FM Formula Sheet

Financial Management (FM) · Syllabus S26-J27 · For revision use only

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Working Capital Management

Cash operating cycle =

Inventory days + Receivables days – Payables days

Inventory days = Inventory ÷ Cost of sales × 365

Receivables days = Receivables ÷ Revenue × 365

Payables days = Payables ÷ Cost of sales × 365

EOQ = $\sqrt{(2\ C_o\ D \div C_h)}$

C_o = cost per order · D = annual demand · C_h = holding cost/unit/year

Receivables & Payables

Cost of discount =

[d ÷ (100 – d)] × [365 ÷ days saved] × 100

Compare factoring vs invoice discounting on cost

Discount worthwhile if cost < short-term borrowing rate

Investment Appraisal

NPV = Σ discounted cash flows – initial outlay

IRR ≈ $L + [NPV_L \div (NPV_L - NPV_H)] \times (H - L)$

Payback = time to recover initial outlay

Annuity factor = $(1 - (1 + r)^{-n}) \div r$

Perpetuity = 1 ÷ r · Growing = 1 ÷ (r – g)

Real rate: $(1 + m) = (1 + r)(1 + i)$

m = money rate · r = real rate · i = inflation

Sensitivity & Risk

Sensitivity = NPV ÷ PV of variable × 100

Smallest % change = most sensitive variable

Expected value = Σ (probability × outcome)

Cost of Capital — WACC

WACC =

$[V_e \div (V_e+V_d)]\ K_e + [V_d \div (V_e+V_d)]\ K_d(1–t)$

Use market values for weightings unless told otherwise

Cost of Equity

Dividend growth: $K_e = [D_0(1+g) \div P_0] + g$

CAPM: $K_e = R_f + \beta(R_m - R_f)$

Growth g = b r (b = retention rate, r = return)

Or $g = (D_0 \div D_n)^{1/n} - 1$ (geometric)

Cost of Debt

Irredeemable: $K_d = I(1–t) \div MV$

Redeemable: IRR of after-tax cash flows

Preference shares: $K_p = D \div MV$

Bank loan: interest rate × (1 – t)

Gearing & Beta

Asset beta:

$\beta_a = \beta_e\ [V_e \div (V_e + V_d(1–t))]$

Regear: $\beta_e = \beta_a\ [(V_e + V_d(1–t)) \div V_e]$

Gearing = Debt ÷ Equity (or ÷ Debt + Equity)

Interest cover = PBIT ÷ Interest

Business Valuations

P/E valuation = EPS × P/E ratio

Dividend valuation = $D_0(1+g) \div (K_e - g)$

Net asset value = Assets – Liabilities

Earnings yield = EPS ÷ share price

Foreign Exchange Risk

PPP: $F_0 = S_0 \times (1 + h_c) \div (1 + h_b)$

IRP: $F_0 = S_0 \times (1 + i_c) \div (1 + i_b)$

Higher inflation/interest currency → weakens

Hedge with forwards, money market, futures or options