Corporate Finance

CFA一级培训项目

讲师：纪慧诚

10/% Contribution Breeds Professionalism

Topic Weightings in CFA Level I

Session NO.	Content	Weightings
Study Session 1	Ethics & Professional Standards	15
Study Session 2-3	Quantitative Analysis	12
Study Session 4-5	Economics	10
Study Session 6-9	Financial Reporting and Analysis	20
Study Session 10-11	**Corporate Finance**	**7**
Study Session 12	Portfolio Management and Wealth Planning	7
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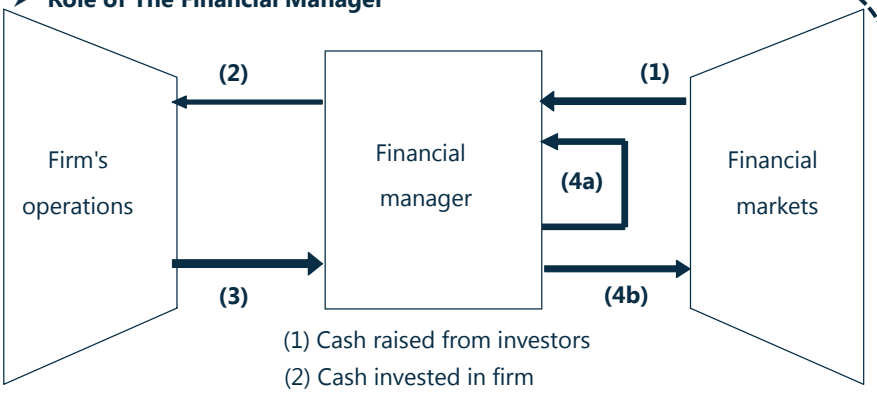
The Basic of Capital Budgeting

Role of The Financial Manager



(1) Cash raised from investors
(2) Cash invested in firm
(3) Cash generated by operations
(4a) Cash reinvested
(4b) Cash returned to investors

Framework

Corporate Finance

- **SS10 Process, Asset Allocation, and Risk Management**
  - R34: Corporate governance and ESG: An Introduction
  - R35: Capital Budgeting
  - R36: Cost of Capital
- SS11 Economic Analysis, Active Management, and Trading
  - R37: Measures of leverage
  - R38: Dividends and Share Repurchases: Basics
  - R39: Working Capital Management

Capital Budgeting

Framework

1. Capital budgeting process
2. Categories of capital budgeting projects
3. Five basic principles
4. Evaluation and selection between capital projects
5. Methods to evaluate a single capital project
6. Factors affect choosing capital budgeting methods
7. Relations among NPV and share price

The Basic of Capital Budgeting

- **Capital budgeting is the process of determining and selecting the most profitable long-term projects.**
  - **Generating ideas**
    - ✓ The most primary steps in the process;
    - ✓ Generally gather the related information from whole company or outside company.
  - **Analyzing individual proposals**
    - ✓ Gathering the information → Forecasting cash flow for each projects → Evaluating project's profitability.
  - **Planning the capital budget**
    - ✓ Fit the company's overall strategies;
    - ✓ Consider the project's timing;
    - ✓ Consider the financial and real resource issues as well.
  - **Monitoring and post-auditing**
    - ✓ The differences resulted from the variation of actual return and predicted return should be explained.

The Basic of Capital Budgeting

- **Classification of capital projects**
  - **Replacement projects**
    - ✓ To maintain the current business;
    - ✓ For cost reduction purpose
  - **Expansion projects**
    - ✓ For current projects;
    - ✓ For new product or new services.
  - **Mandatory investment**
    - ✓ Regulatory projects;
    - ✓ Safety projects;
    - ✓ Environmental projects;
    - ✓ Frequently required by a government agency.
  - **Other projects:** projects that cannot be easily analyzed by using capital budgeting process.

Detailed analysis required

Basic Principles of Capital Budgeting

- **Basic principles of capital budgeting**
  - **Incremental cash flow:** the cash flow that is realized because of adopting the projects.
  - Decisions are **based on cash flows**, instead of accounting net income.
    - ✓ Accounting net incomes usually reduced by non-cash charges like depreciations.
  - Timing of cash flows are crucial → Time value of money
    - ✓ When cash flows occur should be accurately analyzed.
  - Cash flows are analyzed on an after-tax basis.
    - ✓ Taxes must be fully reflected in all capital budgeting decisions.

Basic Principles of Capital Budgeting

- **Basic principles of capital budgeting**
  - Cash flows that **should be ignored** in capital budgeting
    - ✓ **Sunk costs**: the costs have already been incurred, which would not be affected by the decision of adopting the project;
    - ✓ **Financing costs**: the costs have already been reflected in the required rate of return.
  - Cash flows that **should be included** in capital budgeting
    - ✓ **Externality:** the effect of an investment on other things besides the investment itself.
      - ◆Negative externality (cannibalization): the new project may take sales away from current projects;
      - ◆Positive externality: the new project may benefit current projects.
    - ✓ **Opportunity cost:** the cash flow that a firm will lose by the next best use of the resources.

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Mutually Exclusive vs. Independent Project

- **Independent Projects**
  - Cash flows are independent of each other;
  - Evaluated based on the projects' own profitability.
- **Mutually Exclusive Projects**
  - Cash flows are compete directly with each other;
  - Only one of the project will be chosen;
  - Rank all alternatives and select the best one.
- **Project Sequencing**
  - Projects are sequenced through time, so that investing in a project creates the option to invest in future projects.
- **Unlimited Funds**
  - Company can raise the funds it wants for all profitable projects by paying the required rate of return.
- **Capital rationing**
  - Company has a limited amount of funds to invest.

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Project Evaluation Methods

- **Net present value (NPV)**
- **Internal rate of return (IRR)**
- **Payback period (PBP)**
- **Discount payback period (DBP)**
- **Profitability index (PI)**

Project Evaluation Methods - NPV

- **The Net Present Value (NPV)**

$$NPV = CF_0 + \frac{CF_1}{(1+k)^1} + \frac{CF_2}{(1+k)^2} + \ldots + \frac{CF_n}{(1+k)^n}$$

- **Definition**
  - PV of the future after-tax cash flows minus the investment outlay;
  - Net Present Value (NPV) = Total PV of future CF's - Initial cash outlay

Example

- Assume that the firm's cost of capital is 10% (**Use your calculator**)

Year (t)	0	1	2	3	4
Net cash flow	-4,000	2,000	1,600	1,200	400
Discounted NCF	-4,000	1,818	1,322	902	273

- **Correct answer:**

$$NPV = -4000 + \frac{2000}{(1+10\%)^1} + \frac{1600}{(1+10\%)^2} + \frac{1200}{(1+10\%)^3} + \frac{400}{(1+10\%)^4}$$

=(-4000) + 1818 + 1322 + 902 + 273 = 315

Project Evaluation Methods - NPV

- **Selection**
  - For independent projects:
    - ✓ If NPV>0, increase wealth, Accept!
    - ✓ If NPV<0, decrease wealth, Reject!
  - For mutually exclusive projects: Choose the one with highest NPV
- **Advantage**
  - Shows the amount of gains as currency amount
  - Positive NPV of project adds value to the firm (or to shareholders) rather than creditors. (Creditors only gain the interest whatever project bring benefits or losses)
  - Realistic discount rate – Included opportunity cost of funds (the expected return of stockholders)
- **Disadvantage**
  - Size of projects ignored

Project Evaluation Methods - IRR

- **Internal Rate of return (IRR)**

$$CF_0 + \frac{CF_1}{(1+IRR)^1} + \frac{CF_2}{(1+IRR)^2} + \ldots + \frac{CF_n}{(1+IRR)^n} = 0 \qquad NPV = 0$$

- **Definition**
  - The discount rate that makes the present value of the future after-tax cash flows equal that investment outlay.
- **Decision rules**
  - For independent projects

    Invest if IRR $\geqslant$ the required date of return

    Reject if IRR $\leqslant$ the required rate of return
  - For mutually exclusive projects
    - ✓ Choose the highest IRR
  - Conflicting ranking results of mutually exclusive projects with NPV.

Project Evaluation Methods - IRR

- **Advantage**
  - Reflect the profitability (not reflect absolute amount of profit gain);
  - Comparable for projects with different size.
- **Disadvantage**
  - Assume the reinvestment rate is IRR;
  - No IRR & multiple IRR;
  - Conflicting ranking results of mutually exclusive projects with NPV.

Project Evaluation Methods - PB

- **Payback Period:**

$$PBP = full\ years\ until\ recovery + \frac{unrecovered\ cost\ at\ the\ beginning\ of\ last\ year}{cash\ flow\ during\ the\ last\ year}$$

Year (t)	0	1	2	3	4
Net cash flow	-2,000	1,000	800	600	200
Cumulative NCF	-2,000	-1,000	-200	400	600

$$Payback\ period = 2 + \frac{200}{600} = 2.33\ years$$

Project Evaluation Methods - PBP

- **Payback Period (PBP)**
  - **Definition:** the number of years it takes to recover the initial cost of an investment
  - **Decision rules**
    - ✓ Mutually exclusive
      - ◆Invest the one with shorter PBP.
    - ✓ Independent project
      - ◆If project PBP < benchmark PBP, accept.
  - **Advantages**
    - ✓ Simple;
    - ✓ An indication of a project's risk and liquidity.
  - **Disadvantages**
    - ✓ Ignores the time value of money;
    - ✓ Ignores cash flows after the payback period;
    - ✓ Ignores the profitability of the project.

