



CFA Level 1 Corporate Finance Study Session 11

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R 44 – Capital Budgeting

R 45 – Cost of Capital

R 46 – Measures of Leverage

R 47 – Dividends and Shares Repurchases – Basics

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*R 47 – The Corporate Governance of Listed Companies – A Manual
for Investors*



Capital Budgeting



Capital Budgeting Concepts

Capital Budgeting: Capital Budgeting is the decision-making related to long term projects. Capital Projects are reflected under the Long Term Assets on a firm's Balance Sheet.

Basic Principles of Capital Budgeting:

Capital Budgeting is based on “Incremental After-Tax Cash Flows”

- Cash-flows are based on opportunity costs.
- Taxes must be fully reflected in capital budgeting.
- Intangible costs and benefits are ignored in the analysis.

Capital Budgeting Cash-flows are NOT based on Accounting Income, e.g.

- Interest expense is subtracted from Accounting Net Income, and, Depreciation Expense and other non-cash charges are also subtracted from Net Income. For Capital Budgeting cash-flows, interest is not considered in the cash flows, since it is incorporated in the discount rate. Also, non-cash expenditures are not real cash out-flows.

Financing Costs are ignored in the Cash-flows, when performing the valuation of the project

- Cost of Debt and Cost of Other Capital, (Financing Costs) are reflected in the Discount Rate used rather than in the cash-flows used.

Sunk Costs are not included in cash-flows

- These have already been incurred and are not incremental on account of the project

Effects of External Cash-flows on account of Project need to be incorporated

- These could be effects on other projects of the company

Cash-flow Pattern Conventionality has to be kept in mind (Changing sign of cash flows)



Capital Budgeting Valuation Methods

List of Capital Budgeting Methods:

Several Capital Budgeting Methods are available, which are explored in detail throughout this chapter. An introductory list of the methods is presented below:

- Net Present Value
- Internal Rate of Return
- Payback Period
- Discounted Payback Period
- Average Accounting Rate of Return
- Profitability Index



NPV – Net Present Value

NPV is an application of the TVM concept

- It is a method of measuring the value of an investment.
- NPV is calculated as the Present Value 'PV' of the Cash Inflows minus the PV of the Cash Outflows.
- We need to estimate all the ***“Incremental After-Tax Cash flows”***.
- We need to determine the discount rate to reflect the cost of debt capital and other capital, since this has not been reflected in the cash-flows.
- Then calculate the NPV.

We accept projects with Positive NPV

- If multiple projects are available, we ***accept the highest NPV Project***.

NPV Formula

- $$NPV = -CF_0 + CF_1/(1+r)^1 + CF_2/(1+r)^2 \dots CF_N/(1+r)^N$$



IRR - Internal Rate of Return

IRR is rate at which NPV = 0

- In the NPV equation, if we set NPV equal to '0', and then calculate the value of 'r', that 'r' is referred to as IRR;

$$'0' = -CF_0 + CF_1/(1+r)^1 + CF_2/(1+r)^2 \dots CF_N/(1+r)^N$$

IRR Interpretation

- IRR also referred to a YTM or yield to maturity.
- IRR also interpreted as a 'MWR or money weighted return.

$$\text{Investment} = CF_1/(1+r)^1 + CF_2/(1+r)^2 \dots CF_N/(1+r)^N$$

- Accept projects where IRR exceeds cost of capital



Payback Period

Payback Period

- Based on Incremental Cash-flows, and is a liquidity Measure. Payback Period is defined as the ***‘Number of Years to recover original Investment’***.

Payback Period - Limitations

- Cash-flows are not discounted so time value of cash-flows is ignored, as well as riskiness of project is not accounted for.
- Cash-flows beyond recovery period never become part of analysis.



Discounted Payback Period

Discounted Payback Period

1. Similar to Payback Period
2. Based on same set of cash-flows
3. Is a Liquidity Measure focusing on number of years to recovery of investment
 - ***Cash-flows are Discounted***

Discounted Payback Period – Limitations

- Cash-flows beyond recovery period still do not become part of the analysis.



Applying Capital Budgeting Techniques - IRR

Example: Steinhart Company is evaluating a Long Term Project that requires an initial investment of \$20 million and will generate \$14 million every year for 3 years, and in the fourth year it will generate another \$10 million. Assuming these are after tax incremental tax flows. The initial investment relates to the purchase of a machinery, which will have no salvage value at the end of 4 year.

For IRR Use Financial Calculator:

In the cash-flow Register, input CF_0 as -20, then add the various cash-flows with their associated frequency. Press IRR and then compute keys on calculator.

IRR 56.42%



Applying Capital Budgeting Techniques - NPV

Example: Steinhart Company is evaluating a Long Term Project that requires an initial investment of \$20 million and will generate \$ 14 million every year for 3 years, and in the fourth year it will generate another \$10 million. Assuming these are after tax incremental tax flows. The initial investment relates to the purchase of a machinery, which will have no salvage value at the end of 4 year.

For NPV, assume discount rate of 12%

$$\text{NPV} = -20 + 14/(1.12)^1 + 14/(1.12)^2 + 14/(1.12)^3 + 10/(1.12)^4$$

$$\text{NPV} = -20 + 12.5 + 11.16 + 9.96 + 6.36$$

$$\text{NPV} = 19.98$$



Applying Capital Budgeting Techniques – Payback Period

Example: Steinhart Company is evaluating a Long Term Project that requires an initial investment of \$20 million and will generate \$ 14 million every year for 3 years, and in the fourth year it will generate another \$10 million. The initial investment relates to the purchase of a machinery, which will have no salvage value at the end of 4 year.

Payback Period

Place cash-flows on timeline

	0	1	2	3	4
Cash-flows:	-20	+ 14	+ 14	+14	+10
Cumulative CF:	-20	- 6	+ 8	+22	+36

Cash-flows are recovered between year 1 and year 2

Payback Period is: 1year + 6/14 = 1.43 years

Project risk and cost of capital are not accounted for. Also, cash-flows after recovery are ignored, which is a drawback.



Capital Budgeting Techniques - Discounted Payback

Example: Steinhart Company is evaluating a Long Term Project that requires an initial investment of \$20 million and will generate \$ 14 million every year for 3 years, and in the fourth year it will generate another \$10 million. The initial investment relates to the purchase of a machinery, which will have no salvage value at the end of 4 year.

Discounted Payback Period

Place cash-flows on timeline

	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Cash-flows:	-20	+ 14	+ 14	+14	+10
Discounted CF:	-20	+12.5	+11.16	+ 9.96	+6.36 (@12% discount rate)
Cum. Disc. CF:	-20	-7.5	+3.66	+13.62	+19.98

Cash-flows are recovered between year 1 and year 2

- **Payback Period is: 1year + 7.5/11.16 = 1.67 years**
- **Cash-flows after recovery are ignored, which is a drawback**
- **Discounting the Cash Flows is an advantage over the ordinary Payback Period.**



Applying Capital Budgeting Techniques - AAR

Example: Steinhart Company is evaluating a Long Term Project that requires an initial investment of \$20 million and will generate \$ 14 million every year for 3 years, and in the fourth year it will generate another \$10 million. Assuming these are after tax incremental tax flows. The initial investment relates to the purchase of a machinery, which will have no salvage value at the end of 4 year. Net Income in year 1 – 3 is \$ 2 million and in year 4 Net Income is \$ 1 million

AAR = Average Net Income/Average Book Value

$$\text{AAR} = [(2 + 2 + 2 + 1)/4] / [(20 - 0)/ 2] = 1.75/10 = 17.5\%$$

- ***Note that AAR is based on Accounting Numbers, NOT Cash-flows***
- ***NPV and IRR methods are more sound economic concepts.***



Applying Capital Budgeting Techniques - Profitability Index

Example: Steinhart Company is evaluating a Long Term Project that requires an initial investment of \$20 million and will generate \$ 14 million every year for 3 years, and in the fourth year it will generate another \$10 million. Assuming these are after tax incremental tax flows. The initial investment relates to the purchase of a machinery, which will have no salvage value at the end of 4 year.

Profitability Index

$PI = PV \text{ of Future Cash-flows} / \text{Initial Investment}$

$PI = (12.5 + 11.16 + 9.96 + 6.36) / 20 = 1.99, \text{ or}$

Also, $PI = 1 + (\text{NPV} / \text{Initial Investment})$

$PI = 1 + (19.98 / 20) = 1.99$

Decision Rule = If $PI > 1$ Invest in Project

If $PI < 1$ Do not Invest in Project

- ***PI indicates the value received in exchange for one unit of currency. Also called the benefit-cost ratio***



When NPV and IRR Conflict

For Independent Projects,

- NPV and IRR do not conflict.

For Mutually Exclusive Projects,

- They CAN Conflict. When that happens, rely on the NPV to make the decision.

NPV and IRR Conflict can occur due to;

- Difference in Project Cash-flow Timing,
- Difference in Size or Scale of Project.

Multiple IRR Problem

- If there is more than one outflow during project's life, the problem will yield multiple IRRs.



NPV Profiles

NPV Profile is the graphical representations of a Project's NPV for several different discount rates. NPV is graphed on the y axis and the discount rates on the x axis.

Three points on the NPV Profile have added significance;

- Where the profile touches the y axis,
- Where it touches the x axis,
- The profile value for the required rate of return.

