

Curso de Finanças para Não Financeiros

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Theory and practice of corporate finance

Major Decisions in Corporate Finance

Investing, Financing and Dividend decision

Debt vs. Equity

Internal vs. External Financing

A Life Cycle View of Financing Choices

Process of raising capital

Equity choices for private firms

- Private Equity

- Leveraged Buyout

- Distressed Investing

- Venture Capital

- Venture Capital Valuation and Risk

Going public vs. staying private

Initial Public Offering (IPO) process

Capital Market Trading

Equity choices for public firms

- Common Stock

- Sweat Equity Shares

- Warrants

- Seasoned equity offerings (SEOs): subsequent issues of common stock

- Private Placements

- Rights Offerings

Debt Financing options

- Bank debt

- Bonds

 - Types and Characteristics

 - Pricing a bond

 - Risks associated with investing in bonds

Outline



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Credit ratings
Leasing
Commercial Paper
Trade Credit

Hybrid securities
 Convertible debt
 Preferred Stock

Basics in Valuation Approaches
 Equity vs. Firm Valuation

The CAPM

Capital Structure

- Leverage and Capital Structure
- Costs and benefits of debt
- Tax benefits of debt and its implications
- Limits to the use of debt
- How companies establish their capital structure?

Dividends and Dividend Policy

- Dividend types and how they are paid
- Issues surrounding dividend policy decisions
- Difference between cash and stock dividends
- Why share repurchases are an alternative to dividends

Using CFO Surveys as a Motivational Tool to Teach Corporate Finance



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One of the most common questions business school professors hear from students is “Will I use this on the job?”

Overlap between the fundamental skills and concepts that a finance practitioner uses on the job and the concepts taught in finance classrooms.

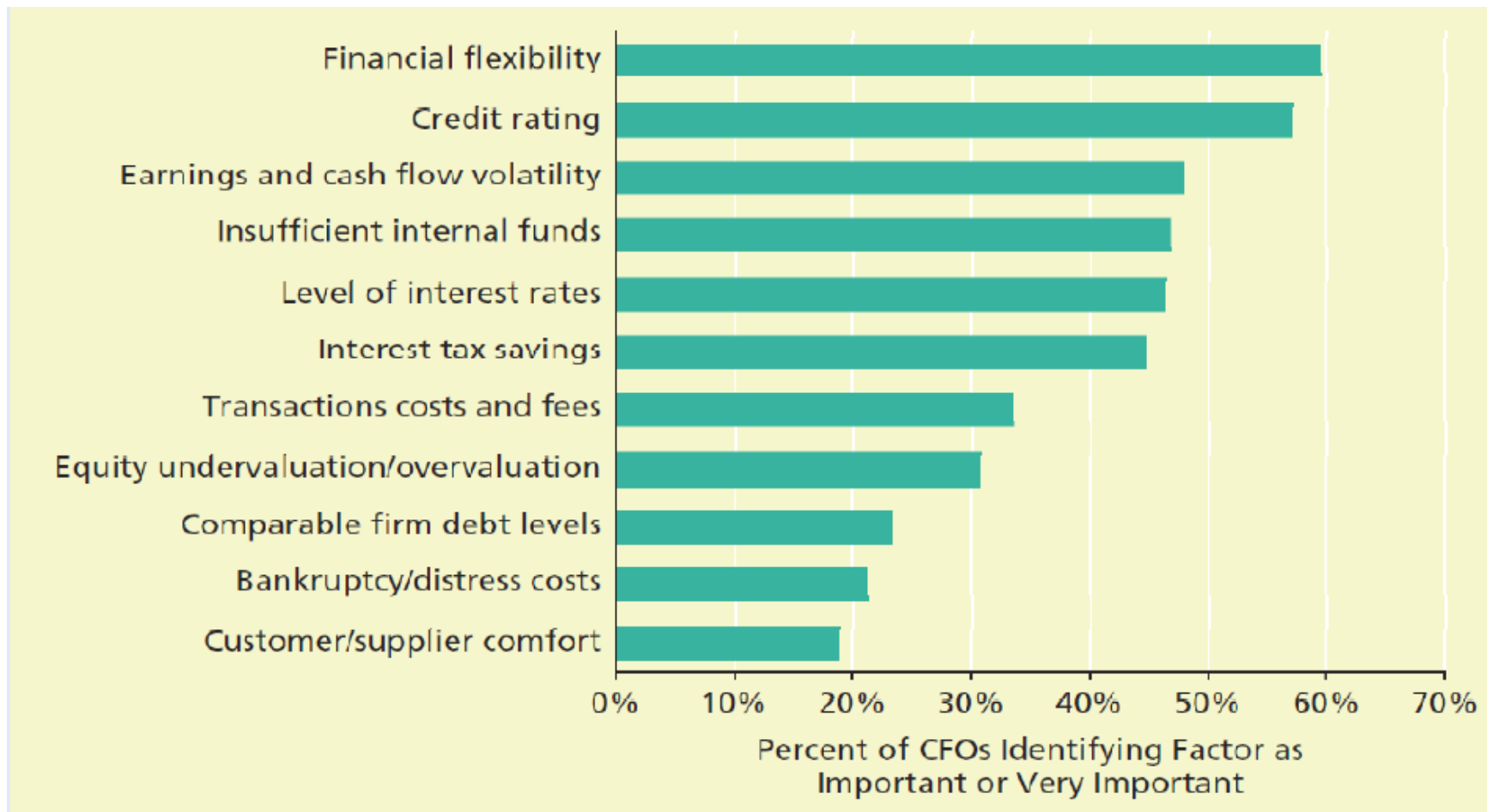
Which Finance Functions add the most value

CFO Survey Evidence



Servaes and Tufano
“CFO views on the
importance and
Execution of the
Finance Function”
(Deutsche Bank, 2006)

What factors Do U.S. Companies Consider When Choosing Debt Policy?