Project Evaluation Methods - DPB

- **Discounted Payback Period (DPB)**
  - **Definition**
    - ✓ The number of years it takes for the cumulative discounted cash flows from a project to equal the original investment.
  - **Decision Rules**
    - ✓ For mutually exclusive projects
      - ◆Invest the one with shorter PBP.
    - ✓ For independent project projects
      - ◆If project PBP < benchmark PBP, accept.
  - **Advantages**
    - ✓ An indication of a project's risk and liquidity;
    - ✓ Considers time value of money.
  - **Disadvantages**
    - ✓ Ignores cash flows after the payback period. Also the drawback of PBP.

Example

- Assume that the firm's cost of capital is 10% and the firm's maximum discounted payback period is 4 years.

Year (t)	0	1	2	3	4
Net cash flow	-4,000	2,000	1,600	1,200	400
Discounted NCF	-4,000	1,818	1,322	902	273
Cumulative NCF	-4,000	-2,182	-860	42	**315**

$$\text{Discounted payback} = 2 + \frac{860}{902} = 2.95 \ years$$

The Net Present Value

Project Evaluation Methods- PI

- **Profitable Index (PI)**

$$PI=\frac{\text{PV of future cash flow}}{CF_0}=1+\frac{NPV}{CF_0}$$

- **Definition**
  - The PV of a project's future cash flows divided by the initial investment.
- **Decision rule**

Invest if PI>1.0

Reject if PI<1.0

- **Advantage**
  - Measures profitability of the project.
- **Disadvantage**
  - Not reflect the absolute amount of profit gain of the project.

NPV & IRR Calculation

- Given the following cash flows for a capital project, calculate the NPV and IRR. The required rate of return is 8%.

Year	0	1	2	3	4	5
Cash flow	-50,000	15,000	15,000	20,000	10,000	5,000

	NPV	IRR
A.	$1,905	10.9%
B.	$1,905	26.0%
C.	$3,379	10.9%

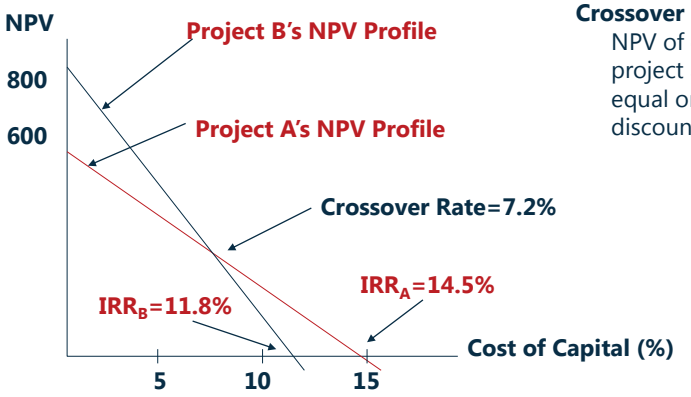
- **Correct Answer：C**
  - NPV = -50,000 +15000/1.08+15000/1.08^2+20000/1.08^3+10000/1.08^4+5000/1.08^5 = -50,000 + 13,888.89 + 12,860.08 + 15,876.64 + 7,350.30 + 3,402.92 = - 50,000 + 53,378.83 = 3,378.83
  - The IRR, found with a financial calculator, is 10.88 percent.

NPV & IRR Calculation

- **NPV is superior to IRR**
  - **Advantages of NPV & IRR**
    - ✓ Based on Cash flows;
    - ✓ Considering Time value of money——Opportunity cost;
    - ✓ Take into account the cash flows generated over the whole project life.
  - **Disadvantages of IRR**
    - ✓ Conventional cash flows pattern Vs. Unconventional cash flow pattern.
      - ◆Multiple IRRs or no IRR under unconventional CF.
    - ✓ Unrealistic reinvestment assumption.
  - **Disadvantage of NPV**
    - ✓ Size of project ignored.
- **Key advantage of NPV: consistent with the goal of shareholders wealth maximization.**

NPV Profiles

- **The NPV profile shows a project's NPV graphed as a function of various discount rates.**



Crossover Rate: NPV of each project are equal on this discount rate.

When NPV and IRR conflicts: **NPV dominates.**

Popularity of Capital Budgeting Methods

- **Location**
  - European countries use the payback period method as much as or more than NPV and IRR methods.
- **Size of the company**
  - Larger companies tended to prefer the NPV and IRR over the payback period.
- **Public and Private**
  - Private companies used the payback period more often than did public ones.
- **Management education**
  - The higher the level of education (i.e., MBA), the more likely the company was to use discounted cash flow methods such as the NPV and IRR.

Impact of NPV Rule and Stock Price

- **The relationship for NPV of the project and firm's value**
  - **NPV is positive**
    - ✓ Firm value is increased;
    - ✓ Shareholder wealth is increased.
  - **NPV is zero**
    - ✓ Shareholder wealth remain constant.
  - **NPV is negative**
    - ✓ Shareholder wealth is decrease.
- **The relationship between NPV rule and the stock price**
  - **In theory**
    - ✓ When the NPV is positive, P_{stock} is increased, vice versa;
    - ✓ △price per share=NPV/ outstanding common shares.

Impact of NPV Rule and Stock Price

- Freitag Corporation is investing €600 million in distribution facilities. The present value of the future after-tax cash flows is estimated to be €850 million. Freitag has 200 million outstanding shares with a current market price of €32.00 per share. This investment is new information, and it is independent of other expectations about the company.

  What should be the effect of the project on the value of the company and the stock price?

- **Correct Answer :**
  - NPV=850-600=250million
  - New value = 32+250/200=33.25$

Impact of NPV Rule and Stock Price

- **In reality**
  - The impact of the projects' NPV on stock price is much complicated than it illustrated previously;
  - The value of a firm= the value of its existing investments+ NPV of its future investments;
  - The impact of the investments on stock price depends on whether the NPV of the project is higher or lower than initial expectation, but not the project's NPV;
  - For example, if a project has NPV of $3.5, it might be a positive signal for investors as the company may have other profitable investment opportunities. Thus the increase of the stock price may increase more than $3.5.

Reading 36

Cost of Capital

Framework

1. Weighted average cost of capital (WACC)
   - Component cost of capital
   - Calculating WACC and it's components
   - Target capital structure weights
2. Project's and non-public company's beta
3. Country risk premium
4. Optimal capital budget
5. Floatation cost

Weight average cost of capital （WACC）

$$WACC = (w_d)[k_d(1-t)] + (w_{ps})(k_{ps}) + (w_{ce})(k_s)$$

- **Where:**
  - **t** is the firm's marginal tax rate;
  - **w** is the proportion of each type of capital, all the components are using market value when computing weightings;
  - **k** is the current cost of each type of capital.
- **The priority sequencing of choosing capital structure**
  - The company's target capital structure;
  - The trends in capital structure;
  - The company's current capital structure;
  - The average of comparable company's capital structure.

WACC: How to determine weights?

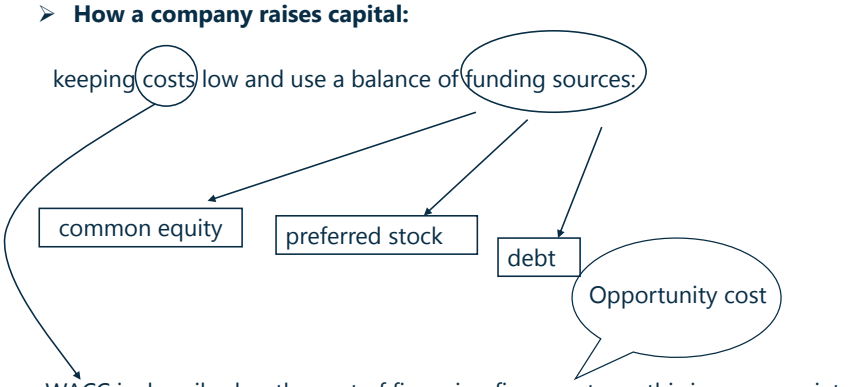
- Fran McClure of Alba Advisers is estimating the cost of capital of Frontier Corporation as part of her valuation analysis of Frontier. McClure will be using this estimate, along with projected cash flows from Frontier's new projects, to estimate the effect of these new projects on the value of Frontier. McClure has gathered the following information on Frontier Corporation

	Current Year	Forecasted for Next Year
Book value of debt	$50	$50
Market value of debt	$62	$63
Book value of equity	$55	$58
Market value of equity	$210	$220

- **Correct Answer**:
  - The weights that McClure should apply in estimating Frontier's cost of capital for debt and equity are, W_d =0.223; We= 0.777 ,respectively

Cost of the different sources of capital

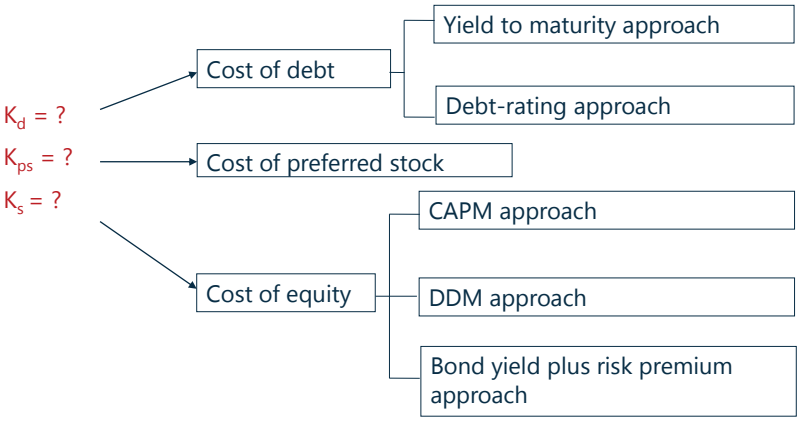
- **How a company raises capital:**



WACC is described as the cost of financing firm assets. so this is a appropriate way to determine whether undertaking that project will increase the value of the firm.