NPV Profiles can have various shapes

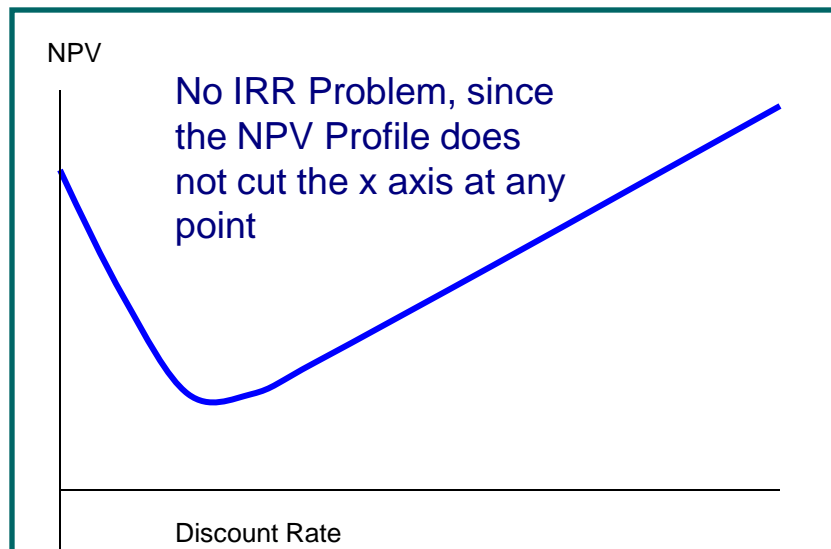
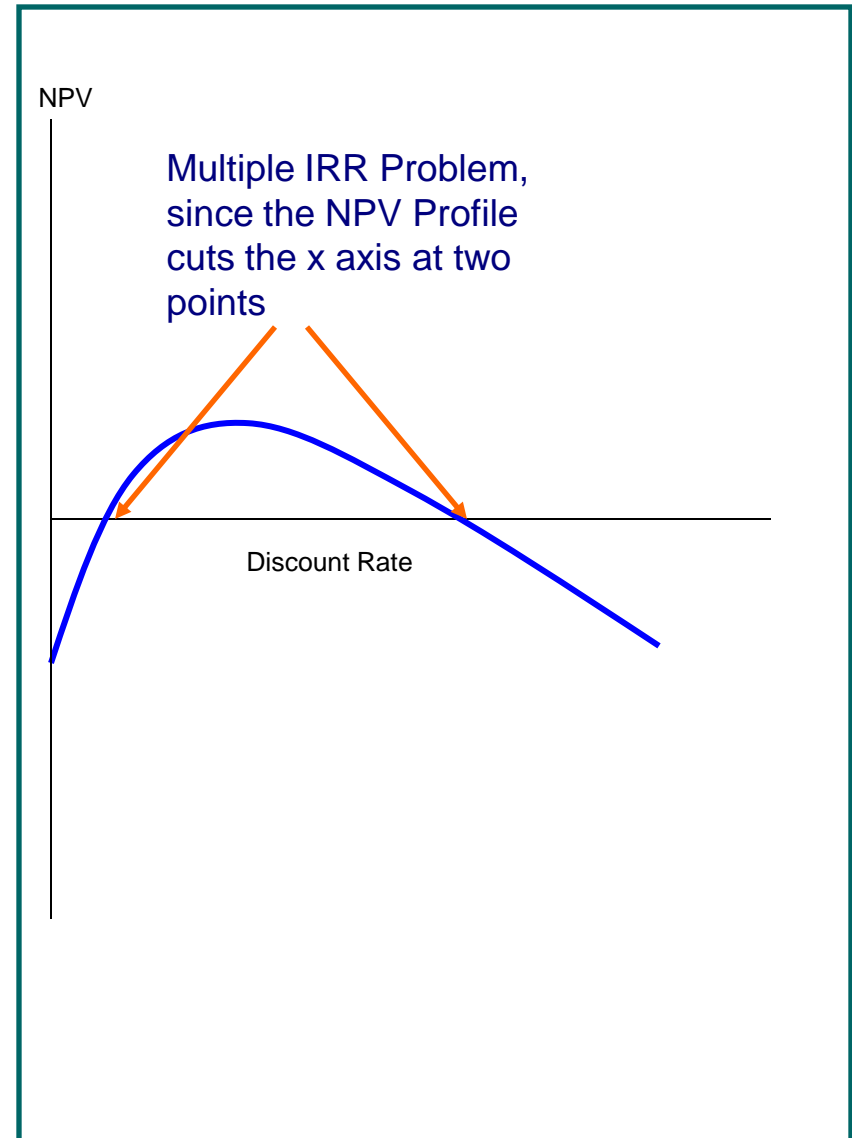
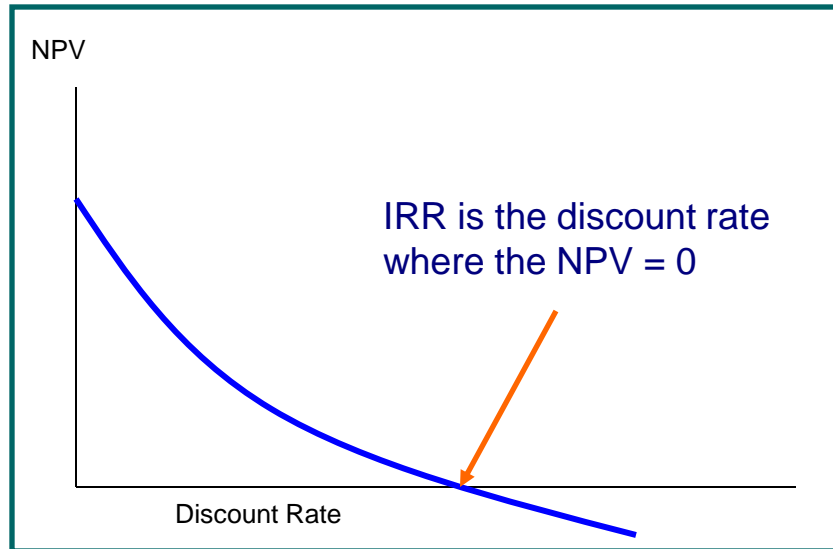
- The shapes can be indicative of the multiple or no IRR problem.

NPV Profiles of different projects can cross over

- Before and after the cross over points, one project can have a higher NPV than the other.
- We make the decision based on which project has the higher NPV for our required rate of return.



NPV Profiles





Cost of Capital



Importance of Cost of Capital

How a Company Creates Value:

A company creates value by investing in new projects and generating a return from investments that exceeds the cost of funds used in the project.

Definition of Cost of capital

The rate of return required by suppliers of capital to the company.

Component Costs of Capital

- r_d : Debtors supply capital to the company: *Cost of Debt, specifically After-Tax Cost of Debt, $r_d(1 - t)$.*
- r_e : Shareholders supply capital to the company: *Cost of Common Equity.*
- r_p : Preferred shareholders supply capital to the company: *Cost of Preferred Equity.*

Cost of Capital for Entire Company

Weighted sum of the component costs of capital 'WACC', or weighted average cost of capital.



Weighted Average Cost of Capital - WACC

WACC Calculation

$$\text{WACC} = w_d r_d (1-t) + w_e r_e + w_p e_p$$

w_d = weight of debt

w_e = weight of common equity

w_p = weight of preferred equity

$r_d(1-t)$ = After Tax cost of debt

After tax cost of debt $r_d(1-t)$ is used since interest is tax deductible.

WACC is the Marginal Cost of Capital

WACC represents the cost of an additional dollar of capital raised.

The WACC is also referred to as the MCC, or the Marginal Cost of Capital.



Calculating the WACC - Example

Example: A company has the following capital structure; 40% debt, 50% equity, and 10% preferred stock. The company's before tax cost of debt is 6%, cost of common equity is 8% and cost of preferred equity is 7%. The company falls in the 45% tax bracket. Calculate the company WACC?

WACC Calculation:

$$\begin{aligned} \text{WACC} &= 0.4 \times [0.06 (1-0.45)] + 0.5 \times 0.08 + 0.1 \times 0.07 \\ &= 0.0132 + 0.04 + 0.007 \\ &= 0.0602 \\ &= 6.02\% \end{aligned}$$

WACC Interpretation:

Additional capital raised by the company will be at the cost of 6.02%, assuming that the company maintains the existing proportions in its capital structure. Generally however, the exact proportions of components in the capital structure cannot be maintained in the short run, but in the long run the company generally maintains a **Target Capital Structure**.



Effect of Taxes on Cost of Capital

Cost of Debt Capital:

Cost of Debt capital is directly affected by the tax rate *applicable to the company*. This is because interest paid on debt capital is a *tax deductible expense*. A higher tax rate on the company, reduces the after tax cost of debt:

- If before tax cost of debt is 10% and tax rate is 40%
The after tax cost of debt will be = $0.1 \times (1 - 0.4) = 6\%$
- If before tax cost of debt is 10% but tax rate on company is 50%
The after tax cost of debt will be = $0.1 \times (1 - 0.5) = 5\%$

Cost of Common Equity:

Returns paid to a company's common equity holders are in the form of dividends. Dividends are not a tax deductible item for the company, hence the tax rate applicable to the company has no effect on cost of common equity.

Cost of Preferred Equity:

Preferred dividends are also not tax deductible, so cost of preferred equity is not affected by the tax rate applicable to the company.



Capital Structure Weights used in the WACC

Weights of the Target capital Structure:

The ideal proportions to use are those based on the ***Target Capital Structure***. This is the capital structure that the company wishes to maintain over the long term.

Estimated Capital Structure – Market Value Weights:

To an outside analyst, the Target Capital Structure may not be known. This requires an estimation of the capital structure using the ***market values*** of the firms debt, common equity and preferred equity. This estimate serves as a baseline that can be assumed to be the company's target capital structure.

Estimated Capital Structure - Competitors Capital Structure:

If a company's capital structure is not known, a close competitor's capital structure may be used if their sizes and business structures are comparable. Or the average of a number of competitors' capital structure proportions can be used.

Weights of Specific Proportions in Project:

The best option is to use the proportions of capital specifically utilized in the new funding raised for a particular project.



Determining the Optimal Capital Budget

Investment Opportunities

A company has several projects that it could potentially invest in. These investment opportunities can only be exploited if capital can be raised for each new investment.

Returns Exceeding Cost of Capital

As long as the company's ***returns from new investments exceed its marginal cost of capital, the company should continue to invest*** in new projects since each new project will add value to the company. New investments should continue up till the point when the cost of new capital becomes equal to the returns generated from the new projects into which the new capital is injected. A new investment that provides returns exceeding its cost of capital would be a ***positive NPV project***.

Optimal Capital Budget

The Optimal Capital Budget is determined on the basis of all new investment opportunities that provide returns in excess of the cost associated with new capital required for those projects. The collective capital allocation for all such investment opportunities represents the ***Optimal Capital Budget***.



Investment Opportunity Schedule

■ Investment Opportunity Schedule – IOS

Consider a company faced with the following investment opportunities, ranked according to IRR. A **downward sloping investment opportunity schedule** would result if projects are graphed with capital required on the x axis and IRR on the y axis

	Project 1	Project 2	Project 3	Project 4	Project 5
IRR	35%	30%	25%	20%	15%
Capital Required	\$200m	\$100m	\$250m	\$50m	\$300

■ Which Projects should be undertaken?

If the company has unlimited capital, and if the cost of that capital is lower than the IRR of the lowest return project, 15%, the company should undertake all projects.



Marginal Cost of Capital

■ MCC – Marginal Cost of Capital

In reality, a company does not have access to an unlimited amount of capital. Its cost of capital rises as it raises more and more of it.