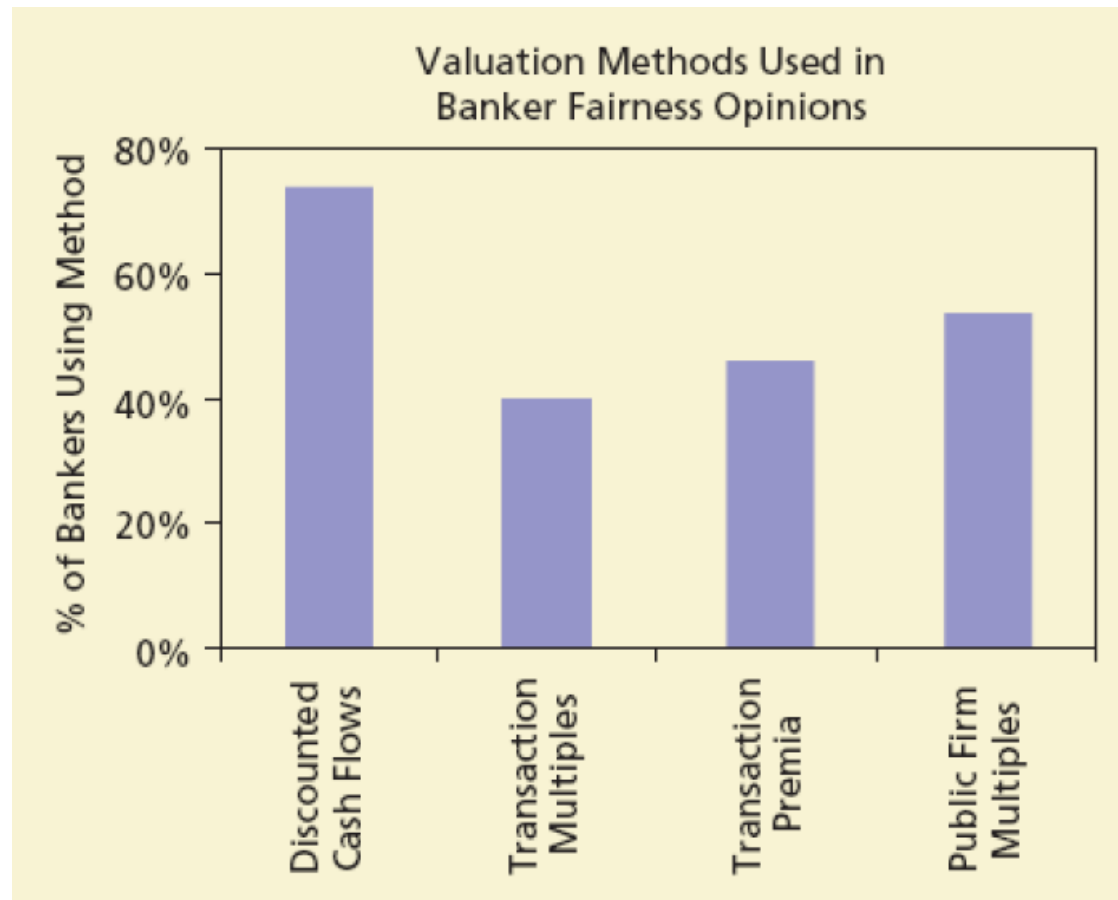
Popularity of Capital Budgeting Techniques

TECHNIQUE	PERCENT OF CFOs ROUTINELY USING TECHNIQUE ^a
Internal rate of return	76%
Net present value	75%
Payback	57%
Discounted payback	29%
Accounting rate of return	20%
Profitability index	12%

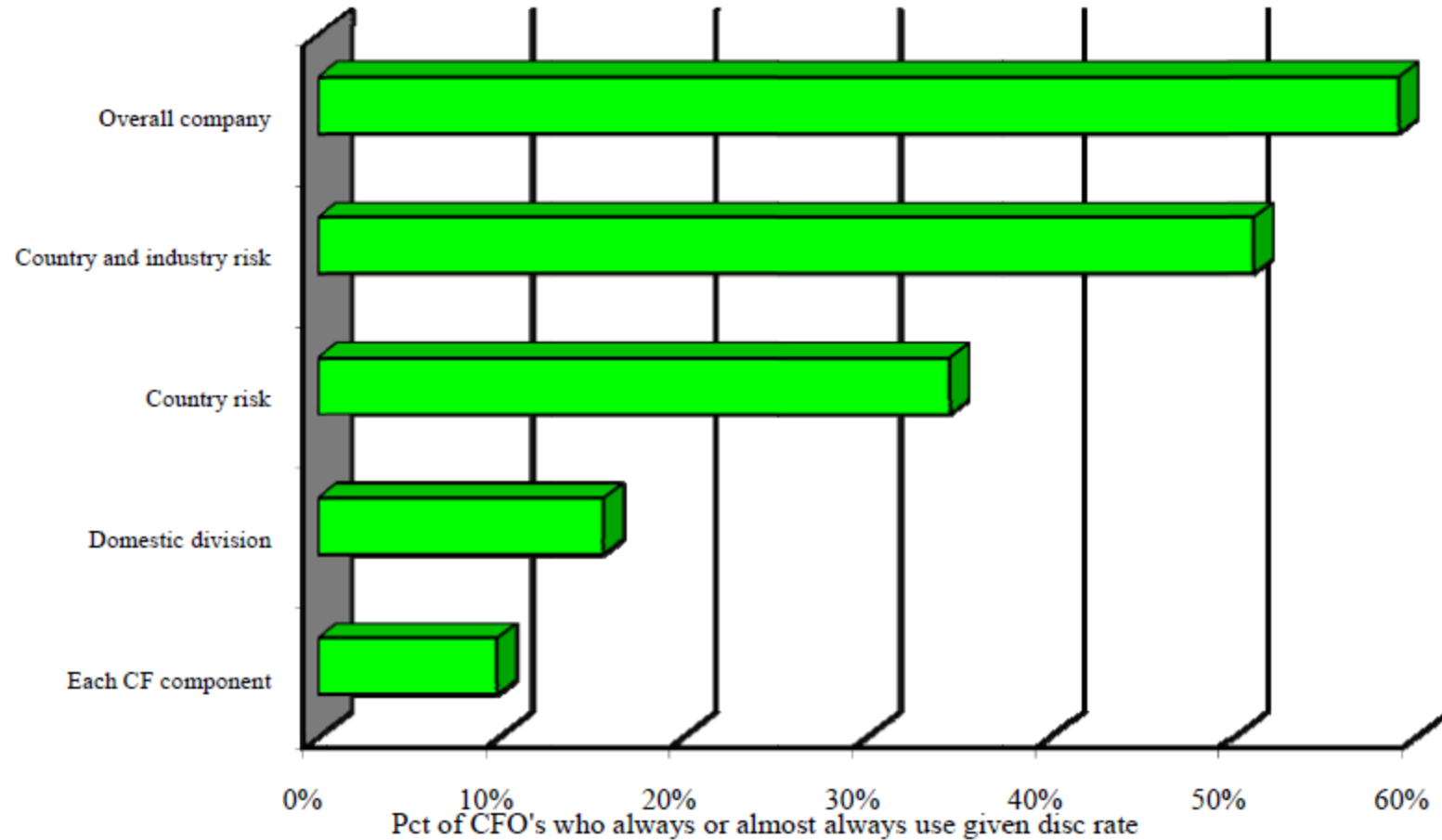
^aNote that these rounded percentages are drawn from the responses of a large number of CFOs and that many respondents use more than one technique.

Source: Reprinted from *Journal of Financial Economics*, 60, J.R. Graham and C.R. Harvey, "The Theory and Practice of Corporate Finance: Evidence from the Field," pp. 187–243, Copyright 2001, with permission from Elsevier.