Cost of the different sources of capital

- The weights in the calculation of WACC should be base on the firm's target capital structure.



Cost of debt

- **After-Tax Cost of Debt**

$$K_d(1\text{-}t) = \text{interest rate-tax saving}$$

- **Use the market interest rate on new debt, not the coupon rate**
  - **Yield to maturity approach (annual return)**
    - ✓ N=3, PV=-1025, PMT= 100, FV=1000 CPT I/Y
    - ✓ CF CF0=-1025, C01=100, F01=2, C02=1100 IRR CPT（容易犯错）
  - **Debt-rating approach**

Example: YTM approach

- **After-Tax Cost of Debt**
  - Smith Inc's bond with remaining 5 years is sold at $1,030, par value is $1,000 and coupon rate 10% and the coupon is paid semiannually. The marginal tax rate of Smith Inc is 30%, calculate the after-tax component cost of debt of Smith Inc.?
- **Correct Answer**:

[2nd] [CLR TVM] → 1,030 [+/-] [PV] → 50 [PMT] → 1,000 [FV] →

10 [N] → [CPT] [I/Y] → [×] [2] [=]

  - So: I/Y = 4.62, and then, 4.62×2=9.24
  - The after-tax cost of debt is: K_d (1-t) = 9.24% * (1-30%) = 6.47%

Example: debt rating approach

- **After-Tax Cost of Debt**
  - If the Smith Inc's capital structure includes the debt with an average maturity of 5 years and the firm's marginal tax rate is 30%. If the Smith Inc's rating AA and the yield on a debt with same rating and 10 year's maturity is 10%.
- **Correct Answer**:

10% × (1-30%) = 7%

Cost of preferred stock

- **Cost of Preferred Stock**

$$k_{ps} = \frac{D_{ps}}{P}$$

Where:

- D: preferred dividends;
- P: market price of preferred stock.

- If the preferred stock has option features like convertible or callable, how to figure out its cost?

Example: cost of preferred stock

- Morgan Insurance Ltd. issued a fixed-rate perpetual preferred stock three years ago and placed it privately with institutional investors. The stock was issued at $25 per share with a 1.75 dividend. If the company were to issue preferred stock today, the yield would be 6.5 percent. Calculate the stock's current value.

- **Correct Answer:**
  The company can issue preferred stock at 6.5%.
  P = $1.75/0.065=$26.92.

Cost of equity

- **Cost of Equity**
  - **CAPM approach**
    - ✓ $k_s = r_f + \beta(r_m - r_f)$
  - **Dividend growth model**
    - ✓ $k_s = (D_1/P_0) + g$
    - ✓ g=(1-payout rate) (ROE)
  - **Bond yield plus risk premium approach**
    - ✓ k_s= bond yield + risk premium

Capital Asset Pricing Model (CAPM)

- Step 1: Estimate the risk free rate, RFR
- Step 2: Estimate the stock's beta
- Step 3: Estimate the expected rate of return on the market, or market risk premium
- Step 4: Use CAPM $k_s = r_f + \beta(r_m - r_f)$

Example

- An analyst gathered the following information about a company and the market:

Current market price per share	$28.00
Most recent dividend per share paid (D_0)	$2.00
Expected dividend payout rate	40%
Expected return on equity (ROE)	15%
Beta for the common stock	1.3
Expected rate of return on the market portfolio	13%
Risk-free rate of return	4%

  - Using the Capital Asset Pricing Model (CAPM) approach, the cost of retained earnings for the company is closest to:

A. 13.6%. B. 15.7%. C. 16.1%.

- **Correct answer: B.**

Cost of equity: pure-play method

- **How to estimate beta of a non-public company?**
  - A two-step process is used (pure-play method)
    - ✓ Step 1: Convert the observed, equity beta of the comparable public company, into an asset beta, or pure project beta, β_u. Removing the effects of financial leverages;

$$\beta^*_{asset} = \beta_{equity}\left[\frac{1}{1+(1-t)\frac{D}{E}}\right]$$

    - ✓ Step 2: Calculate the new equity beta of this non-public company for the proposed capital structure of the new line of business.

$$\beta_{equity} = \beta^*_{asset}\left[1+(1-t')\frac{D'}{E'}\right]$$

Cost of equity: pure-play method

- **Pure-Play Method Derivation**
  - Company's risk is shared by both share holders and creditors;

$$\beta_{asset} = \beta_{debt}\omega_{debt} + \beta_{equity}\omega_{equity}$$

  - The burden of debt financing is actually less due to interest deductibility;

$$\omega_{debt} = \frac{(1-t)D}{(1-t)D+E} \qquad \omega_{equity} = \frac{E}{E+(1-t)D}$$

  - Returns on debt do not vary with returns on market;

$\beta_{debt} = 0$ ← Pay predetermined INT and PRN without regard to market

  - Then we have

$$\beta_{asset} = \beta_{equity}\left(\frac{1}{1+(1-t)\frac{D}{E}}\right)$$

Cost of equity: country risk premium

- **Country equity risk premium in developing market**
  - $K_{ce} = R_f + \beta[E(R_{mkt}) - R_f + CRP]$
    - ✓ CRP: country risk premium

求Ke，考虑的是股票市场，所以equity在分子上

$$CRP = \text{Sovereign yield spread} \times \frac{\sigma_{\text{equity index}}}{\sigma_{\text{sovereign bond market of developed market currency}}}$$

- **Sovereign yield spread**
  - The difference between the government bond yield in that country, denominated in the currency of a developed country, and the treasury bond yield on a similar maturity bond in the developed country.

Example: Country Risk Premium

- Miles is an analyst with the G Company, and he is estimating a country risk premium to include in his estimate of the cost of equity capital for G's investment in Argentina.
  - Argentinean government's 10-year bond= 9%
  - 10-year U.S. treasury bond yield = 4%
  - Annualized standard deviation of Venezuelan stock index = 30%
  - Annualized standard deviation of Venezuelan U.S. dollar-denominated 10-year government bond = 20%
  - Project beta = 1.5
  - Expected market return = 12.5%
  - Risk-free rate = 4.5%

Example: Country Risk Premium

- **Correct Answer:**

Country risk premium

CRP = (9%- 4%)* (0.3/ 0.2)= 0.05* 1.5= 7.5%

Cost of equity: $K_{ce} = R_f + \beta[E(R_{mkt}) - R_f + CRP]$

= 0.045+1.5(0.125-0.045+0.075)

= 0.045+1.5*0.155

= 0.2775, or 27.75%

Dividend Discount Model Approach

- **Gordon growth model**
  - $P_0 = D_1 / (K_{ce}-g)$
  - Assumption
    - ✓ $K_{ce}>g$
- **$K_{ce}= D_1 / P_0+g$**
  - D_1 / P_0: dividend yield
  - g = (retention rate) (ROE) = (1-PR) (ROE)
  - PR=Payout ratio = D/EPS

Example: dividend discount model

- **Example:**

Current market price per share of	$30.00
Most recent dividend per share paid (D_0)	$2.50
Expected dividend payout rate	50%
Expected return on equity (ROE)	15%

Using the dividend discount model (DDM) approach, the cost of retained earnings for the company is closest to:

A. 16.1%. B. 16.5%. C. 16.8%.

- **Correct Answer: B.**
  - The expected return is the sum of the expected dividend yield plus expected growth. The expected growth is (1 - 0.5)15% = 7.5%;
  - The expected dividend yield is $2.5*(1+0.075)/$30 = 8.95%;
  - The sum is 16.5%.

Cost of equity: bond yield+ risk premium

- **Bond yield plus risk premium approach**
  - Based on fundamental tenet in financial theory that the cost of capital of riskier cash flows is higher than that of less risky cash flows.
- **k_{ce}= bond yield + risk premium**

  Where:

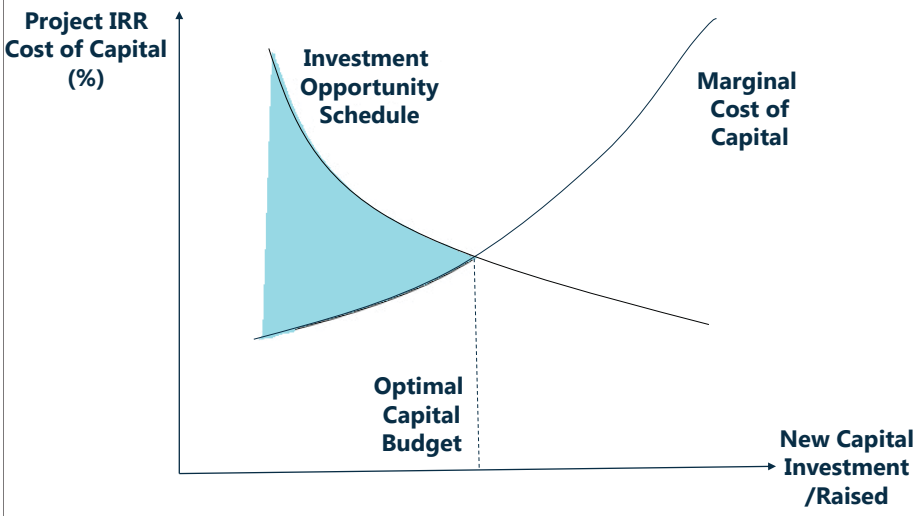
  Bond yield = market yield on the firm's long-term bond;

  Risk premium = historical spreads between bond yield and stock yield.
- **Risk premium estimation**
  - Ideally, the risk premium is forward looking;
  - However, the estimates of this premium is based on the historical spreads;
  - Emerging market, risk premium should be 3-5%.