The *MCC is thus upward sloping.*

	1 st capital raising	2 nd Capital raising	3 rd capital raising	4 th capital raising	5 th capital raising
Cost of Capital	5%	10%	15%	20%	25%
Capital Raised	\$200m	\$100m	\$250m	\$50m	\$300

■ Optimal Capital Budget

- The Optimal Capital Budget results by **combining the IOS and the MCC**
- It occurs at the *intersection of the IOS and the MCC.*

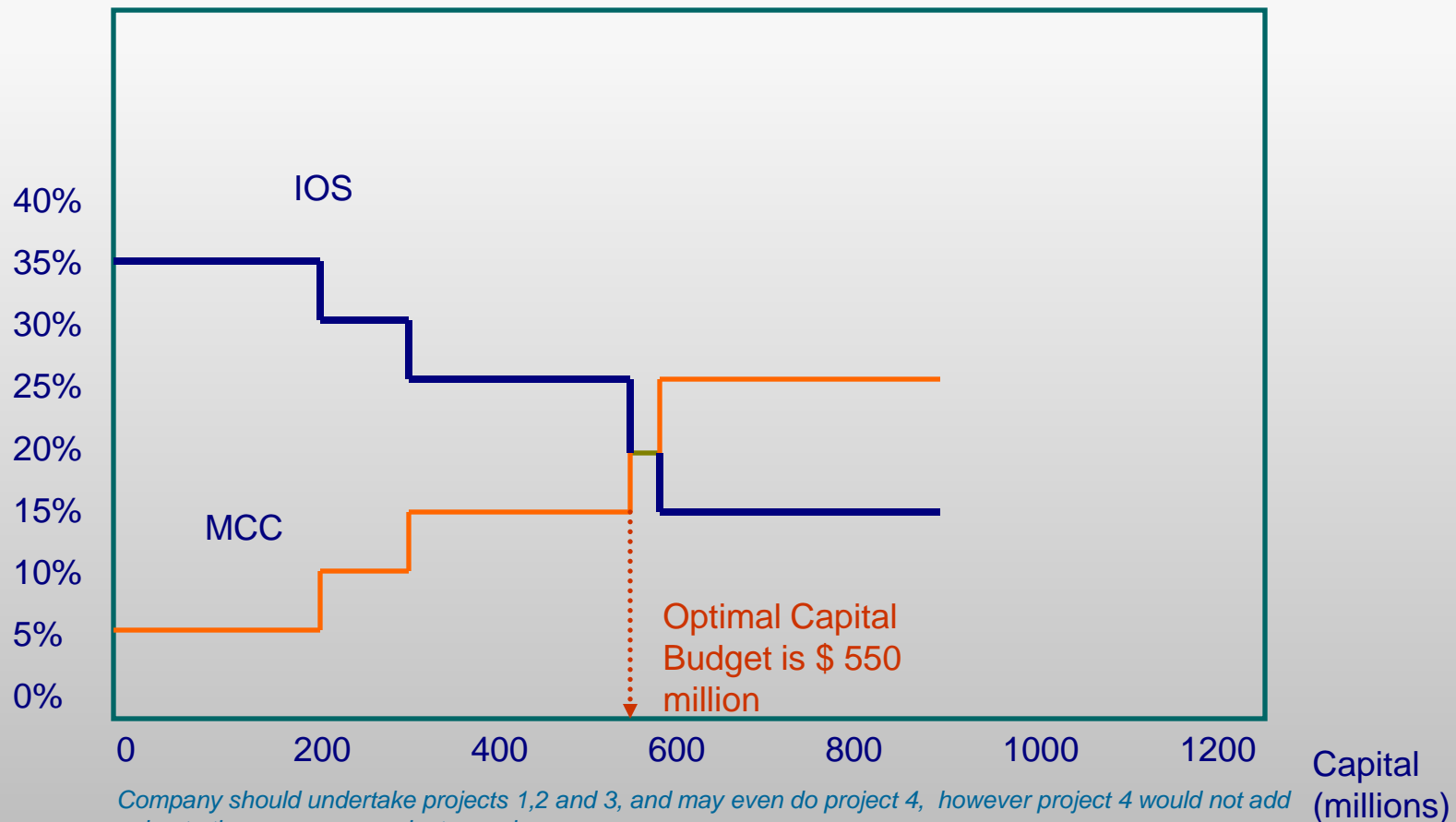


Combining the IOS and the MCC

Optimal Capital Budget

IRR or Cost of Capital

(This graph plots data shown in two previous slides)





Why the MCC (WACC) increases as more capital is raised

Debt is cheaper in direct Costs than Equity:

This is primarily due to tax deductibility of interest expense. However, as more and more debt is taken on, the company incurs an ever-greater fixed burden of repayment (increasing risk of default). ***Therefore more debt can generally be acquired at higher costs, contributing to a rising WACC.***

Higher volatility implies higher equity required return:

Higher levels of debt also imply higher financial leverage and an increase in the volatility of earnings available to equity investors. ***The higher volatility of returns to equity holders makes them demand a higher return.*** Thus, as debt levels rise, a company's cost of equity capital also increases, with a rising level of WACC.

Lumpiness of Capital Raising:

New capital cannot always be raised in proportion of target capital structure because of economies of scale within different capital components. This also results in more capital being raised in the short run from a costlier source than if capital were strictly raised in target capital structure proportions. ***This contributes to a rising WACC.***



Relationship of MCC and Net Present Value

Discounting at the WACC:

A project's cash-flows are discounted using the WACC if the project bears the same level of risk as the overall company.

Discounting at a higher rate than the WACC:

If a project is considered to have more risk compared to the investing company overall, then we need to discount such a project at a rate higher than the WACC to account for the higher risk of the project.

Discounting at a lower rate than the WACC

A project with lower risk relative to the company overall, should be discounted at a rate lower than the WACC.



Calculating the Component Costs of Capital

Component costs of Capital for WACC:

Component costs need to be estimated through certain methodologies. These are then combined in a weighted average to calculate the WACC. There are different methods for calculating the component costs.

Methods for Component Cost of Debt

- Yield to Maturity Approach
- Debt-Rating Approach

List of Methods for Component Cost of Common Equity:

Capital Asset Pricing Model (with 3 approaches)

- *Historical Equity Risk Premium Approach (Plus CAPM)*
- *Dividend Discount Model - Using Implied Equity Risk Premium Approach (Plus CAPM)*
- *Using Survey Approach for Equity Risk Premium (Plus CAPM)*

Multi-Factor Model – (Variation of CAPM)

Bond Yield Plus Risk Premium Approach

Method for Component Cost of Preferred Equity

Valuation Model for Fixed Rate, Perpetual Preferred Stock.



Component Cost of Debt - Yield to Maturity Approach

Yield to Maturity Approach:

YTM is the annualized return to an investor holding a bond to maturity with all interim coupon proceeds reinvested at the YTM. If a company issues a new bond, the parameters of the bond can be used to calculate the implied YTM (By computing I/Y).

Calculating Before Tax Cost of Debt:

Example: A company issues a 5 year, \$1000 Face value, 10% semiannual coupon bond, sold at \$1050. Use the YTM approach to calculate the company's Before tax cost of debt. If the company tax rate is 40%, what is its after tax cost of debt?

Solution:

$PV = \$1050$, $FV = \$1000$, $N = 10$, $PMT = \$50$, Compute I/Y

I/Y = 4.372%, Double this for annual YTM = 8.74%

Company's before tax cost of debt is 8.74%

Company's after-tax cost of debt = $0.0874 \times (1 - 0.4) = 5.24\%$



Component Cost of Debt - Debt Rating Approach

Debt Rating Approach:

This approach is useful for a company that has issued bonds but whose bonds are not publicly traded. This is a simple approach that looks at the average maturity of the company's bond issues and the company's own overall debt rating.

We then look at comparable maturity bonds in the market that carry the same bond debt rating as the company. We use the *yield on these comparable maturity and similar rating bonds* as a proxy for the company's before tax cost of debt.



Component Cost of Equity - CAPM Approach

Basic Relationship under CAPM:

Expected Return on a Stock

$$E(R_i) = R_f + \beta_i (R_m - R_f)$$

= Risk free rate + Beta x (Market Return – Stock Return).

The term in brackets is the expected Market Risk Premium. Beta is the sensitivity of returns on a stock to the returns of the overall market. The expected return will represent the Required Return on Equity, or the Component Cost of Equity.

Calculating Expected Return:

Example: If a company's stock has a beta of 1.2, the risk free rate is 5% and the market risk premium is 2%, calculate the cost of equity for the company?

Solution:

$$E(R_i) = R_f + \beta_i (R_m - R_f)$$

= 5% + 1.2 x (2%) = 7.4% is the company's cost of equity



Cost of Equity – CAPM, Historical Equity Risk Premium



Historical Equity Risk Premium:

This approach uses the 'Realized Equity Risk Premium' over the past to estimate the future equity risk premium. The average equity risk premium is found based on historical returns of the market, and the average risk free rate is found based on the historical data of the 10 year Treasury bond yield.

Calculating Expected Return:

Example: Assume that a 100 year arithmetic average of a 10 year T-bond in the U.S. is 5% and that the 100 year arithmetic mean of the U.S. stock market has been 9%. If a company's stock has a beta of 0.8, calculate the cost of equity for the company?

Solution:

$$\begin{aligned} E(R_i) &= \text{Historical } R_f + \beta_i (\text{Estimated Historical Equity Risk Premium}) \\ &= 5\% + 0.8 \times (9\%) = 12.2\% \text{ is the company's cost of equity.} \end{aligned}$$



Cost of Equity, Dividend Discount Equity Risk Premium

Dividend Discount Model (Implied Risk Premium Approach):

This approach uses the constant growth dividend discount model (Gordon Growth Model). The Valuation of a stock with constant growth rate in dividends is done using the formula;

$$P_0 = D_1 / (r_e - g)$$

Rearranging the above formula, we can solve for r_e , the implied equity risk premium (expected return on the market, which is the same as cost of equity capital);

$r_e = D_1/P_0 + g$, According to this formula, the expected return on the market is equal to the dividend yield D/P, and the dividend growth rate, g.

Calculating Expected Return:

Example: Assume that the dividend yield on an equity index is 8%, and the dividend growth rate is 1.5%. Calculate the expected return for the company?

Solution:

$$\begin{aligned} r_e &= D_1/P_0 + g \\ &= 8\% + 1.5\% \\ &= 9.5\% \text{ is the company's expected return (implied risk premium)} \end{aligned}$$

Calculating Cost of Equity:

Example: If the risk free rate is 5% and the firms beta is 0.8, calculate the firm's cost of equity using the equity risk premium calculated through the dividend discount model?

Cost of Equity = 5% + (0.8 x 9.5%) = 12.6% is the firms cost of equity



Cost of Equity – Survey, Equity Risk Premium

Survey Approach:

Based on a collective opinion of practitioners, a view can be developed regarding the expected Equity Risk Premium. In the last 3 decades, the equity risk premium in the U.S. has ranged between 5% – 7%.

Calculating Cost of Equity:

Using the risk free rate and the firm's beta, the CAPM can be used to calculate a company's cost of equity capital. The equity risk premium input can be based on the opinion survey of practitioners.



Cost of Equity - Multi-Factor Model

Basic Relationship under Multi-Factor Model:

Expected Return on Stock:

$$E(R_i) = R_f + \beta_{i,1} (\text{Factor Risk Premium}_1) + \beta_{i,2} (\text{Factor Risk Premium}_2) + \beta_{i,3} (\text{Factor Risk Premium}_3) + \dots + \beta_{i,n} (\text{Factor Risk Premium}_n)$$

CAPM vs. Multi-Factor:

CAPM uses only the stock's relationship to the market risk premium as an adjustment factor to the risk free rate. The Multi-Factor model uses the stock's relationship to multiple premiums associated with several economic and business risks. The Multi-Factor model can be used to adjust the risk free rate to account for all relevant risks that have an effect on stock price. These risks are called 'Priced Risks'.

Calculating Expected Return:

Example: Assume that the risk free rate is 5%. A company's stock has a beta of 1.2 to Business Cycle Risk, which commands a premium of 2% and the company has a beta of 0.8 to Inflation risk, which commands a risk premium of 3%. Calculate the cost of equity for the company?