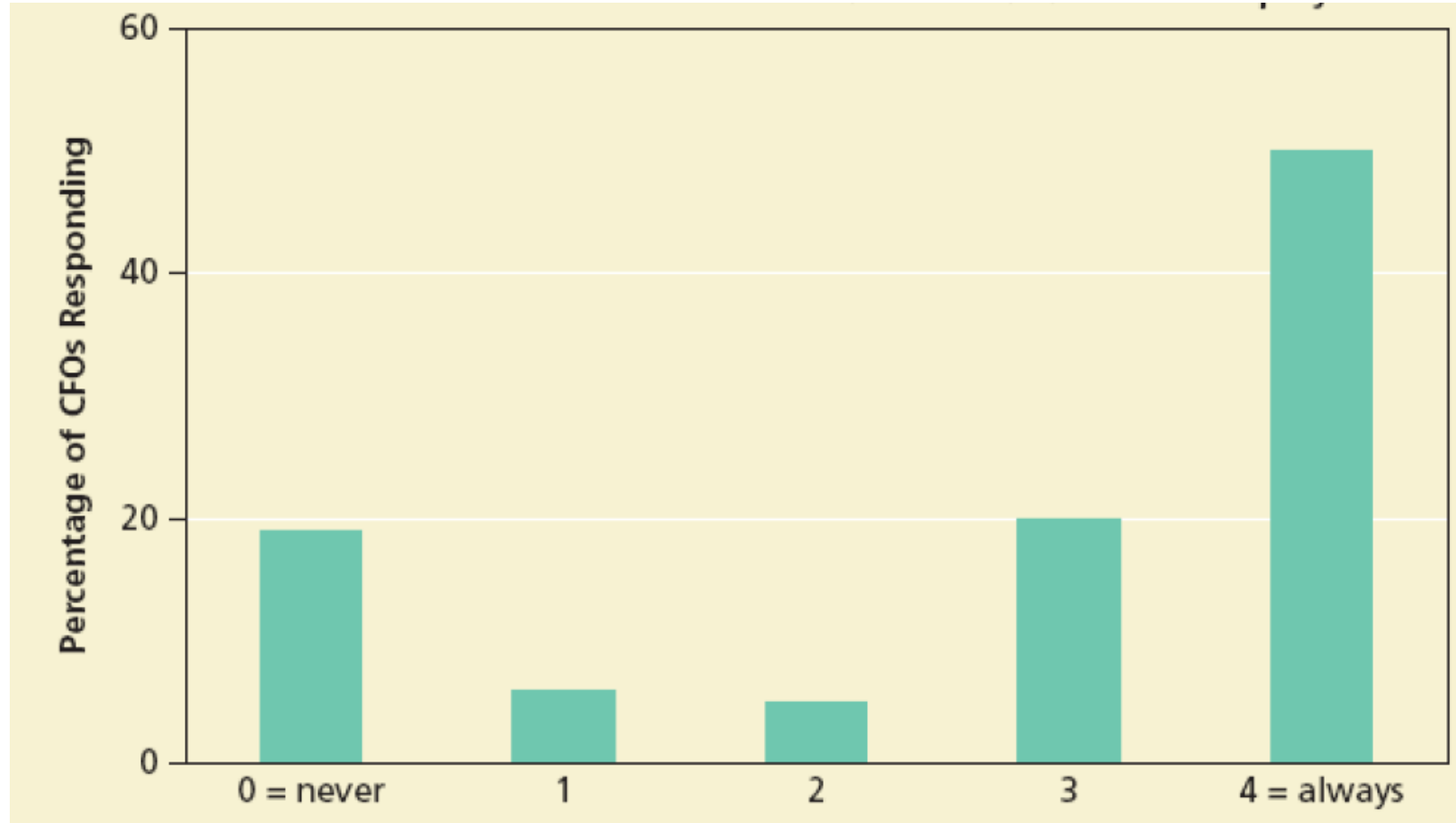
How Investment Bankers Value Companies



Which discount rate when evaluating a new project



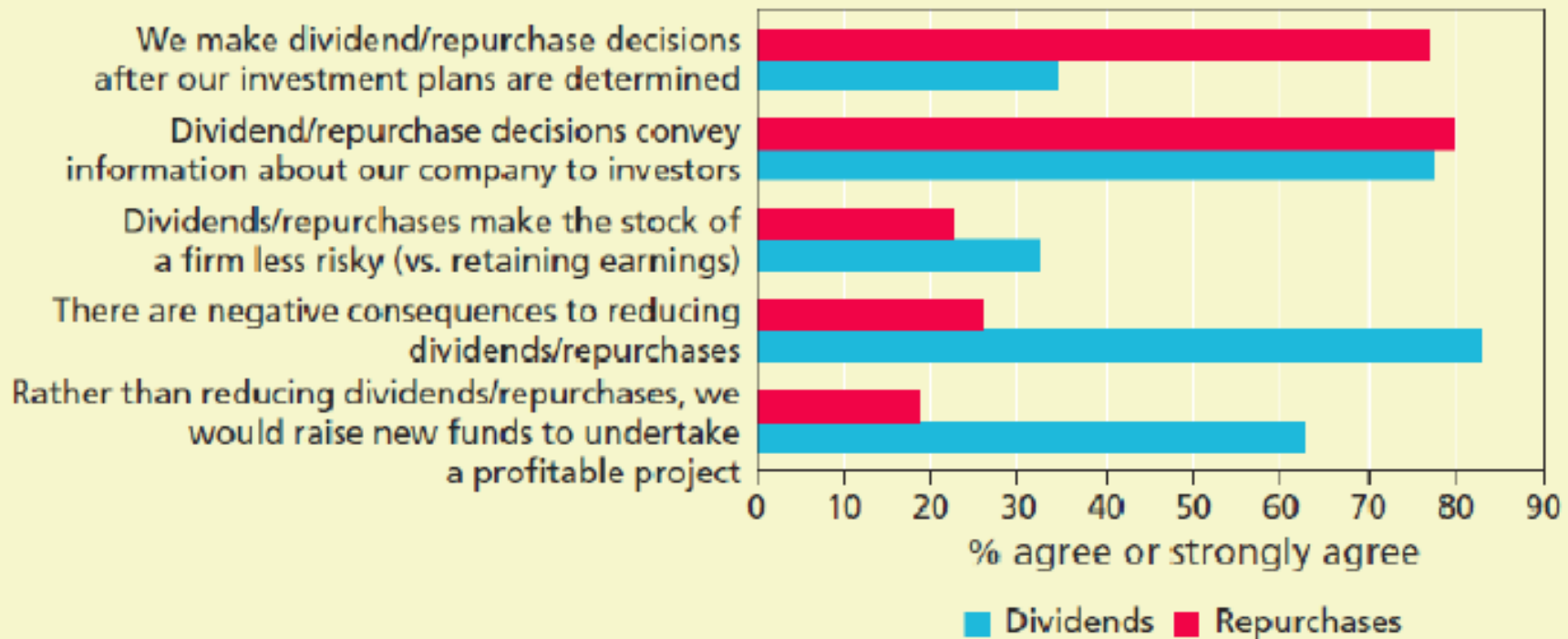
How often to you use the CAPM to calculate the cost of equity?



CFOs' views on Dividends and Repurchases

CFOs were asked: "Do these statements agree with your company's views?"

Responses from Dividend Payers and Repurchasers



Important Factors in the decision to repurchase Shares



Motivation to teach Corporate Finance

1. Our firm is thinking of issuing a bond and using the proceeds to buy back shares. What issues should we consider in evaluating this move?
2. What impact would you expect on a firm's earnings if it increases its debt-to-equity ratio?
3. Our cost of debt is 8% and cost of equity 15%. Should we borrow more debt because it is cheaper?
4. If you had an hour and a computer, what would you do to value a company?
5. How does depreciation factor into NPV calculations? Is it a noncash expense, so does it matter?
6. How would you explain NPV calculations to a nonfinancial manager?
7. Would you recommend that our company establish a payout policy by initiating a dividend or buy starting a share repurchase program?

Corporate finance consists of three major decisions:

Investment decision

The financing decision

- Where do firms raise the funds for value-creating investments?
- What mix of owner's money (equity) or borrowed money (debt) should the firm use?

Dividend decision

Debt versus Equity



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There are only **two ways** in which a business can raise money.

The first is debt. The essence of debt is that **you promise** to make fixed payments in the future (interest payments and repaying principal). If you fail to make those payments, you lose control of your business.

The other is equity. With equity, you do get whatever cash flows are left over after you have made debt payments.