The Optimal Capital Budget

- **The WACC is the appropriate discount rate for projects that have approximately the same level of risk as the firm's existing projects.**
  - If a project's risk >firm's risk , use a discount rate greater than WACC →NPV overestimated if using WACC;
  - If a project's risk <firm's risk , use a discount rate lower than WACC →NPV underestimated if using WACC.

The Optimal Capital Budget



Marginal Cost of Capital (MCC)

- **Example: Calculating break points**

  The target capital structure for ABC Ltd is 25% debt and 75% equity. The schedule of financing costs for ABC Ltd is shown in the table below:

Amount of New Debt (in millions)	After-tax Cost of Debt	Amount of New Equity (in million)	Cost of Equity
$0 to $49	4%	$0 to $99	5.5%
$50 to $99	4.4%	$100 to $199	6.8%
$100 to $ 199	5.0%	$200 to $399	8.6%

  Calculate the break points for ABC Ltd, and graph the marginal cost of capital schedule.

Marginal Cost of Capital (MCC)

➢ **Correct Answer:**

$$\text{Break point} = \frac{\text{amount of capital at which the component's cost of capital changes}}{\text{weight of the component in the capital structure}}$$

ABC Ltd will have a break point each time a component cost of capital changes, for a total of four break points.

Break point $_{\text{Debt>\$50million}}$ = \$50million/0.25 = \$200million

Break point $_{\text{Debt>\$100million}}$ = \$100million/0.25= \$400million

Break point $_{\text{Equity>\$100million}}$ = \$100million/0.75 = \$133million

Break point $_{\text{Equity>\$200million}}$ = \$200million/0.75= \$267million

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Marginal Cost of Capital (MCC)

➢ The table shows ABC Ltd's WACC for the different break points.

WACC for Alternative Levels of Financing

Capital (in millions)	Equity (75%)	Cost of Equity	Debt (25%)	Cost of Debt	WACC
\$100	\$75	5.5%	\$25	4%	5.125%
\$150	\$112.5	6.8%	\$37.5	4%	6.10%
\$200	\$150	6.8%	\$50	4.4%	6.20%
\$300	\$225	8.6%	\$75	4.4%	7.55%
\$400	\$300	8.6%	\$100	5%	7.70%

* Keeping the original capital structure

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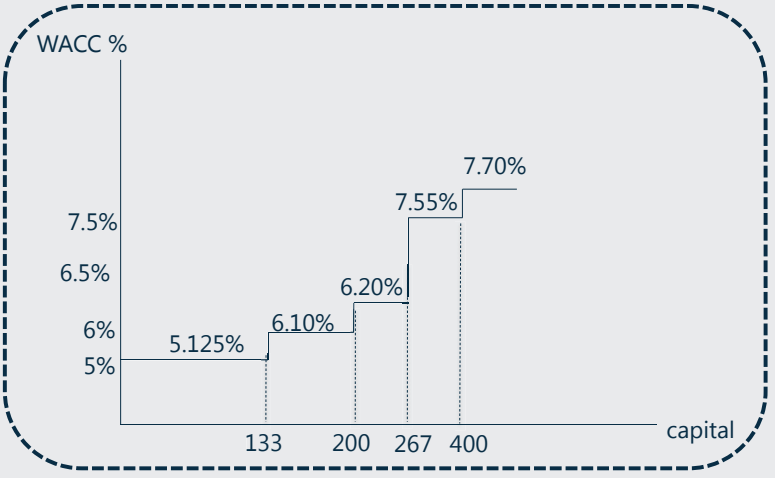
Marginal Cost of Capital (MCC)

➢ The figure shows ABC Ltd's MCC schedule



Cost of CS & PS—Flotation Cost

- **Floatation cost: the costs associated with the issuance of new securities**
  - Charged by investment bank, while based on the size and type of offering;
  - Preferred stock & debt: do not usually incorporate flotation costs in the estimated cost of cost of capital because this cost is quite small < 1%;
  - Common stock: should be considered (about 5%).
- **Method 1**

$$r_e = \frac{D_1}{P_0 - F} + g \quad \textbf{OR} \quad r_e = [\frac{D_1}{P_0(1 - f)}] + g$$

- **Method 2**
  - In fact, floatation costs are a cash flow at the initiation of the project Consider as CF_0.

Cost of CS & PS—Flotation Cost

- **Example : correct accounting for flotation costs**

  Consider a project that requires a €90,000 initial cash outlay and is expected to produce cash flows of €15,000 each year for 10 years. Suppose the company's marginal tax rate is 35% and that the before-tax cost of debt is 6%. Furthermore, suppose that the company's dividend next period is €1.5, the current price of the stock is €25, and the expected growth rate is 4%. Assume the company will finance the project with 40% debt and 60% equity, and the flotation costs are, say, 5% of the new equity capital.

Cost of CS & PS—Flotation Cost

- **Correct Answer– by using method 2**
  - After-tax cost of debt=6%(1-0.35)=3.9%;
  - Cost of equity=($1.5/$25)+0.04=0.10, or 10%;
  - WACC=0.40(0.039)+0.60(0.10)=7.56%;
  - Since the project is financed with 60% equity, the amount of equity capital raised is 0.6×$90,000* 5%=$3,000;
  - Based on the outcome of financial calculator, NPV of the project is $12,679.
    - ✓ If flotation cost is tax deductible, NPV after considering flotation cost is= 12,679-3,000*(1-0.35)= 10,729;
    - ✓ If flotation cost is not tax deductible, NPV after considering flotation cost is=12,679-3,000= 9,679.

Cost of CS & PS—Flotation

- **Correct answer– if using method 1**
  - After-tax cost of debt=6%(1-0.35)=3.9%;

$$\text{Cost of equity}=\frac{\$1.5}{\$25(1-0.05)}+0.04=10.32\%$$

  - WACC=0.40(0.039)+0.6(0.1032)=7.752%;
  - NPV of the project= 11,787.

Reading 37

Measures of leverage

Framework

1. Basic concept of leverage
2. Leverage
   - Degree of operating leverage (DOL)
   - Degree of financial leverage (DFL)
   - degree of total leverage (DTL)
3. Breakeven quantity
   - Breakeven quantity of sales
   - Operating breakeven quantity of sales

Leverage and risk

- **Leverage** is the use of fixed costs, operating or financial, in a company's structure. It increases the risk and potential return of a firm's earnings and cash flows.
  - Operating leverage results from fixed operating cost;
  - Financial leverage results from the use of debt financing and its associated fixed costs.
- **Business risk** is the risk associated with operating earnings (EBIT) and results from a combination of sales risk and operating risk.
  - **Sales risk**: the uncertainty with respect to the price and quantity of goods and services;
  - **Operating risk**: risk attributed to the operating cost structure, the greater the fixed costs relative to variable costs, the greater the operating risk.
- **Financial risk** is reflected in the greater variability of EPS compared to the variability of operating earnings (EBIT) as a result of using debt in the firm's capital structure.

Operating Leverage

- **Degree of operating leverage (DOL)**
  - **Definition**
    - ✓ The degree of operating leverage can be regarded as the operating income elasticity, which is the percentage change in EBIT that results from a given percentage change in sales.
    - ✓ A quantitative measure of operating risk.

$$DOL = \frac{\text{percentage change in EBIT}}{\text{percentage change in sales}} = \frac{\frac{\Delta EBIT}{EBIT}}{\frac{\Delta Q}{Q}}$$

elasticity

  - **Equation**

$$DOL = \frac{Q(P-VC)}{Q(P-VC)-FC} = \frac{S-TVC}{S-TVC-FC}$$

Financial Leverage

- **Degree of financial leverage (DFL)**
  - **Definition**
    - ✓ The sensitivity of the cash flows available to owners when operating income(EBIT) changes.
    - ✓ A quantitative measurement of financial risks.

$$DFL = \frac{\text{percentage change in EPS}}{\text{percentage change in EBIT}} = \frac{\frac{\Delta EPS}{EPS}}{\frac{\Delta EBIT}{EBIT}}$$

  - **Equation**

$$DFL = \frac{\text{EBIT}}{\text{EBIT-Interest}}$$

    - ✓ When interest is zero, DFL=1. There is no financial leverage.