Solution:

$$\begin{aligned} E(R_i) &= R_f + \beta_{i,1} (\text{Business Cycle Risk Premium}) + \beta_{i,2} (\text{Inflation Risk Premium}) \\ &= 5\% + (1.2 \times 2\%) + (0.8 \times 3\%) \\ &= 5\% + 2.4\% + 2.4\% \\ &= \mathbf{9.8\% \text{ is the company's cost of equity}} \end{aligned}$$



Cost of Equity - Bond Yield Plus Risk Premium

Riskier Cash-flows demand higher return:

Returns to a company's equity holders are riskier than returns to its bondholders. Cost of equity can be estimated by using the return on a company's bonds and adding on a risk premium for the equity holder.

Cost of Equity using Bond Yield Plus Equity Risk Premium:

$$r_e = r_d + \text{Equity Risk Premium}$$

Example: If bond return for a company is 3% and additional premium for equity risk compensation, to be added on is 2.5%. Calculate the cost of equity?

Cost of Equity = 3 % + 2.5 % = 5.5 % is cost of equity.



Calculating Cost of Preferred Equity

Valuation Model for Fixed rate Perpetual Preferred Stock:

$$\text{Price per share of Preferred Stock} = \frac{\text{Preferred Dividends}}{r_p, \text{ or cost of Preferred Stock}}$$

Cost of Preferred Equity:

The valuation equation above can be re-arranged to find cost of preferred stock.
Cost of Preferred Stock;

$$r_p = \text{Dividends}_p / \text{Price per share}_{\text{preferred stock}}$$

Calculating Cost of Preferred Equity:

Example: A firm can issue new preferred stock at a price of \$50 per share with preferred dividends being paid at 5%, or \$ 2.5 per share. Calculate the cost of preferred equity for this firm.

Solution:

Cost of preferred equity = \$ 2.5 / \$ 50 = 5% is cost of preferred equity

(some times the answer is directly presented in the question). Note: The relevant cost of preferred equity is based on the preferred dividend rate at which new preferred stock can be issued (If the problem only gives information about existing preferred shares, then that will be used in the computation).



Country Equity Risk Premium

Developed Countries:

'Beta' adequately measures the country risks that a stock (or project) is exposed to. This is borne out by empirical research.

Developing Countries:

'Beta' does not adequately capture all country risk exposures. A separate 'Country Equity Risk Premium' is added on to account for the risk inherent in equity investments in developing countries.

Country Equity Risk Premium For Developing Country:

$$\text{Equity Risk Premium} = \text{Sovereign Yield Spread} \times \frac{\text{Annualized } \sigma \text{ of Equity Index}}{\text{Annualized } \sigma \text{ Sovereign Bond market}}$$

(In currency of Developed Country)



Understanding - Country Equity Risk Premium

Sovereign Yield Spread – Term 1:

It is a measure of the developing country's general risk (financial). It is the Difference between the yield of government bonds in developing country and government bonds of similar maturity in developed country. Note: The bond yield in the developing country is calculated in terms of the currency of the developed country.

Term 2 - (Numerator and Denominator):

This is a factor used to adjust the general country risk upwards or downwards. This adjustment factor is based on the volatility (σ) of the developing country's stock market relative to the volatility (σ) of its own bond market. Note: The bond market returns of developing country are also expressed in terms of the currency of the developing country.

Calculating Cost of Equity, CAPM - (Incorporating Country Equity Risk Premium):

Example: An investor in a developed country is evaluating the cost of equity for a company in a developing country. Assume the risk free rate in the developed country is 5%. The appropriate beta is 1.2. The equity risk premium in the developed country is 4% and the country equity risk premium for the developing country is 2%. Calculate the cost of equity for the developed country and the cost of equity for the developing country, incorporating the country equity risk premium.

Solution:

Cost of Equity Developed Country = $5\% + 1.2 (4\%)$ = **9.8% cost of equity**

Cost of equity Developing Country = $5\% + 1.2 (4\% + 2\%)$ = **12.2% cost of equity**



Revisiting the MCC and IOS

Break-Points in New Capital:

We studied earlier that in the short run capital raising proportions deviate from the target capital structure proportions. This is because of economies of scale inherent in the capital raising process. This is also the reason why the MCC is an upward 'Step-Function'.

Limits on Various Capital Components:

In the short run, a company may be unable to raise more debt if it has already incurred a huge amount of debt. Similar limiting circumstances may be faced for other capital components in the short term.

This gives rise to the Break-Points in the WACC as the cost of one of its component capital sources increases as more capital is raised.



Calculating Break-Points for Debt Capital Changes

Debt Costs	New Debt ≤ 200 m	200 - 300 m	300 - 500m	More than 500m
Cost of Debt	5%	7%	9%	11%

A company wishes to maintain a 40% Debt and 60% Equity Ratio. Calculate the Break-Points at which costs of Debt change?

Break-Point = $\frac{\text{Amount of Capital at which Cost of Component Changes}}{\text{Proportion of Capital Raised from Component Source}}$

1st Break Point = $200\text{m} / 0.4 = 500$ million of new Capital Raised (we move from 5 to 7%)

2nd Break Point = $300\text{m} / 0.4 = 750$ million of new Capital Raised (move from 7 to 9%)

3rd Break Point = $500\text{m} / 0.4 = 1,250$ million of new Capital Raised (move from 9 to 11%)



Calculating Break Points for Equity Capital Changes



Equity Costs	New Equity ≤ 250 m	250m to 400 m	400m to 500m	More than 500m
Cost of Equity	6%	8%	10%	12%

Company wishes to maintain a 40% Debt and 60% Equity Ratio. Calculate the Break-Points at which costs change?

Break-Point = Amount of Capital at which Cost of Component Changes / Proportion of Capital Raised from Component Source

1st Break Point = $250\text{m} / 0.6 = 416.67$ million of new Capital Raised

2nd Break Point = $400\text{m} / 0.6 = 666.67$ million of new Capital Raised

3rd Break Point = $500\text{m} / 0.6 = 833.33$ million of new Capital Raised



Combining the Break Points in Debt and Equity Capital Assuming 40% Debt and 60% Equity

Levels of New Capital			
Break Points in Debt	500m	750m	1250m
Break Points in Equity	417m	667m	833m

Combining the Break Points, while maintaining the target Capital Proportions, we have

$$\text{WACC (MCC) at level of capital less than \$ 417 million} = 0.4 (5\%) + 0.6 (6\%) = 5.6 \%$$

1st Break point will be in Equity at new capital level of \$ 417 million so we move cost of equity to 8%

$$\text{WACC (MCC) at this level of capital} = 0.4 (5\%) + 0.6 (8\%) = 5.8 \%$$

2nd break point will be in debt at new capital level of \$ 500 million so we move cost of debt to 7%

$$\text{WACC (MCC) at this level of capital} = 0.4 (7\%) + 0.6 (8\%) = 7.6 \%$$

3rd break point will be in equity at new capital level of \$ 667 million so we move cost of equity to 10%

$$\text{WACC (MCC) at this level of capital} = 0.4 (7\%) + 0.6 (10\%) = 8.8 \%$$

4th break point will be in debt at new capital level of \$ 750 million so we move cost of debt to 9%

$$\text{WACC (MCC) at this level of capital} = 0.4 (9\%) + 0.6 (10\%) = 9.6 \%$$

5th break point will be in equity at new capital level of \$ 833 million so we move cost of equity to 12%

$$\text{WACC (MCC) at this level of capital} = 0.4 (9\%) + 0.6 (12\%) = 10.8 \%$$

6th break point will be in debt at new capital level of \$ 1,250 million so we move cost of debt to 11%

$$\text{WACC (MCC) at this level of capital} = 0.4 (11\%) + 0.6 (12\%) = 11.6 \%$$

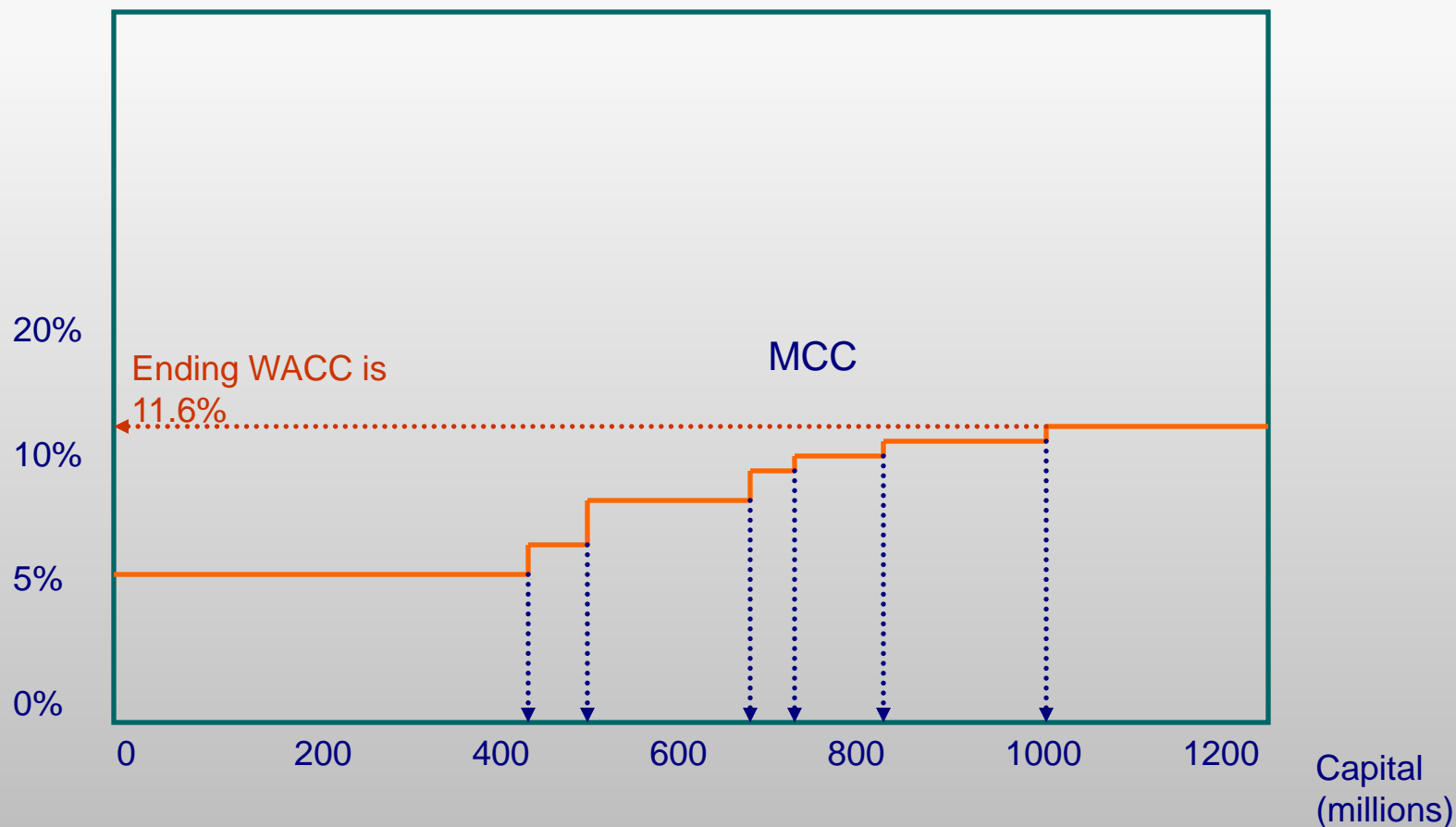


Constructing the MCC – For Calculated Break Points

MCC Reflecting Break Points

Cost of Capital

(This graph plots data shown in three previous slides)





Treatment of Flotation Costs

Flotation Costs:

When a company raises new capital, it incurs Flotation Costs. These are fees charged by investment bankers, and can be substantial in the case of an external equity capital (costs average around 5 – 6%). There are two ways of incorporating Flotation Costs:

1. ***Increasing cost of capital***
2. ***Reducing Cash-flow of the project (Recommended)***

Incorporating Flotation Costs by Increasing Cost of Capital:

Approach 1 - Use Dividend Discount Method for Equity Risk Premium, modified for Flotation Costs;

$$r_e = \frac{\text{Dividend}_1}{P_0 (1 - F)} + g$$

(‘F’ is Flotation Cost as %)

Reducing the Initial Cash-flow of the Project:

Approach 2 – This is the recommended approach, under which the Flotation Costs are incorporated in the cash flows of the project but the cost of capital used to discount that project is not changed due to Flotation Costs.