Debt versus Equity



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The differences between debt and equity lies in the nature of the stakeholders' claims on the firm's cash flows, tax treatment, maturity and voting power

Debt versus Equity

Fixed Claim
High Priority on Cash Flows
Tax Deductible
Fixed Maturity
No Management Control

Residual Claim
Lowest Priority on Cash Flows
Not Tax Deductible
Infinite life
Management Control

Debt

Hybrids (combinations of debt
and equity)

Equity

Distinction between **internal** and **external financing** and the factors that affect **how much** firms draw on each source and **how firms decide** between their external financing choices.

Internal Financing: funds raised from cash flows of existing assets

External Financing: funds raised from outside the company (VC, debt, equity, etc.)

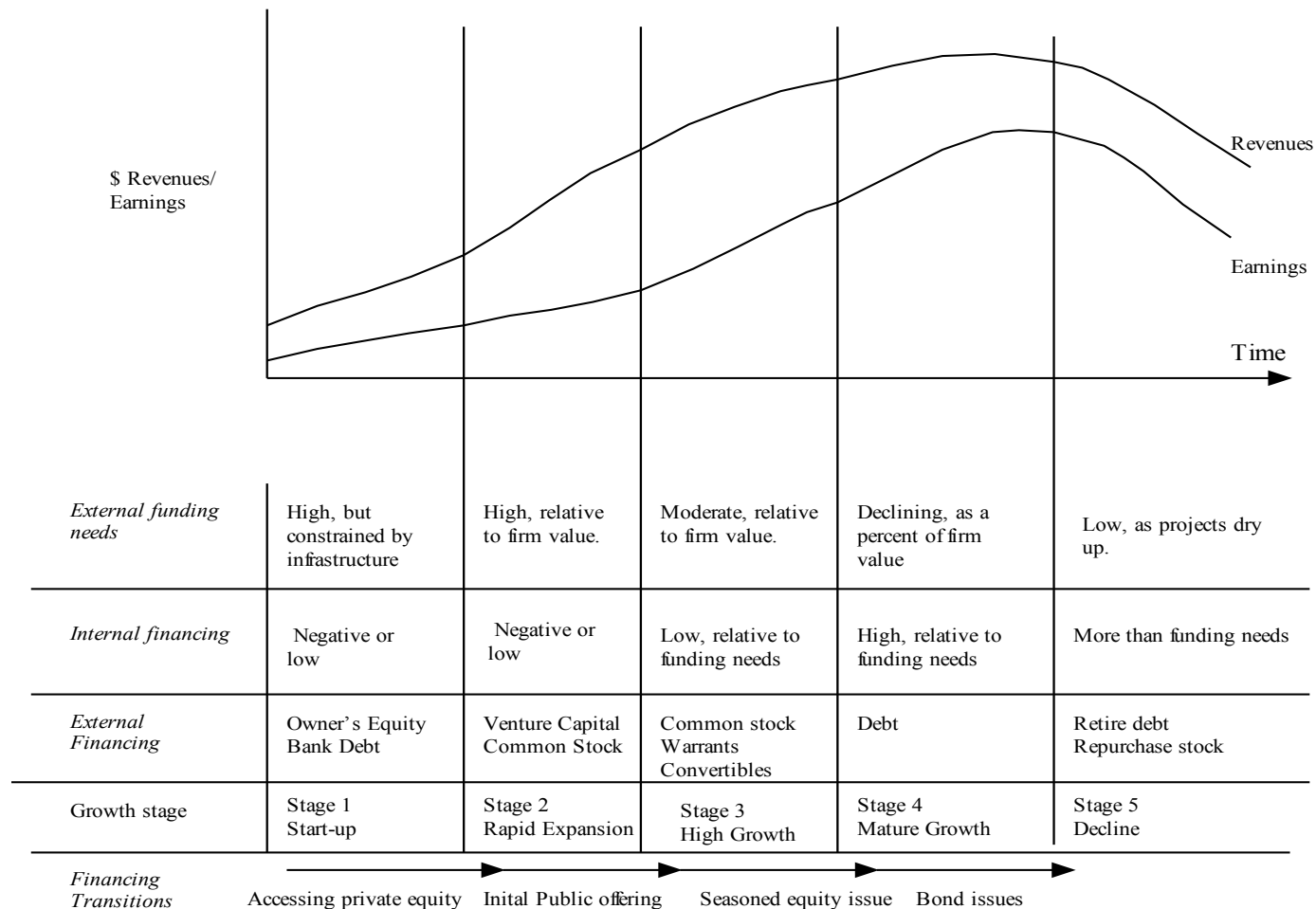
Internal vs. External Financing

Firms **may prefer** internal financing because

- External financing is **difficult to raise**
- External financing may result in **loss of control**
- Raising external capital tends to **be expensive**

Projects funded by **internal financing** must meet same hurdle rates

Internal financing **is limited**



Process of raising capital

- Private firm expansion
- From private to public firm: The IPO
- Choices for a public firm

Equity can take different forms:

- For very small businesses: it can be owners investing their savings
- For slightly larger businesses: it can be venture capital
- For publicly traded firms: it is common stock

Equity choices for private firms

Private firms have fewer choices for raising equity capital

Owner's Equity

- Retention and plow back of company's earnings
- Similar in nature to retained earnings of a public company in terms of taxability, residual claim, management control.

Private Equity



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Broadly term that commonly refers to an equity investment in a potential successful company or asset not publicly traded on capital market.

Private Equity Investments: Equity investments that are not traded in exchanges.

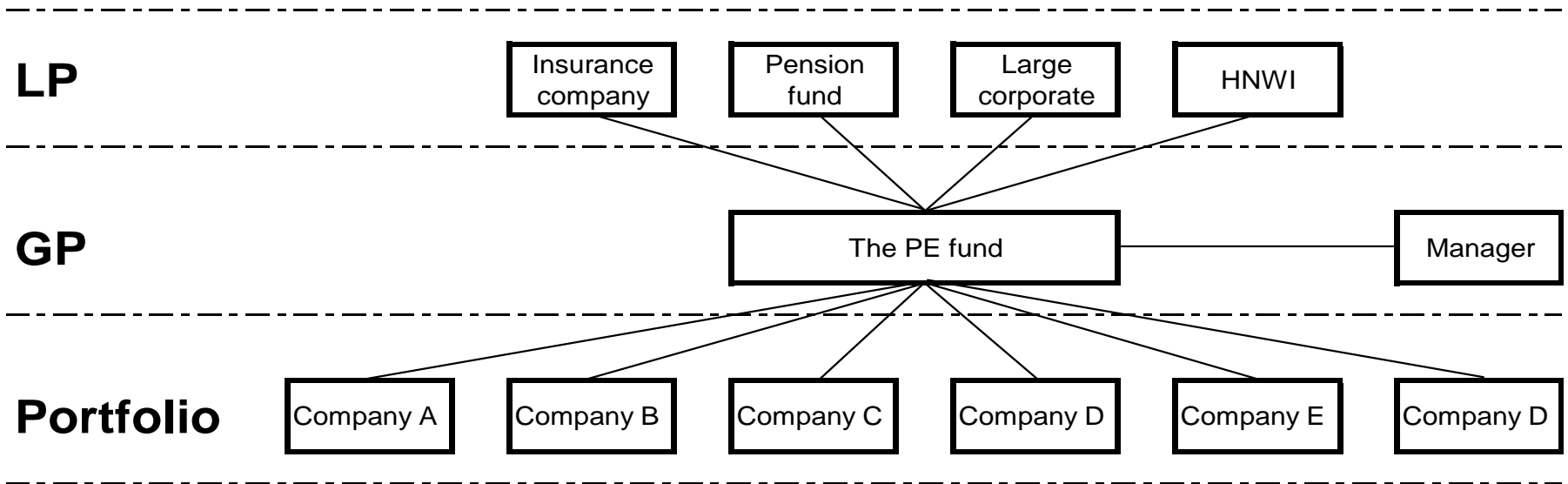
Asset class representing the companies not publicly traded (vs. public equity traded on stock exchange);

PE funds are raised from pension funds, insurance companies, large corporate, HNWI (High-net-worth-individual), etc...;

Investors in PE funds are called “**Limited Partners**”;

PE funds are managed by the “**General Partners**”

Structure of private equity participations



Private Equity

Institutional and Individual investors usually invest in private equity through limited partnerships, which allow investors (the limited partners) to participate in a portfolio of private equity projects while preserving limited liability (the initial investment) and leaving management to the general partners, who are private equity experts.

