Equity}$

$= \text{Net profit margin} \times \text{Turnover Ratio} \times \text{Leverage ratio}$

Increase value of the firm: profit margin on sales $\uparrow$; turnover rate on sales $\uparrow$; leverage the firm using equity $\downarrow$, Debt $\uparrow$.

● Value of growth opportunities ⇒ $P_0 = EPS_1 / r + PVGO$; $EPS_1 = PDV$

$= \text{no-growth component} + \text{present value of growth opportunities}$.

No PVGO if no new buying or sth.

● NPVGO = [new purchase at Date 0 / $(1+r)$] + share outstanding

● New price per share = $EPS / r + NPVGO$

● P/E = Price-per-share / EPS ; Calc. avg P/E ratio for the group;

Estimate EPS for the company for next 12 months.

If	Then	Bond Sells at a:
Coupon < YTM	Market Price < Face	Discount
Coupon = YTM	Market Price = Face	Par
Coupon > YTM	Market Price > Face	Premium

Project Evaluation

● Capex (capital expenditure)

Long-lived assets = Δ Tangible CPPEs

ii. Intangible (research, 专利) ...)

● Management's responsibility ⇒ Maximize shareholder value

Constraint: resource; Result: Capital rationing

● Sustainable growth rate ⇒ $g = b * ROE$

value of firm $\uparrow$ if: the firm retains and reinvests its profit at a rate of return (ROE) greater than its cost of capital.

● Capital Budgeting ⇒ Identify, evaluate, implementing, monitoring.

● Capex decision consider ⇒ timing, magnitude, riskiness, of the net incremental, after-tax cash flow benefits.

Changing the underlying CF by changing the structure of project :

change credit terms, put off an expansion, etc..

- Net present value $\Rightarrow NPV = -\text{Initial Cost} + PV \text{ future benefits}$

$$= -IC + \frac{CF_1}{(1+r)} + \dots + \frac{CF_n}{(1+r)^n}$$

If Benefits > Cost, NPV is pos, project accept, creates SH wealth.

If Benefits < Cost, NPV is neg, project unaccept. destroys SH wealth.

- Profitability index (PI) $\Rightarrow PI = PV \text{ inflow} / PV \text{ outflow}$
 if $PI > 1$, accept ; When NPV same, use PI to compare.

- Payback period (PP) $\Rightarrow$ Focus on Liquidity

- Internal rate of return $\Rightarrow IRR = -IC + \sum \frac{CF_t}{(1+IRR)^t}$

If IRR > Discount rate (r), project acceptable, provide a rate of return on invested capital > the cost of funds used to finance.

- Capital Budgeting CF $\Rightarrow CF_0 = C_0 + \Delta NWC_0 + OC$

CF_0 = initial investment at $t=0$

C_0 = initial capital cost of the asset

ΔNWC_0 = change in net working capital requirements

OC = PV of opportunity costs associated with the project

Implied opportunity cost $\Rightarrow$ Difference between current A & L.

i. Raw materials OR inventory are purchased ; ii. Cash kept as buffer

vs unexpected expense, iii. Credit sales are made to generate A/R, give up potential rev from alternative uses.

- Tax shield benefit of CCA $\Rightarrow \text{tax rate } (T) * \text{CCA amount} = \text{savings}$

$$= \text{cost} * \% * \frac{1}{1+r}$$

Accelerized rate

- PV of tax savings in CCA $\Rightarrow PV(\text{CCA tax shields}) = \left[\frac{\text{Cost} * T}{k+d} \right] * \left[\frac{1 - \frac{1}{(1+k)^n}}{1+k} \right]$

d = the applicable CCA rate

Net $\sim = \left[\frac{\text{Cost} * T}{k+d} \right] * \left[\frac{1 - \frac{1}{(1+k)^n}}{1+k} \right] - \frac{SV_n * T * d}{d+k} * \frac{1}{(1+k)^n}$

k = Cost on Capital ; SV_n is salvage value at $t=n$.

- CCA = UCC * % $\Rightarrow$ Income * t = tax payable

- Tax savings $\approx CCA * T$

- $SV_n > UCC \Rightarrow$ Too much CCA over time ; Receipts (additional tax owing) ; CCA bal. < 0.

$SV_n < UCC \Rightarrow$ Terminal loss (tax savings) ; CCA no assets remain, CCA bal. > 0.

- Replacement decisions $\Rightarrow NPV = PV(\Delta \text{Operating CFs}) + PV(\Delta \text{CCA Tax shields}) + PV(\Delta ECF_n) - \Delta CF_0$

- $\Delta C_0 = C_0^{\text{new}} - C_0^{\text{old}} ; \Delta SV_n = SV_{\text{new}} - SV_{\text{old}}$

- $PV(\text{CCA tax shields}) = \left[\frac{\Delta C_0 * T}{k+d} \right] * \left[\frac{1 - \frac{1}{(1+k)^n}}{1+k} \right] - \left[\frac{\Delta SV_n * T * d}{k+d} \right] * \left[\frac{1}{(1+k)^n} \right]$

- Case when has not equal life

Equivalent Annual NPV $\Rightarrow EANPV = \frac{\text{Project NPV}}{\left[\frac{1 - (1+k)^{-n}}{k} \right]}$; NPV < 0, out ; same time, smaller NPV, out.

Cheaper one wins.