Measures of Leverage



Concept of Leverage

Concept of Leverage

Leverage is created due to the presence of 'Fixed Costs' in a company's cost structure. These fixed costs may be present due to the company's operating structure as well as due to the level of debt in the capital of the company.

Fixed Costs in Operating Structure

Operating fixed costs, such as depreciation or rent expense, create '***Operating Leverage***'. The risk associated with operating earnings is called '***Business Risk***'.

Fixed Costs in Capital Structure

High levels of debt in the company's capital structure, creates '***Financial Leverage***'. This is because high levels of debt will entail a higher fixed interest burden.

Total Leverage

Total Leverage includes the effect of both operating leverage as well as financial leverage. Leverage increases the riskiness of a company. Its net income becomes more volatile (both on the upside as well as the downside), and becomes susceptible to changes in sales prices, sales volumes and interest rates. Higher risk (income volatility), also impacts the discount rates used to discount the cash flows of the company in order to carry out a valuation of the company. Higher discount rates will lower the market valuation of a company.



Business Risk

Business Risk

Business Risk can be decomposed into two components; Sales Risk and Operating Risk;

1. **Sales Risk:** is the risk exposure of a company to changes in sales price as well as sales quantity (of the goods or services that it sells).
2. **Operating Risk:** is the risk exposure due to the presence of high levels of fixed costs in the operating cost structure of a company.

Measuring Operating Risk:

Operating Risk of a company can be measured in terms of its 'Degree of Operating Leverage' 'DOL'. This measure focuses on the sensitivity of operating income to changes in the level of unit sales number.

- **$DOL = (\text{Percentage Change in Operating Income} / \text{Percentage Change in Units Sold})$**

Composition of Operating Income

Operating Income can be analysed as the product of Quantity sold, multiplied by Per Unit Sales Revenue – Per Unit Variable Costs and Total Fixed Costs'. Using these inputs, DOL can also be expressed as;

- **$DOL = Q(SP - VC) / Q(SP - VC) - FC$**

The term in the numerator of the above expression is '**Contribution Margin**'.



Calculating Operating Risk – ‘DOL’

Example: A company currently produces and sells 10,000 units. The sales price per unit is \$5, the variable cost per unit is \$2 and the company incurs fixed costs of \$20,000. 1) Calculate the Degree of Operating Leverage for the company and 2) use the calculate degree of operating leverage to estimate the percentage by which the company’s operating income will increase if its unit sales increase by 20%. 3) Lastly, re-calculate the DOL for the same company assuming current output level equal to 20,000 units. 4) Comment on the change in the DOL though cost structure is the same.

Answer: $DOL = \frac{Q(SP - VC)}{Q(SP - VC) - FC}$

$$1) DOL_{10,000 \text{ units}} = 10,000 (\$5 - \$2) / 10,000(\$5 - \$2) - \$20,000$$

$$DOL_{10,000 \text{ units}} = \$30,000 / \$10,000 = 3$$

2) For a 20% unit sales increase, operating income will increase by $3 \times 20\% = 60\%$

$$3) DOL_{20,000 \text{ units}} = 20,000 (\$5 - \$2) / 20,000(\$5 - \$2) - \$20,000$$

$$DOL_{20,000 \text{ units}} = \$60,000 / \$40,000 = 1.33$$

4) DOL concept is similar to the concept of elasticity in economics; as it deals with a percentage change in operating income relative to a percentage change in quantity sold. The calculated DOL number applies to the current level of output and will itself turn out to be different at a different output level. This is demonstrated in the calculation.



Financial Risk

Financial Risk:

Financial Risk is the result of assuming fixed payment obligations due to the presence of debt, in the capital structure of a company. Fixed interest obligations as well as fixed lease obligations, increase the financial risk of a company. Companies with a higher level of debt, relative to equity, are exposed to greater financial risk. A great deal of management choice is also involved in the decision of how much of a fixed debt burden to assume.

Measuring Financial Risk:

Financial Risk of a company can be measured in terms of its ‘Degree of Financial Leverage’ ‘DFL’. This measure focuses on the sensitivity of net income to a change in operating income. (Note: Net Income = Operating Income Minus Interest and Taxes, however taxes are ignored since they do not affect DFL).

- ***DFL = (Percentage Change in Net Income / Percentage Change in Operating Income)***

Composition of Operating Income

Using the previous notation, used for DOL, we can express DFL in simplified form as;

- ***DFL = $Q(SP - VC) - FC / Q(SP - VC) - FC - IC$***

*The term in the numerator of the above expression is equal to ‘Operating Income’.
The denominator is operating income minus the fixed interest cost.*



Calculating Financial Risk – ‘DFL’

Example: A company currently produces and sells 10,000 units. The sales price per unit is \$5, the variable cost per unit is \$2 and the company incurs fixed costs of \$20,000. The fixed interest costs is \$5,000. 1) Calculate the level of Operating Income for the company. 2) Calculate the Degree of Financial Leverage.

Answer: $DFL = \frac{Q(SP - VC) - FC}{Q(SP - VC) - FC - IC}$

1) Operating Income is $10,000(\$5 - \$2) - \$20,000 = \$10,000$

2) $DFL_{\$10,000 \text{ operating income}} = \frac{\text{Operating Income}}{\text{Operating Income} - \text{Fixed Interest Cost}}$
 $= \frac{\$10,000}{\$5,000} = 2$

Or according to the notation above for DFL:

$DFL_{\$10,000 \text{ operating income}} = \frac{10,000(\$5 - \$2) - \$20,000}{10,000(\$5 - \$2) - \$20,000 - \$5,000}$

$DFL_{\$10,000 \text{ operating income}} = \frac{\$10,000}{\$5,000} = 2$

DFL will be different at various levels of income, just as DOL is different at various level of output.



Effects of Financial Leverage

Variability of ROE:

Higher levels of Financial Leverage result in greater variability of a company's Return on Equity 'ROE'. ROE is calculated as Net Income divided by Shareholder's Equity. The ROE variability increases because the income variability increases.

Level of ROE:

For a profitable company, higher financial leverage increase the level of ROE (due to higher variability on the up-side). Leverage increases the risk of the company, however as it can magnify losses, and default risk, leverage also magnifies the potential rewards.



Degree of Total Leverage – ‘DTL’

Total Risk:

Degree of Total Leverage ‘DTL’ can be obtained by combining the effects of both Operating Leverage and Financial Leverage. DTL provides a measure of the cash flows that will become available to the owners of a business and the sensitivity of these cash flow to the number of units produced and sold.

Measuring DTL:

This measure focuses on the sensitivity of net income to a change in output levels.

- ***DTL = (Percentage Change in Net Income / Percentage Change in Units Sold)***

Composition of Operating Income

The following simplifying notation can also be used for DTL;

- ***DTL = $Q(SP - VC) / Q(SP - VC) - FC - IC$***

The term in the numerator of the above expression is equal to ‘**Contribution Margin**’. The denominator is operating income minus the fixed interest cost, hence DTL can also be expressed as;

- ***DTL = Contribution Margin / Net Income***

DTL can also be calculated by directly multiplying DOL and DFL

- ***DTL = DOL x DFL***



Calculating Total Risk – ‘DTL’

Example: A company currently produces and sells 10,000 units. The sales price per unit is \$5, the variable cost per unit is \$2 and the company incurs fixed costs of \$20,000. The fixed interest costs is \$5,000. 1) Calculate DOL. 2) Calculate the Degree of Financial Leverage. 3) Calculate the level of DTL?

Answer:

1) DOL = Contribution Margin / Operating Income

$$DOL_{10,000 \text{ units}} = 10,000 (\$5 - \$2) / 10,000(\$5 - \$2) - \$20,000$$

$$DOL_{10,000 \text{ units}} = \$30,000 / \$10,000 = 3$$

2) $DFL_{\$10,000 \text{ operating income}} = \text{Operating Income} / \text{Operating Income} - \text{Fixed Interest}$
 $= \$10,000 / \$5,000 = 2, \text{ Or;}$

$$DFL_{\$10,000 \text{ Oper. Income}} = 10,000 (\$5 - \$2) - \$20,000 / 10,000(\$5 - \$2) - \$20,000 - \$5,000$$

$$DFL_{\$10,000 \text{ Oper. Income}} = \$10,000 / \$5,000 = 2$$

3) DTL = Contribution Margin / Operating Income – Fixed Interest

$$DTL_{10,000 \text{ units}} = DOL \times DFL = 3 \times 2 = 6, \text{ Or;}$$

$$DTL_{10,000 \text{ units}} = 10,000 (\$5 - \$2) / 10,000(\$5 - \$2) - \$20,000 - \$5,000$$

$$DTL_{10,000 \text{ units}} = \$30,000 / \$ 5,000 = 6$$



Calculating the 'Breakeven Point' – Output Level

Breakeven Point Output Level:

The Breakeven Output Level is the number of units sold and produced, at which the total revenue is equal to the total cost. At this level of output, the company makes no Net Profit.

Equating Total Revenue and Total Costs:

We can equate the total revenue to the total costs as follows;

$$\Rightarrow Q_{BE}(SP) = Q_{BE}(VC) - FC - IC$$

$$\Rightarrow Q_{BE} = FC + IC / SP - VC$$

Calculating the Breakeven Output Level:

From the previous example;

$$\Rightarrow Q_{BE} = (\$20,000 + \$5,000) / (\$5 - \$2)$$

$$\Rightarrow Q_{BE} = \$25,000 / \$3 = 8,333.33 \text{ units}$$

If the company produces and sells 8,333.33 units, its total revenue will be equal to its total costs (*including fixed operating costs and fixed interest costs*), and the company will not make any net profit at this level of operations. This means that at the breakeven output level, the company's contribution margin is just sufficient to cover its total fixed costs. Further output and sales will generate a net profit per unit of \$3 for each additional unit sold. (\$5 - \$2).



Calculating the 'Operating Breakeven' – Output Level

Operating Breakeven:

The Operating Breakeven Point is the number of units sold and produced, at which the company makes no 'Operating Profit'.