The limited partnership is often called the fund and the general partners are sometimes designed as the management company.

Funds of Funds are also offered that pool investments in several private equity funds.

Three main categories of private equity funds:

- Venture capital
- Leveraged Buyout investing, and
- Distressed Investing

Leveraged Buyout

Buyout investors typically take a majority control in acquired companies. These companies are often publicly traded. In buyouts, investors put up an equity stake, typically between 20-40 percent of total purchase price and borrow the rest (hence the term leverage).

After purchase the company is **taken private**.

The objective is to **resell the acquired company**, or part of it, within a few years at a higher price.

The sale is done **privately** or through an **IPO**.

Management Buyout is a special form of LBO in which managers of the acquired company become large investors of the company after its privatization.

Distressed Investing

Also called **special situations** or **vulture investing**.

Investing in equity and debt of companies in **financial distress**.

The concept is to **invest** in operationally sound, financially distressed companies and reorganize then.

VCs provide equity financing to small and risky businesses in return for a share in ownership of the firm

VC ownership is a function of

- Capital contribution
- Financing options available to the business

VC provides

- Managerial and organizational skills
- Credibility of venture to potential capital providers

Venture Capital

One of the main categories of private equity investing and the most traditional one.

Stages of Venture Capital Investing:

Seed-Stage financing is capital provided for a business idea. The capital generally supports product development and market research.

Early stage financing is capital provided for companies moving into operation and before commercial manufacturing and sales have occurred.

- *Start-up* is capital provided for companies just moving into operation but without any commercial product or service sales. The capital generally supports product development and initial marketing
- *First-stage* financing is capital provided to initiate commercial manufacturing and sales.

Venture Capital

Formative-stage financing includes seed stage and early stage

Later-stage financing is capital provided after commercial manufacturing and sales have begun but before any initial public offering.

- Second-stage financing refers to capital used for initial expansion of a company already producing and selling a product but perhaps not yet profitably.
- Third-stage financing is capital provided for major expansion, such as physical plant expansion, product improvement, or a major marketing campaign.
- Mezzanine (bridge) financing is capital provided to prepare for the step of going public and represents the bridge between the expanding company and the initial public offering (IPO)

Venture Capital

Expansion-stage financing includes second and third stage

Balanced-stage financing is a term used to refer to all stages, seed through mezzanine

Characteristics of Venture Capital

- Illiquid
- Long-term commitment
- Difficult to value
- Little historical risk and return data
- Limited information upon which to base estimates
- Entrepreneurs and VCs can clash
- Manager incentives can distort objectives
- Competitive structure is volatile or uncertain
- Vintage cycles create periods of excess VC funds and shortages
- VCs bring financial expertise and business experience to the venture

Investment Characteristics

Illiquidity: Venture capital do not provide an easy or short-term path for cashing out. Liquidation or divestment of each venture within a portfolio is **dependent on the success of the fund manager in creating a buyout or IPO opportunity.**

Long-term commitment required: investors with a longer than average time horizon can expect to profit from this liquidity premium.

Difficulty in determining current market values: Because there is **no continuous trading of the investments** within a venture fund portfolio, there is no way of determining the **current market value of the portfolio.** This poses a problem for reporting the market value exposure of the current venture capital portion of an investor's portfolio.

Limited historical risk and return data: Because there is no continuous market in venture capital, historical risk and return data have limitations.

Investment Characteristics

Limited information: Because entrepreneurs operate in previously uncharted territory, there is little information on which to base estimates of cash flows or the probability of success of their ventures.

Vintage years: Some years are better than others. Both entry and exit are factors here. Thus, some years provide better firm planting and growing conditions than others.

Extensive operations analysis and advise may be required: More than financial engineering skill is required of fund managers. A venture capital manager **who can add value** will be the one who has both financial and operating experience, and knowledge of the emerging industry in which the entrepreneur is operating.

Valuation of Venture Capital

Requires three assessments:

- Exit value of the firm
- Time until exit (IPO)
- The probability of failure

Compute an expected NPV based on the probability of success and the probability of failure

$$E(NPV) = NPV_{\text{SUCCESS}} \times P(\text{SUCCESS}) + NPV_{\text{FAILURE}} \times P(\text{FAILURE})$$

$$P(\text{success}) + P(\text{failure}) = 1.0$$

Venture Capital Valuation and Risk

Investor estimates that investing \$1 million in a particular venture capital project will pay \$16 million at the end of 7 years if it succeeds. The investor is considering an equity investment in the project and the cost of equity for a project with this level of risk is 18 percent.

Project may fail at any time between now and the end of seven years.

Year	1	2	3	4	5	6	7
Failure Probability	0.25	0.22	0.20	0.20	0.20	0.20	0..20

Note: the payoff structure of actual projects is generally more complex than that of this example. Practitioners may use a multiple-scenario approach to valuation.

- Determine the probability that the project survives to the end of the seventh year
- Determine the expected NPV of the project
- Make a recommendation

Venture Capital Valuation and Risk

a.

Probability of Success $(1 - 0.25) \times (1 - 0.22) \times (1 - 0.20)^5 = 0.192$ or 19.2%

b.

$$NPV_{SUCCESS} = -\$1 + \frac{\$16}{(1.18)^7} = \$4.02$$

$$NPV_{FAILURE} = -\$1$$

$$E(NPV) = (\$4.02 \times 0.192) + (-\$1 \times 0.808) = -\$ = 36,106$$

c.

Based on its negative NPV, the recommendation is to **decline the investment.**

Going public vs. staying private

The benefits of going public are:

- Firms can access financial markets and tap into a much larger source of capital
- Owners can cash in on their investments

The costs of going public are:

- Loss of control
- Information disclosure requirements
- Exchange listing requirements

Initial Public Offering (IPO) process

Most public offerings are made with the assistance of **investment bankers (IBs)** which are financial intermediaries that specialize in selling new securities and advising firms with regard to major financial transactions.