Financial Leverage

- **Degree of total leverage (DTL)**
  - **Definition**
    - ✓ A measure of the sensitivity of net income to changes in the number of units produced and sold;
    - ✓ The ratio gives a combined effect on both operating leverage and financial leverage.

$$DTL=DOL\times DFL$$

$$DTL=\frac{\%\Delta EBIT}{\%\Delta sales}\times\frac{\%\Delta EPS}{\%\Delta EBIT}=\frac{\%\Delta EPS}{\%\Delta sales}$$

  - **Equation**

$$DTL=\frac{Q(P\text{-}VC)}{Q(P\text{-}VC)\text{-}FC\text{-}I}=\frac{S\text{-}TVC}{S\text{-}TVC\text{-}FC\text{-}I}$$

Leverage and risk

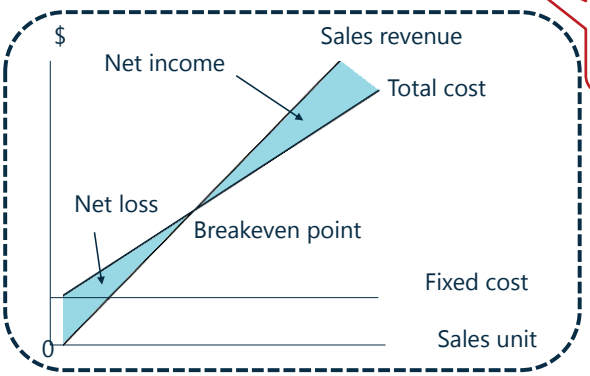
- **The use of debt in a company's capital structure :**
  - reduces net income due to the added interest expense
  - increase equity owner's ROE
  - increase the rate of change (risk) for ROE.
- **Whether to use leverage depends on:**
  - Profitability
  - Cost of the funds

Breakeven Analysis

- **Breakeven quantity of sales (Q_{BE}):** the level of sales that a firm must generate to cover all of its fixed and variable costs.

$$Q_{BE}=\frac{\text{fixed operating costs+fixed financial costs}}{\text{price-variable cost per unit}}$$

P-VC is marginal contribution



Breakeven Analysis

- **Operating breakeven quantity of sales (Q_{OBE})**
  - Calculate as breakeven quantity of sales but only consider fixed operating costs and ignore fixed financing cost.

$$Q_{OBE} = \frac{\text{Fixed operating costs}}{\text{Price} - \text{variable cost per unit}}$$

Breakeven Analysis

- Example:
  Operating costs for A company described as follow:

Price	4
Variable costs	3
Fixed operating costs	10,000
Fixed financing costs	30,000

- **Correct Answer:**

$$Q_{BE} = \frac{10000 + 30000}{4.00 - 3.00} = 40000\ units \quad Q_{OBE} = \frac{10000}{4.00 - 3.00} = 10000\ units$$

Breakeven Analysis

- **The effects of leverage on net income**
  - Other things equal, a firm that chooses operating and financial structures that result in greater total fixed costs will have a higher breakeven quantity of sales.
  - Leverage of either type magnifies the effects of changes in sales on net income.
  - The further a firm's sales are from its breakeven level of sales, the greater the magnifying effects of leverage on net income.

Reading 38

Dividends and Share Repurchases: Basics

Framework

1. Different types of dividends
   - Cash dividend
   - Stock dividend and stock split
   - Reverse stock splits
   - Effects on financial ratios
2. Dividend payment chronology
3. Share repurchase
   - Types
   - Effects on EPS
   - Effects on BVPS

Dividends

- **Cash dividends**
  - Reduces both the value of the company's assets and the market value of equity;
  - No effect on shareholder wealth.
  - Types of cash dividend
    - ✓ Regular dividends (dividends are paid on a consistent schedule);
    - ✓ Special dividends (dividends are paid irregularly, on cash);
    - ✓ Liquidating dividends (dividends are paid when a company goes liquidating).
- **Stock dividends & stock splits**
  - Both create more shares;
  - A proportionate drop in the price per share;
  - No effect on shareholder wealth.
- **Reverse stock splits**
  - Increase the share price;
  - Reduce the number of shares outstanding;
  - No effect on the market value of the firm's equity.

Stock Dividends

➢ **Example - Impact of 3% stock dividend on shareholders**

	Before dividend	After dividend
Shares outstanding	1 million	1.03 million
Stock price	$20	$19.4175 (=20*1/1.03)
EPS	$1.00	$0.97 (=1/1.03)
P/E	20	20
Total market value	$20 million	$20 million (1.03*19.4175)
Shares owned	0.1 million=(10%*1 million)	0.103 million (=0.1*1.03 million)
Ownership value	$2 million= (0.1million* $20)	$2 million= (0.103million* $19.4175)

Stock splits

➢ **Example: Stock splits**

GF company declares a 3-for-2 stock split. Currently the firm's stock price is $30, and the last year's EPS for GF company is $3, with dividends payout ratio is 30%, and there are 1 million shares outstanding. What is the impact on ABC's shares outstanding, stock price, EPS, dividends per share, dividend yield, P/E, and market value?

Stock splits

➢ **Correct Answer:**

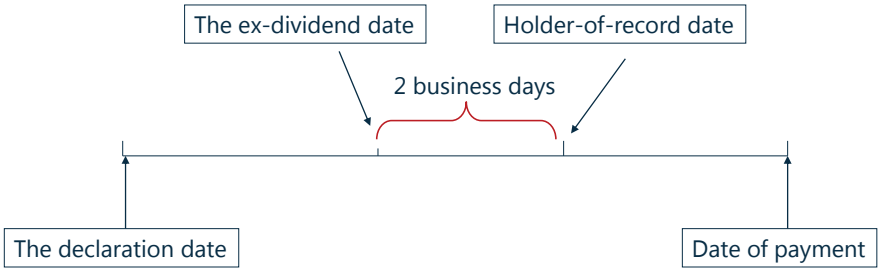
	Before split	After split
Shares outstanding	1 million	1 million* (3/2)=1.5 million
Stock price	$30	$30/ (3/2)=$20
EPS	$3	$3/(3/2)=$2
DPS	$3*30%=$0.9	$0.9/(3/2)=$0.6
Dividend yield	$0.9/$30= 3%	$0.6/$20=3%
P/E	$30/$3=10	$20/$2=10
Market value	$30*1million= 30 million	1.5million* $20=$30 million

Stock splits

- **Increase**
  - Number of shares outstanding.
- **Decrease**
  - Stock price;
  - EPS;
  - Dividends per share.

  } Decrease by a pro rata amount.
    - ✓ Because number of shares outstanding increases.
- **Constant**
  - Dividend yield
    - ✓ Because price decreases, dividend per share decreases.
  - P/E ratio
    - ✓ Because price decreases, EPS decreases.
  - Total market value of the firm;
  - Ownership value and stake are unchanged.

Dividend Payment Chronology



- Once the company sets the record date, the stock exchanges fix the ex-dividend date.
  - Ex-dividend date is normally set for stocks **two business days before** the record date.

Share Repurchase Methods

- **Four methods for share repurchase**
  - **Buy in the open market**
    - ✓ Most common, buy own shares as conditions warrant in the open market;
    - ✓ Give the company max flexibility to choose the timing of the transaction.
  - **Buy a fixed number of shares <u>at a fixed price</u>**
    - ✓ **Fixed price tender offer**, repurchase at a premium to the current price.
  - **Dutch Auction**
    - ✓ A tender offer to existing shareholders as well;
    - ✓ Provides a range of acceptable prices.
  - **Repurchase by direct negotiation**
    - ✓ Negotiate with a major shareholder to buyback prices at a premium.
- In shareholders' minds, the announcement of repurchase policy provides support for the share price.

Financial statement effects of repurchases

- **Repurchased with excess cash (internal financing)**
  - **I/S**
    - ✓ EPS will increase (fewer shares outstanding);
    - ✓ EPS will decrease (lost interest income and earnings);
    - ✓ Compare earnings yield and after-tax yield of company fund.
  - **B/S**
    - ✓ Assets and equity will decline;
    - ✓ Leverage (D/E) will increase.
- **Repurchased with debt (external financing)**
  - **I/S**
    - ✓ EPS will increase (fewer shares outstanding);
    - ✓ EPS will decrease (Incur interest cost and reduce earnings);
    - ✓ Compare earnings yield and after-tax cost of debt.
  - **B/S**
    - ✓ Assets and equity will decline;
    - ✓ Leverage (D/E) will increase even more.

Effects of Share Repurchase on EPS

- **Example: Share repurchase when after-tax cost of debt < earnings yield**

  ABC Company plans to borrow $30 million that it will use to repurchase shares. ABC's CFO has compiled the following information
  - Share price at the time of buyback = $60;
  - Shares outstanding before buyback =30 million;
  - EPS before buyback = $5.00.;
  - Earnings yield = $5.00 / $60 = 8.33%;
  - After-tax cost of borrowing = 7%;
  - Planned buyback = 500,000 shares.

  Calculate the EPS after the buyback.

Effects of Share Repurchase on EPS

- **Correct Answer:**
  - Total earnings = $5.00× 30,000,000 = $150,000,000

$$\text{EPS after buyback} = \frac{\text{total earnings -after-tax cost of fund}}{\text{shares outstanding after buyback}}$$

$$= \frac{\$150,000,000 - (500,000 \text{ shares} \times \$60 \times 0.07)}{(30,000,000 - 500,000) \text{ shares}}$$

$$= \frac{\$150,000,000 - \$2,100,000}{29,500,000 \text{ shares}}$$

$$= \$5.013$$

  - Because the 7% after-tax cost of borrowing is less than the 8.33% earnings yield (E/P) of the shares, the share repurchase will increase the company's EPS.

Effects of Share Repurchase on EPS

- **A share repurchase may**
  - **Increase EPS**
    - ✓ **With cash:** Earnings yield (E/P) > after tax cost of fund
    - ✓ **With debt**: Earnings yield (E/P) > after tax cost of debt
  - **Constant EPS**
    - ✓ **With cash:** Earnings yield (E/P) = after tax cost of fund
    - ✓ **With debt:** Earnings yield (E/P) = after tax cost of debt
  - **Decrease EPS**
    - ✓ **With cash:** Earnings yield (E/P) < after tax cost of fund
    - ✓ **With debt:** Earnings yield (E/P) < after tax cost of debt

Effects of Share Repurchase on BVPS

- **A share repurchase may**
  - **Increase BVPS**
    - ✓ Market price (repurchase price) < original BVPS
  - **Constant BVPS**
    - ✓ Market price (repurchase price) = original BVPS
  - **Decrease BVPS**
    - ✓ Market price (repurchase price) > original BVPS

Effects of Share Repurchase on BVPS

- **Example: Effect of a share repurchase on book value per share**
  The share prices of Alpha Ltd and Beta Company are both $30 per share, and both of them have 15 million shares outstanding. Both companies have announced a $9 million stock buyback. Alpha Ltd has a book value of $300 million, while Beta Company has a book value of $600 million.
- Calculate the BVPS of each company after the share repurchase.