Equating Total Revenue and Total Costs:

We can equate the operating revenue to operating costs. Note that only fixed operating costs are part of the analysis, and the fixed interest costs are not considered;

$$\Rightarrow Q_{OBE}(SP) = Q_{OBE}(VC) - FC$$

$$\Rightarrow Q_{OBE} = FC / SP - VC$$

Calculating the Operating Breakeven Output Level:

From the same example;

$$\Rightarrow Q_{OBE} = \$20,000 / (\$5 - \$2)$$

$$\Rightarrow Q_{OBE} = \$20,000 / \$3 = 6,666.66 \text{ units}$$

If the company produces and sells 6,666.66 units, its total revenue will be equal to its operating costs (*including fixed operating costs but not fixed interest costs*), and the company will not make any operating income at this level of operations.



Dividends and Shares Repurchases Basics



Dividends

Dividends:

Dividends are a mechanism for corporations to distribute cash to their shareholders. The company's board of directors, approves the dividend, and in most jurisdictions, especially in Europe, this requires the approval of the shareholders. In the case of common stock holders, the payment of dividends is a discretionary matter (Dividends on Preferred Shares may be obligatory).

Tax Treatment of Dividends:

At the level of the company which declares the dividend, these payments are not deductible for tax purposes. This is in contrast to interest payments made to providers of debt capital, which are tax-deductible for the company. ***From the perspective of the shareholders receiving the dividend, these payments may be taxable,*** but are accorded a different treatment from capital gains, in most cases.

Dividends as a Signal:

Companies strive to maintain a constant or steadily growing level of dividends, since dividends are viewed in the markets as a signal of sustained profitability. Dividends may be paid as regular or irregular cash payments, or in the form of additional shares of the company.



Regular Cash Dividends

Regular Cash Dividends:

The most prevalent form of distributing dividends is in the form of regular, cash dividends. Regular Dividends may be paid according to a fixed schedule of payments, which may be; Quarterly (U.S. and Canada), Semi-annually (Europe and Japan), or Annually (China). A steady or increasing level of regular cash dividends has the impact of increasing the price of the company's shares in the market. An unexpected increase in dividends is a positive signal for share prices.

Dividend Re-investment Plans 'DRIPs':

A dividend reinvestment plan allows the company's shareholders to re-invest the dividend proceeds automatically, into new shares of the company. The company fulfils this reinvestment through the following mechanisms;

- *The company purchases its own shares in the open market for the shareholder, or,*
- *The company issues new shares to the shareholder as a 'Scrip Dividend Scheme',*
- *The company may have permission to use either of the above approaches.*

Advantages and Disadvantages of DRIPs:

Shareholders accumulate new shares, often at a discounted price, with no transaction costs. The issuing company avoids 'Flotation Costs'. Non-participants of the DRIP scheme are disadvantaged, since their holdings in the company are diluted. For the DRIP participants, the cost-basis of ownership is lowered, with capital gains tax impact.



Extra, or Irregular Dividends

Extra or Irregular Dividends:

Companies with cyclical earnings patterns are unable to issue regular dividends, and may use irregular dividend distributions during times of higher earnings. Some companies may use smaller, regular dividend payments according to a set ***dividend payout policy***, but supplement these through additional, extra dividends during high earning periods.

Example: A company has had a policy of a 20% regular dividend payout ratio (cash dividend per share, divided by earnings per share 'EPS') for the last five years. During 2011, the company has 1 million shares outstanding. Its EPS in 2011 is \$6 and it makes a cash dividend distribution of \$1.50 per share in 2011. 1) Calculate the amount of extra (irregular) dividends per share, distributed by the company? 2) Also calculate the dividend payout ratio for the company's shares in 2011.

Answer:

1) According to the policy dividend payout ratio, the company's regular cash dividends per share should have been \$1.2 ($0.2 \times \6). Hence the company issued an extra cash dividend of \$0.3 per share in 2011 ($\$1.50 - \1.20)

2) In 2011, the payout ratio = $\$1.50/\$6 = 25\%$



Liquidating Dividends

Liquidating Dividends:

Liquidating Dividends are distributed by a company under the following circumstances;

1. ***The company is ceasing operations.*** In this case, the company's debtors are first paid off. The remaining Net Assets are liquidated to make a payment to the shareholders.
2. ***The company is selling a division or a portion of itself.*** In this case, the company does not cease to exist, rather it may be divesting from a particular business segment, or a regional investment.
3. ***In the third case, the company pays out a dividend which exceeds its level of retained earnings*** (accumulated through the income earned over the years), This third type of liquidating dividend impairs the capital of the company, and reduces the equity providers' share of ownership relative to debt providers share, in the capital contributions.

All of the above are referred to as liquidating dividend distributions.



Stock Dividends

Stock Dividends:

A company can issue non-cash dividends, in the form of new distribution of its own shares, to existing shareholders, as Stock Dividends. Stock Dividends are also referred to as 'Bonus Issue of Shares'. A stock dividend **does not increase the cost basis** of the shares, however since each shareholder receives a proportional number of new shares, the average cost of ownership, per share, will be reduced for the shareholders.

The proportional ownership of various shareholders is not affected by a stock dividend. Stock dividends generally **lower the price per share** in the market compared to the pre-dividend level (however **shareholders overall wealth on a market value basis will be the same** due to owning a larger number of shares). Nevertheless, a market advantage is gained since a lower price per share generally tends to attract more investors and **increases liquidity of the shares** in the market.

Companies often issue stock dividends to maintain the market price of their shares within an optimal range in order to broaden the base of shareholders and to improve liquidity in the shares through a lower share price.



Other Effects of Stock Dividends

Effects of Stock Dividends:

1. No cash outlay is required by the company, in the case of a stock dividend, so the company's asset level remains the same.
2. The company's capital structure is also unaffected though its composition is affected (Retained earnings are lowered by 'new shares x share price', however contributed capital is increased by an equal amount). In the case of a cash dividend, both Cash (Asset) is decreased and retained earnings are decreased.
3. Shareholders are not taxed in the case of a stock dividend (since cost basis of ownership is not affected).
4. Liquidity, and Financial Leverage ratios are unaffected by a stock dividend, whereas in the case of a cash dividend, liquidity ratios are lowered whereas financial leverage ratios increase.

Companies often supplement regular cash dividends with stock dividends.



Stock Splits

Stock Splits:

A stock split is carried out when a company increases the number of shares held by each existing shareholder by a specified ratio; such as a '2 for 1' stock split or a '3 for 1' stock split. In the case of a '2 for 1' stock split, each shareholder will have twice the previous number of shares he or she held. A '2 for 1' split will have the exact same effect as a 100% stock dividend. Stock splits are perceived as a positive signal for future share prices.

Effects of a Stock Split, e.g. '2 for 1' Split:

1. The share price declines by half.
2. Earnings per share also decline by half, hence P/E ratio stays the same.
3. Overall shareholder wealth and proportional ownership is unaffected.
4. Liquidity is improved at lower prices.
5. No Cash outlay is required by the company, hence there is no effect on assets.
6. Cost basis of ownership is unaffected for the shareholder, and the shareholders are not taxed.
7. None of the accounts in shareholder's equity section are affected, either in total or even in composition.



Reverse Stock Split

Reverse Stock Splits:

A reverse stock split is uncommon compared to a stock split. A reverse stock split reduces the number of shares and increases the share price. There is no direct economic impact on the company however the objective of the split is to increase share price (if it is perceived to be too low), in order to attract institutional investors and funds who are often reluctant to purchase very low priced shares.

There is no positive or negative impact of a reverse stock split on the shareholders. However, if executed to implement a more suitable market trading price for the stock, this act may generate a share price increase in the future due to new interest in the stock from institutional investors. Companies carry out a reverse stock split often upon successfully emerging from a situation of previous financial distress.

Companies also carry out a reverse stock split to meet minimum share price criteria for listing on prominent stock exchanges. Shareholder's cost basis and the company's retained earnings are unaffected by a reverse stock split. Also there is no effect on shareholder's overall wealth and the P/E ratio is unchanged.



Dividend Payment Chronology

Declaration Date:

The declaration date is the date on which any kind of dividend is announced or declared by a company. On this day, the company also announces the 'payment date' as well as the 'holder-of-record' date.

Ex-Dividend Date 'Ex-Date':

The Ex-Dividend date is ***two business days prior to the announced, holder-of-record date*** on most global exchanges (one business day prior in Hong Kong). For existing owners, who wish to receive the dividend, they should remain in ownership of the stock on the ex-date. New investors interested in the dividend must purchase the stock latest on the ***day before the ex-date*** in order to be entitled to the dividend. ***On the Ex-Date, the stock will open at the previous trading day's closing price, minus the declared dividend.*** (The dividend is reflected in the share price as a reduction)

Holder of Record Date:

This date is ***two business days after the Ex-Dividend date***. On this date, the designated holder of the shares in the company's records, will be entitled to dividends.

Payment Date:

This is the date on which the dividend payment is transferred to the record holder. This date can occur on a holiday.



Share Purchases - Motivations

Share Repurchases:

A company may buy back its own shares through various methods, using the corporate cash at its disposal or through borrowed funds. The repurchased shares are re-classified as '**Treasury Stock**' and in some jurisdictions, the repurchased shares are cancelled. Repurchased shares are no longer accorded voting rights nor are these considered for dividends or Earnings Per Share 'EPS' computations.

Motivations for Share Repurchases:

1. Communicating a signal to the market that the company considers the shares to be under-valued by the market (and generally to support share price).
2. Reducing the increase in shares outstanding after employees or others exercise any stock options.
3. For a tax efficient distribution of wealth to shareholders in those jurisdictions where capital gains tax rate is lower than cash dividends tax rate (shareholders usually sell at above market prices and make a capital gain on their investment when the company repurchases its own shares).
4. For retaining flexibility in distributing wealth to shareholders in both timing and amount, without creating an expectation of future transfers.



Share Purchases - Methods

Open Market Share Repurchases:

The company repurchases its shares in the open market just as any other buyer would do. The company usually times its actions to repurchase shares when prices are low.

Fixed Price Tender Offer:

The company makes an offer of a fixed price to all existing shareholders, at a price higher than the prevailing market price. If there is greater interest than the quantity specified by the company, a pro-rata allocation is made to the existing shareholders. This mechanism can be executed quickly by specifying a time limit for the offer.

Dutch Auction:

The company specifies a quantity for repurchase and invites bids from shareholders willing to sell within a company-specified range of prices, which are above the prevailing market price. The qualifying bids are ascertained moving up in price till the specified quantity is attainable. The highest price which completes the specified quantity is the price that is paid to all bidders.

Repurchase by Negotiation:

The company negotiates to purchase a block holding from a major shareholder. This may be at a premium to market price if the company is seeking to avoid the shareholder's acquisition of a majority interest (often used to rebuff a hostile takeover, referred to as 'Greenmail'). A negotiated purchase may also be done at a discount to market price if the block shareholder is facing liquidity problems.



Internal Cash Financing of Repurchases – EPS effect

Internal Cash Financing – Effect on Net Income:

When a company uses internally available **excess, idle cash** to finance a share repurchase, its net income is not affected by the transaction, however, the previously outstanding number of shares in the market is reduced due to the repurchase transaction. This is true whether the repurchase is carried out at prevailing market prices or at a premium to the market price. (Paying a higher price simply means that the company is removing fewer shares from the market).