Initial Public Offering (IPO) process

The role of the investment banker

Origination:

- Design of a security contract that is acceptable to the market;
- Prepare the state and federal Securities and Exchange Commission (SEC) registration statements and a summary prospectus,

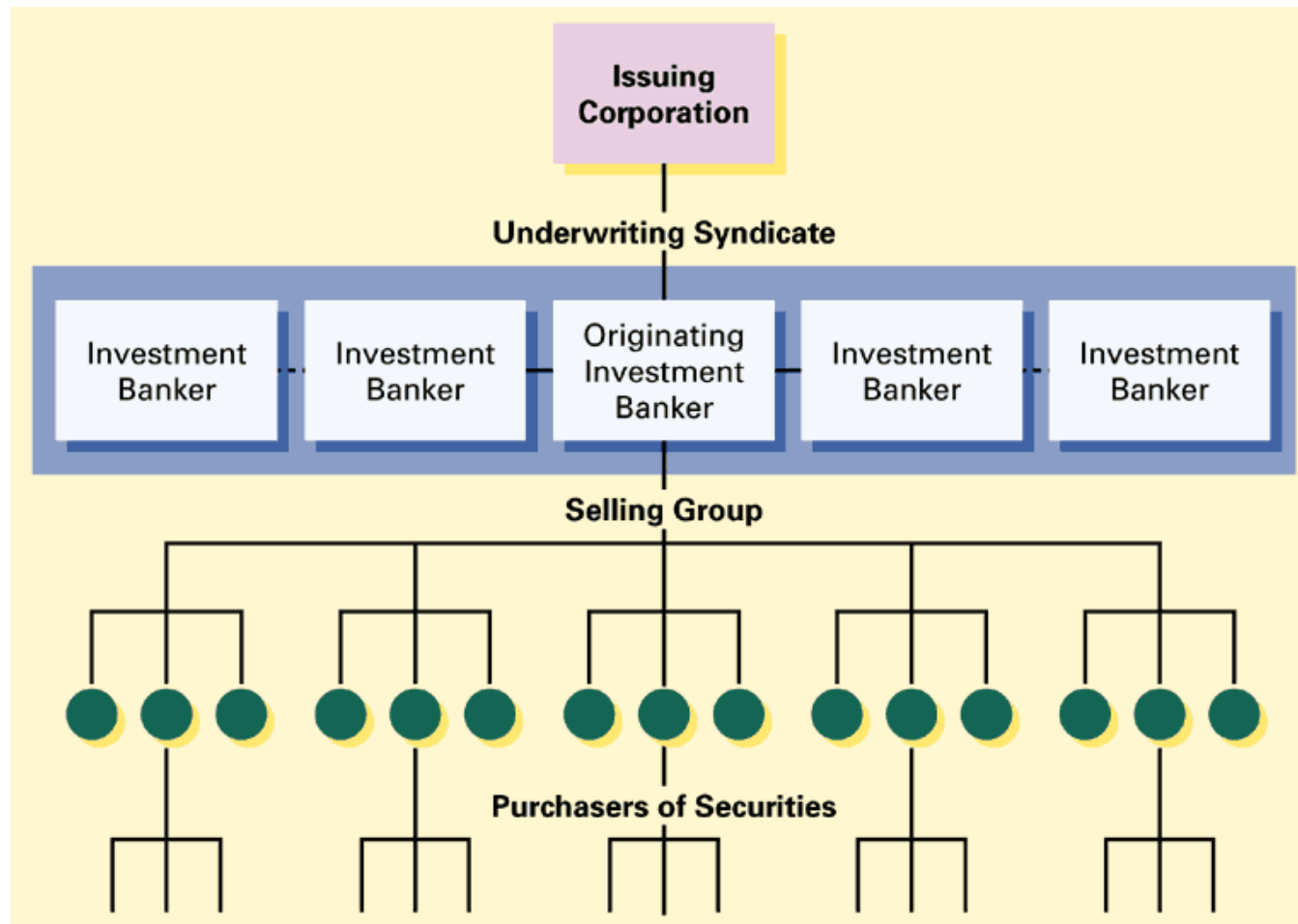
Underwriting:

- The risk-bearing function in which the IB buys the securities at a given price and turns to the market to sell them.
- Syndicates are formed to reduce the inventory risk.

Sales and distribution:

- Selling quickly reduces inventory risk. Firm members of the syndicate and a wider selling group distribute the securities over a wide retail and institutional area.

Initial Public Offering (IPO) process



Initial Public Offering (IPO) process

IPO costs

Underwriting commission (usually around 7%)

Underpricing of issue

- Represents the first day returns generated by the firm, calculated as

$$\frac{\text{Closing Price} - \text{Offer Price}}{\text{Offer Price}}$$

Issues are underpriced to

- Provide investors with a “good taste” about the investment banker and firm
- Compensate investors for the information asymmetry between firm and investor

Capital Market Trading

Occurs in either **primary market** or the **secondary market**

Primary market: where new issues of stocks and bonds are introduced. Investment funds, corporations, and individual investors can all purchase securities offered in the primary market. (*IPO – initial public offering*).

Secondary market: where the sale of previously issued securities takes place, and it is important because most investors plan to sell long-term bonds before they reach maturity.

Equity choices for public firms

The public firm has more alternatives for raising equity

Common Stock

- Initial public offerings (IPOs): raising equity capital publicly for the first time
- Sweat Equity Shares
- Warrants
- Seasoned equity offerings (SEOs): subsequent issues of common stock
- Private Placements
- Rights Offerings

Equity choices for public firms

Common Stock

Firms may issue common stock that is **uniform in offering price and voting rights** or;

Firms may create classes of shares to:

- Create **differential voting rights** so that owners maintain control of the firm

- Satisfy **different clientele** that are in different tax brackets

Common stock issues **tend to decline** as a means of raising capital as the firm matures

Equity choices for public firms

Sweat Equity Shares: means equity shares issued by the company to **employees or directors** at a discount.

The term used to refer to a form of compensation by businesses to their **owners or employees**.

Equity choices for public firms

Warrants

Provides investors with the option to buy equity at a fixed price in the future in return for paying for the warrants today

Can be attractive because

- No immediate financial obligation to firm
- No immediate dilution of ownership

General subscription (SEO)

Although for IPOs the underwriting agreement almost always involves a **firm guarantee** from the underwriter to purchase all of the issue, in secondary offerings, the underwriting agreement may be a **best efforts guarantee** where the underwriter **sells as much of the issue as he can**

SEOs tend to have lower underwriting commissions because of **Investment Banking competition**.

The issuing price of an SEO tends to be **set slightly lower** than the current market price

Private placement

Securities are sold directly to one or few investors

Saves on time and cost (no registration requirements, marketing needs)

Tends to be less common with corporate equity issues. Private placement is used more in corporate bond issues.

Rights offerings

Existing investors are provided the right to purchase additional shares in proportion to their current holdings at a price (subscription price) below current market price (rights-on price)

Each existing share is provided one right.

The number of rights required to purchase a share in the rights offering is then determined by the number of shares outstanding and the additional shares to be issued in the rights offering.

$$\text{Rights Required to Purchase one Share} = \frac{\# \text{ of Original Shares}}{\# \text{ Shares Issued in RO}}$$

Rights offerings

Because investors can purchase shares at a lower price, the rights have value:

$$\text{Value of the right} = \frac{\text{rights on price} - \text{subscription price}}{n + 1}$$

n = number of rights required for each new share

Because additional shares are issued at a price below market price, the market price will drop after the rights offering to the **ex-rights price**

$$\text{ex rights price} = \frac{\text{new value of equity}}{\text{new number of shares}}$$

The value (or price) of the right can also be calculated as:

$$\text{rights-on price} - \text{ex-rights price}$$

Rights offerings

Costs are lower because of:

- Lower underwriting commissions – rights offerings tend to be fully subscribed
- Marketing and distribution costs are significantly lower

No dilution of ownership

No transfer of wealth

Debt



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Debt can also take different forms

For private businesses: it is usually bank loans

For publicly traded firms: it can take the form of bonds

Debt financing options

Bank debt

Borrowing from a bank at an interest rate charged by the bank based on the borrowing firm's perceived risk

Advantages of bank debt (versus bonds):

- Can be issued in small amounts

- Allows firm to maintain proprietary information

- Does not require being rated

Debt financing options

Bonds

Borrowing from the public by issuing debt

Advantages of bonds

Typically carry more favorable terms than bank debt

Allows issuers to add on special features

When issuing bonds, firms have to make a variety of choices including maturity, fixed or floating interest payment, secured or unsecured.