Effects of Share Repurchase on BVPS

➢ **Correct Answer:**

- Share buyback for both companies = $9 million / $30 per share = 300,000 shares.
- Remaining shares for both companies = 15,000,000- 300,000 = 14.7 million.
- Alpha's current BVPS = $300 million / 15 million = $20.
- The market price per share of $30 is greater than the BVPS of $20.
- Book value after repurchase: $300 million - $9 million = $291 million
  - ✓ BVPS = $291 million / 14.7 million = $19.80
  - ✓ BVPS decreased by $0.20
- Red Company's current BVPS = $600 million / 15 million = $40. The market price per share of $30 is less than the BVPS of $40.
  - ✓ Book value after repurchase: $600 million - $9 million =$591 million
  - ✓ BVPS = $591 million / 14.7 million = $40.20
  - ✓ BVPS increased by $0.20

Effects of Share Repurchase on BVPS

➢ **Example:**

A company with 20 million shares outstanding decides to repurchase 2 million shares at the prevailing market price of €30 per share. At the time of the buyback, the company reports total assets of €850 million and total liabilities of €250 million. As a result of the buyback, that company's book value per share will most likely:

A. increase.

B. decrease.

C. remain the same.

➢ **Correct Answer: C.**

Effects of Share Repurchase on total wealth

➢ **Example: Impact of share repurchase and cash dividend**

ABC Company has 30 million shares outstanding with a current market value of $60 per share. In the most recent quarter, ABC has made $150 million in profits, and only 80% of these profits will be reinvested into the company, ABC's Board of Directors is considering two alternatives for distributing the remaining 20% to shareholders

- Pay cash dividend: $30 million / 30 million shares = $1 per share
- Repurchase $30 million worth of common stock.
- Assuming that
  - ✓ Dividends are received when the shares go ex-dividend;
  - ✓ The stock can be repurchased at the market price of $60;
  - ✓ There are no differences in tax treatment between two choices.
- How would the wealth of an ABC shareholder be affected by the board's decision on the method of distribution?

Effects of Share Repurchase on total wealth

- **Correct Answer:**
  - **Share repurchase**
    - ✓ With $30 million, ABC could repurchase $30,000,000 / $60 = 500,000 shares of common stock.
    - ✓ The share price after the repurchase is as

$$\frac{(30,000,000)(\$60) - \$30,000,000}{30,000,000 - 500,000} = \frac{\$1770,000,000}{29,500,000} = \$60$$

    - ✓ Total wealth from the ownership of one share = $60.

Effects of Share Repurchase on total wealth

- **Cash dividend**
  - ✓ After the shares go ex-dividend, for each share, shareholders would have $1 in cash and a share worth $60 - $1 = $59
  - ✓ The ex-dividend value of $59 can also be calculated as:

$$\frac{(30,000,000)(\$60) - \$30,000,000}{30,000,000} = \$59$$

  - ✓ Total wealth from the ownership of one share = $48.50 + $1.50 = $50.

Cash dividend = share repurchase, in terms of the effect on shareholders' wealth

Summary

- The **impact** on the indicators due to cash dividend, stock dividend, stock split and repurchase (post vs. pre).

Indicator	Cash div.	Stock div.	Stock split	Repurchase
No. of shares	No changes	Increase	Increase	Decrease
Stock price	Ex-div	Ex-div (pro-rata)	Pro-rata decrease	Increased if signal is positive
EPS	No change	Decrease	Decrease	Uncertain
P/E	Decrease	No change	No change	Uncertain
Market value	Decrease by cash paid	No change	No change	Decreased by cash paid
Share owned by individual	No changes	Increase	Increase	Depends
Ownership value	Decrease in value but same in % of ownership	No changes	No change	Increase

Reading 39

Working Capital Management

Framework

1. Liquidity Measures
   - Operating cycle and cash conversion cycle
   - Liquidity ratios and turnover ratios
2. Liquidity Management
   - Account receivable management
   - Inventory management
   - Payable management
3. Cash Management
   - Short-term cash investment
   - Short-term cash funding

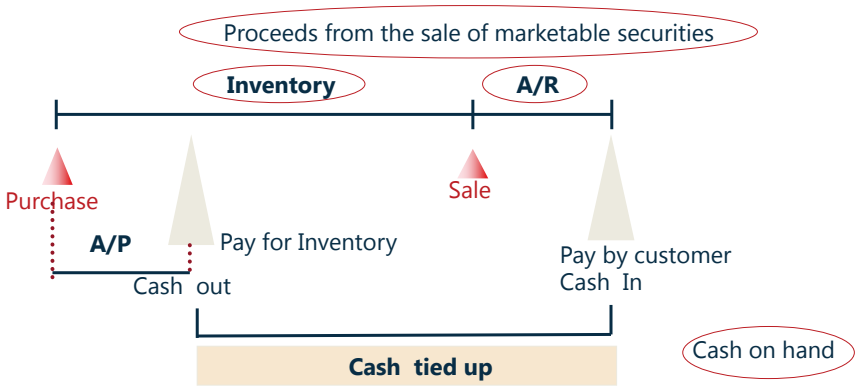
Liquidity measures

- **Primary sources of liquidity** represent the most readily accessible resources available.
  - Ready cash balances: cash available at bank accounts resulting from payment collections, investment income, liquidation of near-cash securities;
  - Short-term funds;
  - Cash flow management.
- **Secondary sources of liquidity** may result in a change in the company's financial and operating positions.
  - Negotiating debt contracts;
  - Liquidating long-term/ short-term assets with no substantial loss in value;
  - Filing for bankruptcy protection and reorganization.
- **Use of secondary sources may**
  - Signaling a company's deteriorating financial health;
  - Providing liquidity at a high price.

Liquidity measures

If lack liquidity → financial distress → extreme: insolvency or bankruptcy

- **Working Capital Turnover**



Liquidity measures

- **Working capital**

Inventory | Accounts Receivable | Accounts Payable | Cash

Current Assets less Current Liabilities = Net Working Capital

- **Working capital management is a concern regarding firm liquidity**
  - **Drags on liquidity**
    - ✓ When receipts lag, drags on liquidity creates pressure from the decreased available funds.
  - **Pulls on liquidity**
    - ✓ Disbursements are paid too quickly or trade credit availability is limited, requiring companies to expand fund before the sales fund comes to cover the liability.

Liquidity measures

- **Liquidity ratios**
  - Measure a company's ability to meet short-term obligations to creditors as they mature or come due;
  - The greater the current ratio or the quick ratio, the greater the potential ability for the firm to cover current liabilities, and the higher a company's liquidity.
    - ✓ **Current ratio**= current asset/ current liabilities;
    - ✓ **Quick ratio**= (cash+ short-term marketable securities+ receivables)/ current liabilities;
    - ✓ **Cash ratio**= (cash+ short-term marketable securities)/ current liabilities.

Liquidity measures

- **Receivable turnover**
  - Receivables turnover= credit sales/ average receivables
  - Number of days of receivables=365/ receivables turnover
- **Inventory turnover**
  - Inventory turnover= COGS/ average inventory
  - Number of days of inventory=365/ inventory turnover
- **Payables turnover**
  - Payable turnover= purchase/ average trade payable
    * purchase = inventory1 – inventory0+COGS
  - Number of days of payables=365/ payables turnover

Liquidity measures

- **Operating cycle**
  - A measure of the time needed to convert raw materials into cash from a sale.
    - ✓ **Operating cycle**= days of inventory+ days of receivables;
- **Cash conversion cycle**
  - A measure of the time from paying suppliers for materials to collecting cash from the subsequent sale of goods produced from these supplies.
    - ✓ **Cash conversion cycle**= days of inventory+ days of receivables- days of payables.

Accounts Receivable Management

- **Accounts receivable management:**
  - Calculating Average days of A/R based on Receivable aging schedule
  - Make comparison with Historical trends & Other firms

Receivables Aging				
Days outstanding	March $ 000's	Weighted	Average Collection Days	Days * Weight
<31 days	200	40%	22	8.8
31-60 days	150	30%	44	13.2
61-90 days	100	20%	74	14.8
>90 days	50	10%	135	13.5
Weighted Average Collection Period				50.3 days

Inventory management

- **Inventory management**
  - The inventory management needs a trade off: having sufficient inventory in hand for daily running, but not too much;
  - Calculating average days of inventory and inventory turnover ratios;
  - Make comparison
    - ✓ Within the same industry and business strategies
      - ◆Example: Grocery business →high inventory turnover
        An auto parts firm → low inventory turnover

To ensure overall financial management operated effectively, the inventory management is essential in any business.