- Lease or buy $\Rightarrow$ Lease $\Rightarrow$ no Co, no T, no CCA, no SV, Lease payment $\Rightarrow$ Buy $\Rightarrow$ Co, T, CCA, SV

- Project with uncertainty $\Rightarrow$ Dynamic NPV : Calc. CF for each : (high for 1 - low for 2) * unit
 - fix cost ; Expected CF = % * CF.

Option to Abandon $\Rightarrow$ Value of real option = NPV with option - NPV w/o option

Cost of capital / structure

- Cost of capital $\Rightarrow$ minimum return ; Accept if $CC < WACC$

- EPS = $NI / \# \text{ shares} = (NI / \text{Equity (Book Value)}) * (\text{Equity} / \# \text{ shares})$

$$= ROE * BVPS$$

Price = $EPS / k_e = ROE * BVPS / k_e$

$\downarrow P \Rightarrow$ market price of the stock ; $\uparrow P$ if $EPS > k_e$; $BVPS \Rightarrow$ book value ; $k_e \Rightarrow$ investor's required return.

- WACC = $k_e (S/V) + k_d (1-T) (D/V) ; S \Rightarrow$ current market value of equity,
 $D \Rightarrow$ current market value of debt ; $V = S + D, V \Rightarrow$ value of firm's capital ; $k_d \Rightarrow$ cost of debt (the current yield on debt in the market), $k_e \Rightarrow$ cost of equity (current expected rate of return. [Weighted avg. cost of capital].

- Total market value of common shares $\Rightarrow S = \text{Price} * \# \text{ shares}$; S_2 : Estimate market values
 preferred shares $\Rightarrow P = D_p / K_p * \# \text{ shares}$ Equity.

- Total market value of debt (bonds) $\Rightarrow B = \frac{F}{k_b} \left[1 - \frac{1}{(1+k_b)^n} \right] + \frac{F}{(1+k_b)^n} \Rightarrow S_2 : \sim \text{Debt}$

- $V = D + P + S ; WACC = k_e (S/V) + k_p (P/V) + k_d (1-T) (D/V) \Rightarrow S_2 : \text{Market Weights}$

- Cost of existing capital $\Rightarrow K_{prefshare} = D_p / P_p ; k_e = DIV / P_{ocm} + g$

$$= R_f + \beta (R_m - R_f)$$

Cost of Debt $\Rightarrow k_d = \text{Kolikotova Tax} (1-T)$

- Constant Growth Gordon Model $\Rightarrow P_0 = D_1 / (k_e - g) ; D_1 \Rightarrow$ DIV paid in the first year,
 $g \Rightarrow$ estimated future growth, $P_0 \Rightarrow$ current stock price

- $K_{wacc} = \left(\frac{S}{S+D} \right) k_e + \left(\frac{D}{S+D} \right) k_d (1-T)$

- Floatation costs $\Rightarrow$ % Floatation method $K_{new} = k / (1-f)$

	No Floatation costs	Floatation costs Method 1	Floatation costs Method 2
Cost of debt (net of taxes)	$K_d(1-T)$	$K_{d,new} = \frac{K_d(1-T)}{(1-f)}$	$NP = \frac{I(1-T)}{K_{d,new}} \left[1 - \frac{1}{(1+K_{d,new})^n} \right] + \frac{FV}{(1+K_{d,new})^n}$

	No Floatation costs	Floatation costs Method 1	Floatation costs Method 2
Cost of Preferred Equity K_p	$K_p = \frac{D_p}{P_p}$	$K_{p,new} = \frac{K_p}{1-f}$	$K_{p,new} = \frac{D_p}{NP_p}$

- Leverage Effect $\Rightarrow RO_I = \frac{[EBIT](1-T)}{(E+D)} ;$ Return on investment
 earnings after tax but before financing costs

$ROE = (EBIT - K_D D) (1-T) / E ; K_D \Rightarrow$ cost of Debt

$ROE = RO_I + (D/E) (RO_I - K_D (1-T)) ;$ good states, $RO_I > K_D$ after tax ; bad states
 $RO_I < K_D$ after tax.

- Market Risk Premium $\Rightarrow R_m - R_f$

- Capital Asset Pricing Model $\Rightarrow R_e = R_f + (R_m - R_f) \beta \Rightarrow P_0 = D_1 / (R_e - g)$

- PMI = face value * CR / n

- marginal cost of Capital (MCC) $\Rightarrow MCC = K_{e,new} \frac{E}{V} + K_{p,new} \frac{P}{V} + K_{d,new} (1-T) \frac{D}{V}$
 $WACC = K_e \frac{E}{V} + K_p \frac{P}{V} + K_d (1-T) \frac{D}{V}$

- Value of the firm = $CF / WACC$

- $ROE = (EBIT - K_D D) (1-T) / E$

Interest Expense = Cost of debt K_D times amount of debt D

- If no Debt, then $ROE = RO_I$

Hedging

- Long $\Rightarrow$ pos exposure to the asset ; short $\Rightarrow$ neg exposure to the asset

- Pricing Forward Contracts $\Rightarrow F = (1+C) * S ; S \Rightarrow$ spot price, $F \Rightarrow$ forward price, $C \Rightarrow$ the cost of carry as percentage of S over the period in question, $C =$ storage costs + financing costs

- Intrinsic value $\Rightarrow IV(\text{call}) = \text{Max}(P - S, 0) ; P \Rightarrow$ asset price, $S \Rightarrow$ exercise price

- Option price = $IV + TV ; TV \Rightarrow$ time value ; At expiration $TV = 0$, the option premium = IV.