Types and Characteristics of Bonds

Bonds are **Securities** that represent a debt owned by the issuer to the investor.

Bonds obligate the issuer to pay a specified amount at a given date, generally with periodic payments

Zero-coupon bond: a **bond** bought at a price lower than its **face value**, with the face value repaid at the time of **maturity**. It does not make periodic **interest payments**, or have so-called "**coupons**", hence the term **zero-coupon bond**

Coupon Bond: A **coupon payment on a bond** is a periodic interest payment that the bondholder receives during the time between when the bond is issued and when it matures.

Types and Characteristics of Bonds

The **par, face, or maturity value** of the bond is the amount that the issuer must pay at maturity

The **coupon rate** is the rate of interest that the issuer must pay

This rate is **usually fixed for the duration** of the bond and does not fluctuate with market interest rates.

If the repayment terms of a bond are not met, the holder of a bond has a claim on assets of the issuer

Par or Face Value: The amount of money that is paid to the bondholders at maturity. For most bonds this amount is \$1,000. It also generally represents the amount of money borrowed by the bond issuer.

Types and Characteristics of Bonds

Coupon Rate: The coupon rate, which is generally fixed, determines the periodic coupon or interest payments. It is expressed as a percentage of the bond's face value. It also represents the interest cost of the bond to the issuer.

Coupon Payments: The coupon payments represent the periodic interest payments from the bond issuer to the bondholder. The annual coupon payment is calculated by multiplying the coupon rate by the bond's face value. Since most bonds pay interest semiannually, generally one half of the annual coupon is paid to the bondholders every six months.

Maturity Date: The maturity date represents the date on which the bond matures, *i.e.*, the date on which the face value is repaid. The last coupon payment is also paid on the maturity date.

Types and Characteristics of Bonds

Original Maturity: The time from when the bond was issued until its maturity date.

Remaining Maturity: The time currently remaining until the maturity date.

Call Date: For bonds **which are callable**, *i.e.*, bonds which can be redeemed by the issuer prior to maturity, the call date represents the earliest date at which the bond can be called.

Call Price: The amount of money the issuer has to pay to call a callable bond (there is a premium for calling the bond early). When a bond first becomes callable, *i.e.*, on the call date, the call price is often set to equal the face value plus one year's interest.

Types and Characteristics of Bonds

Required Return: The rate of return that investors currently require on a bond.

Yield to Maturity: The rate of return that an investor would earn if he bought the bond at its current market price and held it until maturity. Alternatively, it represents the discount rate which equates the discounted value of a bond's future cash flows to its current market price.

Yield to Call: The rate of return that an investor would earn if he bought a callable bond at its current market price and held it until the call date given that the bond was called on the call date.

Types and Characteristics of Bonds

Current Yield: yield of the bond at the **current moment**. It is equal to the annual interest payment divided by the bond's price. It does not reflect the total return over the life of the bond. In particular, it takes no account of **reinvestment risk** (the uncertainty about the rate at which future cashflows can be reinvested) or the fact that bonds usually **mature at par value**, which can be an important component of a bond's return.

At discount: $YTM > \text{current yield} > \text{coupon yield}$

At Premium: $\text{coupon yield} > \text{current yield} > YTM$

At Par: $YTM = \text{current yield} = \text{coupon yield}$.

The Valuation Principle

The price of a security today is the present value of all future expected cash flows discounted at the “appropriate” required rate of return (or discount rate)

The valuation variables are

1. Current price
2. Future expected cash flows - Face value and/or coupons
3. Yield or required rate of return

The valuation problem is to

1. Estimate the price; given the future cash flows and required rate of return, or
2. Estimate the required rate of return; given the future cash flows and price

Pricing a Bond

Equal to the present value of the expected cash flows from the financial instrument.

Determining the price requires:

- An estimate of the expected cash flows
- An estimate of the appropriate required yield

The price of the bond is the present value of the cash flows, it is determined by adding these two present values:

- i) The present value of the semi-annual coupon payments
- ii) The present value of the par or maturity value at the maturity date

$$P = \frac{C}{(1+r)} + \frac{C}{(1+r)^2} + \frac{C}{(1+r)^3} + \dots + \frac{C}{(1+r)^n} + \frac{F}{(1+r)^n}$$

Pricing a Bond

$$P = \sum_{i=1}^n \frac{C}{(1+r)^t} + \frac{F}{(1+r)^n}$$

P = Price

n = number of periods (nr of years times 2)

C = semi-annual coupon payment

r = periodic interest rate (required annual yield divided by 2)

t = time period when payment is to be received

F = Face value or principal

Pricing a Bond

Because the semi-annual coupon payments are equivalent to an ordinary annuity, applying the equation for the present value of an ordinary annuity gives the present value of the coupon payments:

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

Consider a 20 year 10% coupon bond with a par value of \$1,000. The required yield on this bond is 11%.

Pricing a Bond

$$\$50 \times \left[\frac{1 - \frac{1}{(1+0.055)^{40}}}{0.055} \right] = \$802.31$$

The PV of the par or maturity value of \$1,000 received 40 six-month periods from now, discounted at 5.5%, is \$117.46, as follows:

$$\frac{\$1,000}{(1.055)^{40}} = \frac{\$1,000}{8.51332} = \$117.46$$

Price = PV coupon payments + PV of par (maturity value)

$$\$802.31 + \$117.46 = \$919.77$$

Suppose that, instead of an 11% required yield, the required yield is 6.8%.

$$\text{Price of the bond: } \$1,347.04$$

Pricing Zero-Coupon Bonds

V_n = Market Price of the Bond in period n

F = Face Value

R = Annual interest rate

m = compounding period (annual, $m=1$, semi-annual $m=2$...)

r = Effective periodic interest rate: $i = R/m$

T = Maturity (years)

N = Nr of compounding periods: $N = T \times m$

Two cash flows to purchase a bond (V_0 at time 0 and F at time T)

What is the price of the bond?

$$V_0 = \frac{F}{(1 + r)^n}$$

Risks Associated with Investing in Bonds

Interest-rate risk or market risk

As interest rates rise, the price of a bond fall (vice-versa)

If an investor has to sell a bond prior to the maturity date, an increase in interest rates will mean the realization of a loss (i.e. selling the bond below the purchase price)

Reinvestment Income or Reinvestment Risk

Calculation of the yield assumes that the CF received are invested

Interest rate at which interim CF can be reinvested will fall.