Payable Management

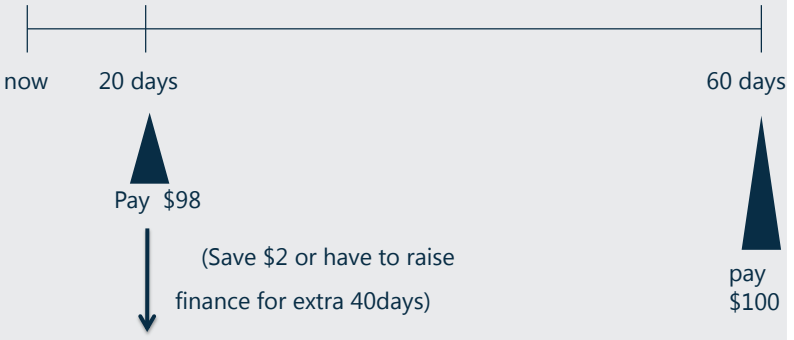
- **Trade credit:** a delay of payment, with a discount for early payment.
- **Typical terms on trade credit**
  - A discount is allowed if payment is received within a specified date;
  - Otherwise the full amount is due by a specified date.
    - ✓ **For example:** the term "2/10, net 30" means
      - ◆2% discount is available if the account is paid within 10 days;
      - ◆Or the full amount is due in 30 days.

$$\text{Cost of trade credit}=\left(1+\frac{\text{discount}}{1\text{-discount}}\right)^{365/t}\text{-1}$$

- Cost of trade credit if paid on day 60 $=(1+\frac{2\%}{1\text{-}2\%})^{365/(60\text{-}10)}\text{-1}$

Payable Management

- **Example:** 2/20 net 60
  On a purchase of $100…



Worthwhile? → **Effective annualized return**

Payable Management

- **Correct Answer:**

$$\text{Cost of trade credit}=\left(1+\frac{\text{discount}}{\text{1-discount}}\right)^{\text{365/No. of days beyond discount period}}-1$$

$$\left(1+\frac{2\%}{1-2\%}\right)^{\frac{365}{40}}-1=\text{EAR} \quad \textbf{Or} \quad 0.98\times(1+\text{EAR})^{\frac{40}{365}}=1$$

EAR = 20.40%

Compare the EAR with the cost of debt of the customer

Cash Management

- What is daily cash position?
  - Uninvested cash balances a firm has available to make routine purchases and pay expenses as they come due.
- Why do we care about daily cash position?
  - Keep sufficient cash on hand and avoid keeping excess cash because of the interest income foregone by not investing the cash.

Short Term Funding

- **Short term investment policy**
  - **The risk of company's short-term investment**
    - ✓ **Credit risk**
      - ◆The risk that a borrower will default on any type of debt by failing to make payments which it is obligated to do.
    - ✓ **Market risk**
      - ◆The risk that the value of a portfolio, either an investment portfolio or a trading portfolio, will decrease due to the change in value of the market risk factors.
    - ✓ **Liquidity risk**
      - ◆The risk that a given security or asset cannot be traded quickly enough in the market to prevent a loss (or make the required profit).
    - ✓ **Foreign exchange risk**
      - ◆A financial risk posed by an exposure to unanticipated changes in the exchange rate between two currencies.

Short Term Funding

- Short term deficient in cash balance can be managed by the following ways:
  - **Sources of short-term funding from banks**
    - ✓ **Lines of credit:** for large corporations with limited reliability.
      - ◆Uncommitted Line of credit: bank may refuse to extend an offer of credit.
    - ✓ **Committed Line of credit:** bank charges a fee for making a commitment for short term lending, more reliable.
      - ◆A revolving line of credit: a commitment for longer term lending, more reliable than Committed term lending.
    - ✓ **Pledge assets as collateral for bank borrowings.**
    - ✓ **Banker's acceptances**: mainly used by firms that export goods, who get guarantee from the buyer's bank.
    - ✓ **Factoring**: sale A/R to bank.
  - **Non-Bank Sources of Short-term Funding**
    - ✓ **Non-bank finance company**: small weak borrowers with weak credits;
    - ✓ **Commercial paper**: Large corporations and the rate for short-term fund is lowest.

Reading 34

Corporate governance and ESG: An Introduction

Framework

1. Corporate governance overview
2. Various stakeholder groups
3. Principal–Agent and Other Relationships Corporate Governance
4. Stakeholder management
5. Board of directors
6. Committees
7. Factors affecting stakeholder relationships and Corporate Governance
8. Analyst Considerations
9. ESG Considerations for Investors

Corporate governance

- **Corporate governance** can be defined as **'the system of internal controls** and procedures by which individual companies are managed**'.**
- **Corporate governance systems** adopted are either **shareholder theory or stakeholder theory**
  - **Shareholder theory** takes the view that the most important responsibility of a company's managers is to maximize shareholder returns.
  - **Stakeholder theory** broadens a company's focus **beyond** the interests of only its shareholders to its customers, suppliers, employees, and others who have an interest in the company.
- Notwithstanding the system of corporate governance used, nearly all companies depend on contributions from **a number of** stakeholders for their **long-term success.**

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Corporate Governance Overview

- Which statement regarding corporate governance is most accurate?
  - A. Most countries have similar corporate governance regulations.
  - B. A single definition of corporate governance is widely accepted in practice.
  - C. Both shareholder theory and stakeholder theory consider the needs of a company's shareholders.
- **Correct answer: C.**
  - Both shareholder and stakeholder theories consider the needs of shareholders, with the latter extending to a broader group of stakeholders.
  - A is incorrect because corporate governance regulations **differ** across countries, although there is a **trend toward convergence**.
  - B is incorrect because a universally accepted definition of corporate governance remains **elusive**.

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Various stakeholder groups

- **Shareholders**
  - Owner; Residual interest
  - **Growth** in corporate profitability to maximize a company's value.
- **Managers and Employees**
  - Receive compensation; Job promotion and working environment
  - Company's **viability**
  - Potential conflict with shareholders (E.g. **Take over offer)**
- **Board of Directors**
  - Protect shareholder's interest, strategic direction, monitor performance
  - **Experienced** individuals that fulfill responsibility toward shareholders and company
  - Maintain good reputation
- **Creditors**
  - Providers of debt financing, entitled to predetermined interest and principal
  - **Stability** of company's operation and performance
  - Potential Conflict with shareholders: Shareholder prefer **higher** risk and return

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Various stakeholder groups

- **Suppliers**
  - Delivery goods to company on credit
  - Wish to have long-term relationship with company
  - Company's ability to generate cash flow to meet its financial obligations.
- **Customers**
  - Ongoing support, with long-term relationship with the company
  - Satisfy their needs with a given price and safety standards
  - Company's **stability**
- **Governments/Regulators**
  - Protect the interest of general public, and ensure well-being of their nation's economies.
  - **Comply** with applicable laws (tax)

Various stakeholder groups

- Which stakeholders would most likely realize the greatest benefit from a significant increase in the market value of the company?
  A. Creditors
  B. Customers
  C. Shareholders

- **Correct answer: C.**
  - **Shareholders** are the **owners** of the company and have a residual claim on the assets of the company. Their wealth is directly **related** to the value of the company.
  - A is incorrect because **creditors** are usually **not entitled** to any additional cash flows (beyond interest and debt repayment) if the company's value increases.
  - B is incorrect because **customers** may have an interest in the company's stability and long-term viability but they do **not benefit** directly from an increase in a company's value.

Principal–Agent and Other Relationships

- **A principal hires an agent to perform on behalf of the principal.**
- **Objectives: Agent is expected to act in the best interests of the principal**
- **Duty of manager**
  - Act in the best interests of shareholders by maximizing equity value.
- **Conflict**
  - Managers may seek to maximize their personal benefits to the detriment of shareholders' interests.

Principal–Agent and Other Relationships

- **Controlling and Minority Shareholder Relationships**
  - **Straight voting**, leave minority shareholders less representation on the board
  - **Controlling shareholders**' decision might have **impact** on minority shareholder's wealth.
    - ✓ E.g. **takeover** transactions might give favor deal to controlling shareholders
    - ✓ E.g. **Related-party transactions** provide controlling shareholders interest ahead minority shareholders' interests, not for the company's best interests.
  - The **multiple-class structure** enables controlling shareholders to mitigate dilution of their voting power when new shares are issued.
- **Shareholder and Creditor Relationships**
  - **Difference risk tolerance**;
  - **Shareholders** would likely prefer riskier projects with a strong likelihood of higher return potential, whereas **creditors** would likely prefer stable performance and lower-risk activities.

Example

- A controlling shareholder of XYZ Company owns 55% of XYZ's shares, and the remaining shares are spread among a large group of shareholders. In this situation, conflicts of interest are most likely to arise between:
  - A. shareholders and regulators.
  - B. the controlling shareholder and managers.
  - C. the controlling shareholder and minority shareholders.

- **Correct answer: C.**
  - In this ownership structure, the controlling shareholder's power is likely more influential than that of minority shareholders. Thus, the controlling shareholder may be able to exploit its position to the **detriment** of the interests of the remaining shareholders.
  - Choices A and B are incorrect because the ownership structure in and of itself is **unlikely** to create material conflicts between shareholders and regulators or shareholders and managers.

Stakeholder management

- **Mechanisms of Stakeholder Management**
  - General Meetings
    - ✓ AGM simple majority
    - ✓ Extraordinary general meeting- supermajority vote can be called by the company or by shareholders throughout the year when significant resolutions requiring shareholder approval are proposed. These resolutions might relate to proposed material corporate changes, such as
      - ◆ amendments to the company's bylaws or rights attached to a class of shares
      - ◆ mergers and acquisitions
      - ◆ or the sale of significant corporate assets or businesses.

Stakeholder management

- Which of the statements about extraordinary general meetings (EGMs) of shareholders is true?
  - A. The appointment of external auditors occurs during the EGM.
  - B. A corporation provides an overview of corporate performance at the EGM.
  - C. An amendment to a corporation's bylaws typically occurs during the EGM.

- **Correct answer: C**
  - An amendment to corporate bylaws would normally take place during an EGM, which covers **significant changes** to a company, such as bylaw amendments.
  - A and B are incorrect because the appointment of external auditors and a corporate performance overview would typically take place during the AGM.