Internal Cash Financing – Effect on Shares Outstanding:

Any repurchase has the effect of reducing the number of shares outstanding for the purpose of EPS computation, since Treasury Stock is not considered for this computation.

Effect on EPS:

'EPS' is calculated as total net income divided by the total number of shares outstanding (excluding Treasury Stock). Since net income, the numerator, is unchanged, and the denominator is decreased due to the buy back, the ratio of the two, which is **EPS, will consequently increase**. (The underlying assumption in this analysis is that the cash could not have earned its cost of capital if retained by the company and deployed in a project undertaken by the company).



Borrowed Cash Financing of Repurchases – EPS effect

Borrowed Cash Financing:

To analyse the effect of a share repurchase through borrowed funds, we will need to compare the company's After Tax Cost of Borrowings with the Earnings Yield that the company can ordinarily generate. Earnings Yield is the reciprocal of the P/R ratio. (Earnings Yield is Earnings per Share divided by Price per Share).

When Earnings Yield = After-Tax Cost of Borrowing:

In this scenario, there will be no effect on EPS since the company's use of external funds comes at a cost equal to its ability of generating earnings through investment in any project. Hence EPS will be unchanged.

Earnings Yield < After-Tax Cost of Borrowing:

This scenario will result in a reduction of EPS since the cost of the borrowed funds to finance the repurchase, exceed the company's earning yield. Hence the company's EPS will be negatively impacted by the higher after-tax cost of borrowings, as part of this transaction.

Earnings Yield > After-Tax Cost of Borrowing:

This scenario will increase EPS, by funding the share repurchase through borrowings since the borrowed funds are less costly.



Calculating the EPS Effect of Share Repurchases

Example: A company's shares are trading at a price of \$100 per share. The number of shares outstanding is 100,000, and the company plans to repurchase 1,000 shares. The company's current after tax earnings are \$1,000,000. The company plans to use excess cash to fund the repurchase. 1) Calculate EPS after internal cash funded share repurchase. 2) If the company does not have excess cash and uses borrowed funds to buy the shares at the prevailing market price, what would be the effect on EPS if after tax cost of borrowings is 5% (company will need to borrow (\$100 x 1000 shares = \$100,000) 3) Calculate EPS if after tax cost of borrowing is 12% ?

Answer:

Earnings Yield = EPS / Price per Share = \$10/\$100 = 10%

1) Internal Funding EPS = \$1,000,000/(100,000 – 1,000) = \$10.10

EPS will increase from the current level of \$ 10 per share to \$ 10.10 per share

2) Borrowed Funding EPS (@5% Cost):

=> [\$1,000,000 - (\$100,000 x 0.05)] / 99,000 = \$10.05

EPS increases since cost of borrowing, 5%, is less than Earnings Yield of 10%.

2) Borrowed Funding EPS (@12% Cost):

=> [\$1,000,000 - (\$100,000 x 0.12)] / 99,000 = \$ 9.979

EPS decreases since cost of borrowing, 12% is more than Earnings Yield of 10%



Share Repurchases – Effect on ‘Book Value per Share’

Share Repurchases - Book Value per Share Effect:

In order to consider the effect of a share repurchase transaction on ‘Book Value per Share’, we have to compare the company’s per share market price with its per share book value. When market price exceeds the shares’ book value, a repurchase will result in lower book value per share, after the repurchase. On the other hand, when market price is less than book value, a repurchase will result in higher book value per share after the repurchase.

Example: A company’s shares are trading at a price of \$100 per share. The number of shares outstanding is 100,000, and the company plans to repurchase 1,000 shares (Buy Back Amount= \$100,000). 1) Calculate the company’s book value per share after the repurchase if its current book value per share is \$80. 2) Calculate the book value per share after the repurchase if current book value per share is \$120.

Answer:

1) Total Book Value Before Buy Back = $100,000 \times \$80 = \$8,000,000$, **BVPS = \$80**

Buy Back Reduces Equity to: \$7,900,000 hence BVPS = $(\$7,900,000/99,000) = \79.79

Book Value per Share Decreases after Repurchase, since $MP > BV$, before.

2) Total Book Value Before Buy Back = $100,000 \times \$120 = \$12,000,000$, **BVPS = \$120**

Buy Back Reduces Equity to \$11,900,000 so BVPS = $(\$11,900,000/99,000) = \120.20

Book Value per Share Increase after Repurchase, since $MP < BV$, before.



Share Purchases and Cash Dividends - Equivalence

Cash Dividend – Effect on Shareholder Wealth:

When a shareholder receives a cash dividend, the market price of the share adjusts downwards on the Ex-Dividend date as the previous day's price minus the cash dividend. If the share price was \$10 per share on the previous trading day, a \$1 per share dividend would result in a price on \$9 per share on the opening of trading at the Ex-Dividend date. The shareholder's wealth would be \$10 in terms of share price without the cash dividend as well as it would still be \$10 (\$1 cash plus \$9 share price), after the cash dividend. All other tax and signalling effects are ignored in this analysis.

Share Repurchase – Effect on Shareholder Wealth:

If the company distributes the same amount of funds into a share repurchase transaction carried out at the prevailing market price, the number of shares would be reduced but the market price per share would not be affected, and would stay at \$10, after the repurchase. The effect on shareholder wealth would be exactly the same as in the case of a cash dividend.

The conclusion is that the two methods; cash dividends and share repurchases are considered equivalent in terms of their impact on shareholder wealth.



Working Capital Management



Understanding Liquidity

Defining Liquidity:

Liquidity is the firms' ability to meet its near term obligations by using assets that can be readily turned into cash.

Liquidity Management:

Attempts to match the short term sources with short term obligations.

Liquidity and Long Term Assets / Liabilities:

Directly, the Liquidity concept relates short term assets and short term liabilities, but longer term assets and renegotiation of longer term liabilities may also be pertinent to liquidity.

Drag & Pull on Liquidity:

Drag – When people owing you money pay it too slowly.

Pull – When you pay money owed by you too quickly.



Measuring Liquidity

Effect of Liquidity – Creditworthiness:

Creditworthiness is the borrower's ability to pay its obligations in a timely manner.

Effect of Illiquidity:

Risk of suffering financial distress and Insolvency or Bankruptcy.

The Nature Liquidity Measures – Liquidity Ratios:

Liquidity is measured using financial ratios that involve current assets and current liabilities. We analyze the speed at which the receivables are converted to cash receipts and payable are actually paid out. We also measure how quickly we can turn our inventory into cash so that we can use the cash to meet our obligations.



Liquidity Ratios

Liquidity Ratios – With Current Liabilities as Denominator

Current Ratio = Current Assets/Current Liabilities

Quick Ratio = (Cash + Short term sec. + Receivables)/CL

Cash Ratio = (Cash + Short term sec.) / CL

Liquidity Ratios – Turnover Based

Inventory Turnover = Cost of Goods Sold / Average Inventory

Receivables Turnover = Credit Sales / Average Receivables

Payables Turnover = Purchases / Average Payables

Liquidity Ratios – Expressed in Terms of Number of Days

No. of Days of Inventory = 365 / Inventory Turnover

No. of Days of Receivables = 365 / Receivables Turnover

No. of Days of Payables = 365 / Payables Turnover

Combined Interpretation of Some Liquidity Ratios

Operating Cycle = Days Inventory + Days Receivables

Cash Conversion Cycle = Days Inv. + Days Rec. – Days Payables



Liquidity Ratios

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

This ratio tells us how much cover do the current assets provide towards meeting current liabilities.

$$\text{Quick Ratio} = \frac{\text{Cash} + \text{Accounts Receivable}}{\text{Current Liabilities}}$$

Quick Assets are those that can most readily be converted to cash. Inventory is excluded.

$$\text{Cash Ratio} = \frac{\text{Cash} + \text{Inv in Short term Securities}}{\text{Current Liabilities}}$$

Cash Ratio is the most conservative. It not only excludes inventory but also excludes receivables.



Liquidity Ratios

$$\text{Receivables Turnover} = \frac{\text{Credit Sales}}{\text{Average Receivables}}$$

This ratio tells us, how many times on average during the year, accounts receivables are created due to credit sales and then collected.

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

Tells us, on average, how many times inventory is created or acquired and then sold during the fiscal year.

$$\text{Payables Turnover} = \frac{\text{Purchases}}{\text{Average Payables}}$$

Tells us how many times payables are created on account of purchases we make.



Liquidity Ratios

$$\text{No of Days Inventory} = \frac{365}{\text{Inventory Turnover}}$$

How many days it takes to collect on the credit accounts.

$$\text{No of Days Receivable} = \frac{365}{\text{Receivables Turnover}}$$

Also called the Average Inventory Period. Measures the average length of time that inventory remains with the company during the fiscal year.

$$\text{No of Days Payable} = \frac{365}{\text{Payables Turnover}}$$

How long it takes the company to pay its own suppliers



Financial Statement Analysis



Tools for Financial Analysis

Financial Analysis:

A wealth of information is available to investors in the form of Financial statements;

- *Balance Sheet*
- *Income Statement*
- *Cash flow statement*
- *Statement of stockholder's equity*
- *Footnotes to the Financial Statement*
- *Management Discussion and Analysis*

Analytical Tools for Return Ratios:

Among several other analytical tools and techniques, this chapter presents a framework for analyzing 'Return Ratios' through the 'DuPont Expression', and for developing a financial outlook through 'Pro-Forma Analysis'.



DuPont Analysis

DuPont Analysis:

- The Du Pont analysis allows us to study the following 'Return Ratios' in detail;
 - ***Return on Assets***
 - ***Return on Equity***
- The Du Pont framework can be used to study the linkages between financial ratios belonging to the Balance Sheet, and the Income statement.
- The ratio decomposes the return ratios into sub-components, for uncovering the primary contributors to profitability.
- It allows us to carry out a comparison of companies with each other, based on the decomposed ratio components.
- A diagnosis of the sources of changes in the overall return is also possible, using this framework.



DuPont Expression for Return on Assets

DuPont ROA Decomposition (2 Components)

Return on Assets is defined as;

$$\mathbf{ROA = \frac{\mathbf{Net\ Income}}{\mathbf{Average\ Total\ Assets}}}$$

ROA can be split into two component ratios;

$$\mathbf{ROA = Net\ Profit\ Margin \times Total\ Asset\ Turnover}$$

Return on Assets can thus be written as;

$$\frac{\mathbf{Net\ Income}}{\mathbf{Average\ Total\ Assets}} = \frac{\mathbf{Net\ Income}}{\mathbf{Sales\ Revenue}} \times \frac{\mathbf{Sales\ Revenue}}{\mathbf{Average\ Total\ Assets}}$$

The '2-Component' DuPont Expression reveals the contribution to ROA of;
Net Profit Margin, and
Total Asset Turnover



DuPont Expression for Return on Equity

DuPont ROE Decomposition (3 Components)

Return on Equity is defined as;

$$ROE = \frac{\text{Net Income}}{\text{Average Shareholder's Equity}}$$

ROE can be split into three component ratios;

$$ROE = \text{Net Profit Margin} \times \text{Total Asset Turnover} \times \text{Equity Multiplier}$$

Return on Equity can thus be written as;

$$\frac{\text{Net Income}}{\text{Average SHE}} = \frac{\text{Net Income}}{\text{Sales Revenue}} \times \frac{\text{Sales Revenue}}{\text{Average Total Assets}} \times \frac{\text{Ave. Total Assets}}{\text{Ave SHE}}$$

The 3 component DuPont Expression allows us to see the contribution to ROE of;

Net Profit Margin

Total Asset Turnover

Equity Multiplier (Last Term, and is also called Financial Leverage)



Extended DuPont Expression for Return on Equity

Extended DuPont ROE Decomposition (5 Components)

Return on Equity is split into 5 component ratios.

The *Net Profit Margin* from the previous model is here split into three component ratios;

Expanding Net Profit Margin from the previous expression:

Net Profit Margin = *Operating Profit Margin* x *Non-Operating Effect* x *Taxation Effect*

$$\frac{\text{Net Income}}{\text{Sales revenue}} = \frac{\text{Operating Income}}{\text{Sales Revenue}} \times \frac{\text{Income Before Taxes}}{\text{Operating Income}} \times \left(1 - \frac{\text{Taxes}}{\text{Income Before Taxes}} \right)$$

Return on Equity can then be written in terms of 5 Components;

$$\frac{\text{Net Income}}{\text{Average SHE}} = \left(\frac{\text{Operating Income}}{\text{Sales Revenue}} \times \frac{\text{Income Before Taxes}}{\text{Operating Income}} \times \left(1 - \frac{\text{Taxes}}{\text{Income Before Taxes}} \right) \right) \times \frac{\text{Sales Revenue}}{\text{Average Total Assets}} \times \frac{\text{Ave. Total Assets}}{\text{Ave SHE}}$$

Return on Equity = Operating Profit Margin x Non-Operating Effect x Taxation Effect x Total Asset Turnover x Equity Multiplier



Common Size Analysis

Common Size Statement Analysis:

This involves a percentage analysis of various components of the balance Sheet and Income Statements.

- *All Income Statement items are expressed as a percentage of Sales.*
- *All Balance Sheet items are expressed as a percentage of Total Asset.*

Is a gauge of Past and Current Performance:

- *Trends and patterns are uncovered based on common size analysis.*
- *Existing Relationships among financial statement components are determined*



Pro Forma Analysis

Pro Forma Analysis:

Construction of Projected (Forward-Looking) financial statements. The projections are based on existing financial item relationships as well as forecasted changes in the basic relationships that are likely to take place in light of the business outlook and other anticipated events.

Quality of Pro Forma Statements is dependent upon:

- ***Determining Sales Driven Relationships***
 - Requires an accurate determination of financial items that vary in relation to Sales and those that do not vary with Sales.
- ***Accuracy of Forecasted Sales Revenues***
 - Since other income statement items are forecasted on the basis of the projected Sales number.
- ***Accuracy of Operating Costs***
 - While these are mostly sales driven relationships, operating costs also have to be accurately related to forward business strategy.
- ***Estimation of Fixed Burdens***
 - These are interest expense and taxes. Taxes generally do not change drastically. Interest expense forecasting requires a view on the company's levels of debt in the future and so requires an analyst to assess the likely future capital structure for the company.



Financial Statements – Income Statement

Income Statement – General Format

Sales (often referred to as top line number)	12,000	
- Cost of Goods Sold	<u>8,000</u>	
= Gross Profit		4,000
- Selling, General & Admin Expenses	<u>3,000</u>	
= Operating Income (EBIT)	1,000	
- Interest Expense	100	
- Other Non-Operating Expenses	<u>100</u>	
= Earnings before Income Taxes (EBT)		800
- Income Taxes	<u>200</u>	
= Earnings after Taxes (EAT)	600	
Cumulative Effect of Accounting Changes	<u>(30)</u>	
= Net Earnings	<u>570</u>	



Financial Statements - Balance Sheet

Assets

- + Cash and Cash Equivalents
- + Investment Securities
- + Accounts Receivable
- + Inventories
- = **Total Current Assets**
- + Net Property Plant and Equipments
- + Other Assets
- = **Total Assets**

Liabilities & Stockholder's Equity

- + Accounts Payable
- + Accrued and Other Liabilities
- + Taxes Payable
- + Current Maturities of Long Term Debt
- = **Total Current Liabilities**
- + Long Term Debt
- = **Total Liabilities**
- + Common Shareholder's Equity
- + Retained Earnings
- = **Total Shareholder's Equity**

→ **Total Liabilities & Shareholder's Equity** ←



Financial Statement Forecasting - Assumptions

Revenue Forecast:

The Revenue Forecast is the most critical component of forecast model. The analyst can use previous growth rates as a rough starting point. This estimate is then refined through linear regression and incorporating company specific and market specific factors into developing the forecast. Forecasting the revenue often requires developing a revenue model separately to arrive at a consolidated revenue number, for complex businesses.

Sales Driven Relationships: The following relationships have to be determined;

- COGS as a % of sales
- OPEX as a % of sales
- Current Assets as a % of sales
- Current Liabilities as a % of sales
- SGA has a fixed relationship to sales over time

Estimating the Fixed Obligations:

Taxes should be assumed constant as per the current rate *unless Federal Tax Rates change*. Interest expense is a function of capital structure. We have to assume either that the capital structure remains same or that it changes. If assumed to stay same, interest expense can be forecasted based on current interest burden.

Retained Earnings:

Year ahead retained earnings are found by taking previous retained earnings, adding current net income and subtracting the current year's dividend's paid.



The Corporate Governance of Listed Companies

A Manual for Investors



Corporate Governance – Basic Definition

Stakeholders in a Company:

- Management
- Shareholders
- Employees
- Lenders
- Prospective Investors
- Society
- Vendors

Corporate Governance – Defined:

A system of checks and balances that protects the financial interests of shareholders, and other stakeholders resulting due to:

- ***Actions of vested groups within Management***
- ***Actions resulting due to misplaced priorities of Board Members***

Corporate Governance encompasses a system of controls and procedures designed to prevent misappropriation of company resources through singular or collaborative actions of Management groups, Board Members or other vested groups.



The Board of Directors

A Company's Board:

A company's Board has the ultimate responsibility for overseeing the affairs of a company. It's primary responsibility is to safeguard the interests of the company's Shareholders. The Board may be composed of both Internal and Externally Appointed Directors.

Directors:

Internal Directors are direct nominees of a significant shareholder (A shareholder entitled to a Board seat):

- ***Executive Directors*** – Receive compensation from company, may be employees
- ***Non-Executive Directors*** – Are not employees of the company, may be reimbursed for specific expenses. Could also be representatives of Labor Organizations

Independent External Directors safeguard the interests of ALL shareholders. They are independent persons with specialist skills and experience- truly independent.

Board Composition:

Typically, the Chief Executive Officer reports to the Board, as well as serves on it (An Executive Board Member). Other Senior Managers, CFO or CIO may also report to the Board. The Internal Auditor of the Company always reports to the Audit Committee of the Board (Does not report to Management). The Board is headed by a Chairman (Not the CEO).



Committees on the Board

Committees:

The Board constitutes Committees to undertake specified functions on behalf of the Board, in furtherance of Shareholder Interests. The Board also selects from its members to head and serve on the various committees.

General Types of Committees:

- *Audit Committee (Mandated by Law in Public Cos.)*
- *Corporate Governance Committee*
- *Management Compensation Committee*
- *Environment, Health & Safety Committee*
- *Public Policy Committee*

Committee Submissions to the Full Board:

The committees present their recommendations, actions, approvals etc. to the Board, for approval by the Full Board (Majority Vote).



Shareholder Voting Rights and Board Accountability

Shareholder Voting Rights:

The shareholders preserve their interests through the Board. Shareholders independently exercise their rights by casting votes. Shareholders exercise voting rights for appointment or removal of board members, and on strategic Issues related to Takeovers, Mergers and Acquisitions.

Board Accountability:

The 'Board Members' have a fiduciary duty to all shareholders and the 'Board' is accountable to the shareholders.

Implementing Good Corporate Governance:

The implementation of good corporate governance depends on, adequacy of the corporate governance structure, and on shareholder strength in implementing good corporate governance through the exercise of their voting rights.



Board Characteristics for Shareholder Protection

Independence of Board Members:

Majority of Board members should be 'Independent'. Independent Board members are not subservient to a vested interest group, or a significant shareholder group. The presence of Independent board members serves to protect the rights of ALL shareholders.

Specialist Expertise:

Specialist Expertise should exist among board members.

Hiring External Consultants:

The board should have authority to hire consultants without Management consent. External consultants provide input to the board which is independent advice that serves as a check and balance on strategies put forward by management.



Committee Characteristics which protect Shareholders

Audit Committee:

Should be composed of independent board members, qualified and experienced Finance and Accounting. Audit committee ensures that the company reports accurate financial information to the shareholders.

Compensation Committee:

- Ensures that management remuneration is adequate for motivating management.
- Overlooks that management compensation is commensurate with qualifications, skills and has parity with the industry.

Nominations Committee:

- Responsible for recruiting new board members.
- Examining Independence, performance and functioning of board members.
- Creating and implementing board position succession plans.
- Creating procedures and policies for nominations and appointments to board positions.



Board Independence and Corporate Governance

Majority of Independent Members:

- Provides independent safeguards to shareholder interests.
- Introduces diversity, which limits undue influence from management.

Regular Meetings of Independent members without Management:

- Provides Independent Board members an opportunity to evaluate and critique management strategy without Executive Board member influence.

Separation of Titles of Chief Executive and Board Chairman:

- When the CEO is also the Chairman of the Board, the Executive Board members will have more power and influence, relative to Independent Board members.
- If the Chairman of the Board is not 'Independent', the Independent Board members should have a 'Lead Independent Member' to provide guidance and leadership to the Independent members within the Board.
- Previous Management Chiefs not appointed to Board Chairmanship.
- This creates a continuation of legacy policies and strategies and impairs the Board's ability to extend accountability for previous management decisions.

Monitoring Conflict of Interest Issues for Board members from vested Interest Groups:

- The investors need to constantly monitor the Board members who represent vested interest groups, include suppliers, vendors or significant shareholders.
- Conflict of Interest issues should be monitored and policies should be put in place to ensure that such board members are not able to exploit position to gain an unfair advantage for the group they represent, in preference over other shareholders.



Provisions in Code of Ethics for Corporate Governance

“Investors should additionally look for the following provisions in a company’s Code of Ethics for Corporate Governance”

Compliance with Country Corporate Governance:

The Corporate governance code should be in conformity with the prevailing Corporate Governance requirements of the country.

Flow of Information:

There should be a timely and accurate information flow from the company to the board on all matters.

Preventing Unfair Advantage to Insiders:

Ethical Behavior codes should form part of the framework that ensures Corporate Insiders cannot gain an unfair advantage over the general investors and shareholder (Including policies for preventing personal use of company assets by corporate insiders and Board Members).

Audit for Implementation of Code of Ethics for Governance:

An Audit process should also be included for monitoring the evolution of the Code of Governance and its strict implementation.

Assigning Responsibility:

A designated person should be assigned responsibility for ensuring that Corporate practices are in alignment with the Code of Ethics for Corporate Governance.



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