Stakeholder management

- Which of the following is not typically used to protect creditors' rights?
  - A. Proxy voting
  - B. Collateral to secure debt obligations
  - C. The imposition of a covenant to limit a company's debt level

- **Correct answer: A**
  - **Proxy voting** is a practice adopted by shareholders, not creditors.
  - B and C are incorrect because both collateral and covenants are used by creditors to help **mitigate** the default risk of a company.

Stakeholder management

- The component of stakeholder management in which a corporation has the most control is:
  - A. legal infrastructure.
  - B. contractual infrastructure.
  - C. governmental infrastructure.

- **Correct answer: B**
  - A corporation's contractual infrastructure refers to the contractual arrangements between the corporation and stakeholders. As such, the corporation has **control** over these arrangements.
  - A is incorrect because the legal infrastructure is established by **law**, which is outside the corporation's own control. Similarly,
  - C is incorrect because a corporation's governmental structure is largely **imposed** by regulators.

Board of directors

- **Composition of the Board of Directors**
  - Factors: company size, structure, and complexity of operations.
  - Corporate governance codes require: board include a diverse mix of expertise, backgrounds, and competencies-qualifications.
- **One tier**
- **Two tier**
  - Separation of CEO and chairman
- **Staggered boards**
  - **Directors** are typically divided into **three classes** that are elected separately in consecutive years-one class every year.
  - **Purpose**: Limits their ability to effect a major change of control at the company.

Committees

- **Board committee**
  - **Audit committee**
    - ✓ Committee Member independence
    - ✓ Committee Member qualification
    - ✓ Independent auditor (Internal & External)
  - **Remuneration / Compensation committee**
    - ✓ Committee Member Independence
    - ✓ Appropriate Executive Compensation Packages
    - ✓ Reasonable option schemes
  - **Nominations Committee**
    - ✓ Committee Member Independence
    - ✓ Creating nomination procedures and policies
    - ✓ Recruiting qualified board members
    - ✓ Regularly reviewing performance, independence skills, and experience of existing board members

Committees

- **Board committee**
  - **Governance Committee**
    - ✓ develop and oversee the implementation of the **corporate governance code**, the **charters** of the board and its committees, and the company's **code of ethics** and **conflict of interest policy**.
    - ✓ Reviews regularly, monitoring the implementation;
    - ✓ Recommends remedial actions
  - **Risk Committee**
    - ✓ determines **the risk policy, profile, and appetite** of the company
    - ✓ establishes ERM and monitors their implementation.
    - ✓ **supervises** the risk management functions in the company, receives regular reports, and reports on its findings and recommendations to the board.
  - **Investment Committee**
    - ✓ **reviews** material investment **opportunities** proposed by management and considers their **viability** for the company
    - ✓ establishing and revising the **investment strategy and policies** of the company.

Factors affecting stakeholder relationships

- **Market Factors**
  - **Shareholder engagement** involves Annual shareholder meeting and analyst calls, the **scope** of which was limited to financial and strategic matters
    - ✓ In order to building **support against** short-term activist investors, countering negative recommendations from proxy advisory firms, and receiving greater support for management's position.
  - **Shareholder activism** describes strategies used by shareholders to attempt to **compel** a company to act in a desired manner
    - ✓ Aims: Maximize shareholder value
    - ✓ **Manner:**
      - ◆tactics as initiating proxy battles (fights), proposing shareholder resolutions, and;
      - ◆publicly raising awareness on issues of contention.
      - ◆shareholder derivative lawsuits (shareholders against Board or management with thought of behaviors of them is not for benefit of the company and shareholders); e.g. Hedge funds
  - **Competitive dynamics** can help **align** managerial interests with those of its stakeholders.
    - ✓ Preservation of employment status vs. against takeover. E.g. Staggered board; Poison pill

Example

- Which of the following is true of shareholder activism?
  - A. Shareholder activists rarely include hedge funds.
  - B. Regulators play a prominent role in shareholder activism.
  - C. A primary goal of shareholder activism is to increase shareholder value.

- **Correct answer: C.**
  - Although the subject of shareholder activism may involve social and political issues, activist shareholders' primary motivation is to increase shareholder value.
  - A is incorrect because hedge funds commonly serve as shareholder activists.
  - B is incorrect because regulators play a prominent role in standard setting, not shareholder activism.

Example

- Which of the following is not a benefit of an effective corporate governance structure?
  - A. Operating performance can be improved.
  - B. A corporation's cost of debt can be reduced.
  - C. Corporate decisions and activities require less control.

- **Correct answer: C.**
  - A benefit of an effective corporate governance system is to enable adequate scrutiny and control over operations.
  - B is incorrect because an effective governance structure can reduce investors' perceived credit risk of a corporation, thus potentially lowering the corporation's cost of debt.
  - A is incorrect because operating efficiency may indeed be a benefit of an effective corporate governance structure.

Analyst Considerations

- **Analyst Considerations in Corporate Governance And Stakeholder Management:**
  - Economic Ownership and Voting Control
    - ✓ **Dual-class structures** : Voting power is decoupled from ownership common shares may be divided into two classes, one of which has superior voting rights to the other.
      - ◆A common arrangement is when a share class carries one vote per share and is publicly traded whereas another share class carries several votes per share and is held exclusively by company insiders or family members. (e.g. Facebook)
      - ◆Another mechanism used to separate voting control from economic ownership is when one class of stock (held by insiders) elects a majority of the board. (e.g. Alibaba)

Example 1

- Which of the following best describes dual-class share structures?
  - A. Dual-class share structures can be easily changed over time.
  - B. Company insiders can maintain significant power over the organization.
  - C. Conflicts of interest between management and stakeholder groups are less likely than with single share structures.

- **Correct answer: B.**
  - Under dual-class share systems, company founders or insiders may control board elections, strategic decisions, and other significant voting matters.
  - A is incorrect because dual share systems are virtually impossible to dismantle once adopted.
  - C is incorrect because conflicts of interest between management and stakeholders are more likely than with single share structures because of the potential control element under dual systems.

Example 2

- An investment analyst would likely be most concerned with an executive remuneration plan that:
  - A. varies each year.
  - B. is consistent with a company's competitors.
  - C. is cash-based only, without an equity component.

- **Correct answer: C.**
  - If an executive remuneration plan offers cash only, the incentives between management and investors and other stakeholders may be misaligned.
  - A is incorrect because a plan that varies over time would typically be of less concern to an analyst compared with one that did not change.
  - B is incorrect because an analyst would likely be concerned if a company's executives were excessively compensated relative to competitors.

Example 3

- Which of the following best describes activist shareholders? Activist shareholders:
  - A. help stabilize a company's strategic direction.
  - B. have little impact on the company's long-term investors.
  - C. can alter the composition of a company's shareholder base.

- **Correct answer: C.**
  - The presence of activist shareholders can create substantial turnover in the company's shareholder composition.
  - A is incorrect because the presence of activist shareholders can materially change a company's strategic direction.
  - B is incorrect because long-term investors in a company need to consider how activist shareholders affect the company.

ESG Considerations for Investors

- **ESG Definition:**
  - The practice of considering **environmental**, **social**, **and governance factors** in the investment process is known as **ESG integration** (sometimes referred to as ESG investing).
  - **ESG integration** can be implemented across all asset classes, including equities, fixed income, and alternative investments. The consideration of relevant and material ESG factors can lead to a more comprehensive understanding of a company's risks.

ESG Considerations for Investors

- **ESG Factors in Investment Analysis:**
  - **Environment factor**
    - ✓ A primary concern among investors is the existence of "stranded assets," or carbon assets at risk of no longer being economically viable because of changes in regulation or investor sentiment.
  - **Social factor**
    - ✓ Considered in ESG integration generally pertain to human rights and welfare concerns in the workplace, product development, and, in some cases, community impact.

ESG Considerations for Investors

- **ESG Implementation Methods:**
  - **Negative screening** refers to the practice of excluding certain sectors, such as companies engaged in fossil fuel extraction or production, or excluding companies that violate accepted standards in such areas as human rights or environmental concerns.
  - **Positive screening** aims to identify companies that embrace solid ESG-related principles in their operations and strategies, such as companies with policies that promote human dignity through employee rights, workplace well-being, and concern for the safety of customers.

ESG Considerations for Investors

- **ESG Implementation Methods:**
  - **The best-in-class approach** seeks to identify the best ESG-scoring companies in each industry. Best-in-class approaches do not exclude any industries but instead focus on finding the best representation within each sector.
  - **Thematic investing strategies** typically consider a single factor, such as energy efficiency or climate change.
  - **Impact investing**, is evolving with the increased realization that the goals of positive social and environmental impact can be consistent with economic profit generation.

Example

- The ESG implementation method that is most associated with avoiding certain sectors or companies is:
  - A. best-in-class.
  - B. hematic investing.
  - C. negative screening.

- **Correct answer: C.**
  - Negative screening entails excluding certain sectors or companies, such as fossil fuel extraction, from a portfolio.
  - B is incorrect because thematic investing is focused on a particular factor, such as water, as opposed to merely excluding investments from a portfolio. Likewise,
  - A is incorrect because best-in-class focuses on companies that score most favorably with regard to ESG factors.

It's not the end but just beginning.

If you have people you love, allow them to be free beings. Give and don't expect. Advise, but don't order. Ask, but never demand. It might sound simple, but it is a lesson that may take a lifetime to truly practice. It is the secret to true Love. To truly practice it, you must sincerely feel no expectations from those who you love, and yet an unconditional caring.

如果你有爱的人，允许他们自由随意的存在。给予而不指望；建议而不命令；请求而不要求；可能听起来简单，但这需要一辈子去实践。这就是真爱的秘诀。真正去实践它，你必须对那些你爱的人没有期望，并给予无条件的关爱。