Greater for longer holding periods, as well as for bonds with large, early CF, such as high coupon bonds

Risks Associated with Investing in Bonds

Call Risk (callable bond)

Issuer can retire or “call” all or part of the issue before the maturity date (Issuer usually retains this right in order to have flexibility to refinance the bond in the future if the market interest rate drops below the coupon rate)

Investor perspective:

- i) the CF pattern is not known with certainty,
- ii) exposed to reinvestment risk (issuers will call the bonds when interests have dropped) and,
- iii) capital appreciation of a bond will be reduced

Risks Associated with Investing in Bonds

Credit Risk: Risk that the issuer of a bond will fail to satisfy the terms of the obligation (coupons and repayment of the amount borrowed)

Inflation Risk: arises because of the variation in the value of cash flows from a security due to inflation.

Exchange-rate Risk: A non-dollar-denominated bond has unknown US dollar cash flows.

Liquidity Risk: Size and spread btw the bid and ask price. The wider the dealer spread, the more the liquidity risk.

Volatility Risk: Value of an option rises when expected interest-rate volatility increases. In the case of a bond that is callable, the price of security falls, because the investor has given away a more valuable option.

Credit Ratings

The table relates the interest coverage ratio of a firm to a "synthetic" rating and a default spread that goes with that rating

For large manufacturing firms

If interest coverage ratio is			
>	≤ to	Rating is	Spread is
-100000	0.199999	D	12.00%
0.2	0.649999	C	10.50%
0.65	0.799999	CC	9.50%
0.8	1.249999	CCC	8.75%
1.25	1.499999	B-	6.75%
1.5	1.749999	B	6.00%
1.75	1.999999	B+	5.50%
2	2.249999	BB	4.75%
2.25	2.499999	BB+	3.75%
2.5	2.999999	BBB	2.50%
3	4.249999	A-	1.65%
4.25	5.499999	A	1.40%
5.5	6.499999	A+	1.30%
6.5	8.499999	AA	1.15%
8.50	100000	AAA	0.65%

Credit Ratings



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For smaller and riskier firms

If interest coverage ratio is			
greater than	≤ to	Rating is	Spread is
-100000	0.499999	D	12.00%
0.5	0.799999	C	10.50%
0.8	1.249999	CC	9.50%
1.25	1.499999	CCC	8.75%
1.5	1.999999	B-	6.75%
2	2.499999	B	6.00%
2.5	2.999999	B+	5.50%
3	3.499999	BB	4.75%
3.5	3.999999	BB+	3.75%
4	4.499999	BBB	2.50%
4.5	5.999999	A-	1.65%
6	7.499999	A	1.40%
7.5	9.499999	A+	1.30%
9.5	12.499999	AA	1.15%
12.5	100000	AAA	0.65%

Credit Default Spreads and Country Risk

Country	Local Currency Rating	Adj. Default Spread	Total Risk Premium
Portugal	Ba2	275	10.13%
Spain	A1	85	7.28%
Greece	Caa1	700	16.50%
Italy	A2	100	7.50%
Germany	Aaa	0	6.00%
France	Aaa	0	6.00%
United Kingdom	Aaa	0	6.00%
USA	Aaa	0	6.00%
Brazil	Baa2	175	8.63%
Russia	Baa1	150	8.25%
India	Baa3	200	9.00%
China	Aa3	70	7.05%

Debt financing options

Leasing

Firm (lessee) commits to making fixed payments to the owner (lessor) for the right to use the asset

Payments may be fully tax deductible

Provides firms with an alternative to buying capital assets

Debt financing options

Leasing

Operating lease

- Shorter term
- Present value of the lease payments is generally much lower than the price of asset
- Ownership resides with the lessor
- Lease expense is treated as an operating expense
- Off-balance sheet financing

Capital lease

- Lasts the lifetime of the asset
- Lessee is responsible for insurance and taxes on the asset
- For tax purposes, capital leases are equivalent to borrowing and buying the asset, consequently, depreciation and interest expense are shown as expenses on the income statement

Debt financing options

Leasing

Reasons provided for leasing

Firm has **insufficient** borrowing capacity

Bond covenants restrict firms from taking on more conventional debt

Operating leases tend to provide firms with greater profitability ratios since operating expense will typically be lower than if the asset was purchased and the lease is not included as part of the firm's capital

Differential tax rates: an entity with a higher tax rate will benefit more from buying the asset. This high-tax entity can then lease the asset to a lower / no tax entity and can share the tax benefits

Debt financing options

Leasing

The decision to lease or borrow/buy should be based on the incremental after-tax cash flows

Operating lease cash flows:

$$\text{Lease Payments} \times (1 - tc)$$

Debt financing options

Leasing

Borrow/Buy cash outflows

Interest expense (after tax)

Principal payments (non-tax deductible)

Maintenance expenses (after tax)

Borrow/Buy cash inflows

Depreciation tax benefit ($t \times \text{Depreciation}$)

Salvage value (after tax)

Debt financing options

Leasing

The net advantage to Leasing

$$NPV \text{ of lease option} - NPV \text{ of buy option}$$

Where cash flows are discounted at the after tax cost of debt since both represent borrowing alternatives and cash flows are calculated on an after-tax basis.

Commercial Paper

Unsecured Promissory note with a fixed maturity of 1 to 270 days.

Money-market security issued (sold) by large banks and corporations to get money to meet short term debt obligations (for example, payroll), and is only backed by an issuing bank or corporation's promise to pay the face amount on the maturity date specified on the note.

Not backed by collateral, therefore only firms with excellent credit ratings from a recognized rating agency will be able to sell their commercial paper at a reasonable price.

Usually sold at a discount from face value, and carries higher interest repayment rates than bonds.

Arrangement between businesses to buy **goods or services** on account, that is, without making immediate cash payment.

For many borrowers, trade credit serves as a valuable source of financing.

Hybrid securities

Financing choices that have characteristics of **both debt and equity** are referred to as hybrid securities

Convertible debt

Can be converted by the bondholder to a predetermined number of shares of common stock

The conversion option:

Conversion ratio: number of shares for which each bond may be exchanged

Conversion value: current value of shares for which the bonds can be exchanged

Conversion premium: excess of bond price over conversion value

Hybrid securities

Convertible debt

Reasons for issuing convertible debt

Investors will require a **lower required return**, thus allowing firms to set a lower coupon rate

Particularly useful for **high-growth companies**

Reduces the **conflict** between **equity** and **bond holders**

Hybrid securities

Preferred stock

Generates **fixed payment obligations** by the firm

Cost more to raise than **debt**

Reasons for issue:

Analysts and rating agencies treat preferred stock as equity for calculating leverage

Basics in Valuation Approaches

Perception that markets are **inefficient** and make mistakes in assessing value

An assumption about **how and when** these inefficiencies will get corrected

In an efficient market, the **market price is the best estimate** of value.

The purpose of any valuation model is then the **justification** of this value.

Valuation Approaches

Discounted Cash Flow: value of any asset is estimated by computing the PV of the expected cash flows on that asset, discounted back at a rate that reflects the riskiness of the cash flows (measure of the intrinsic value of an asset).

Relative Valuation: The value of any asset can be estimated by looking how similar assets are priced in the market place.

Academic Studies Valuation

Mainly focus on the comparison of **three model approaches**:

- Discounted Dividends
- Discounted Cash Flows
- Abnormal Earnings

Ratios or multiple based models are discussed in isolation or in addition of the three previous models.

Estimating the Intrinsic Value

Most investment valuation involves:

Estimating the **amount** and **timing** of the cash flows

Interest, dividends, and capital gains

Estimating the **growth rate** of returns

common stock / Real estate
(Can grow over time)

Preferred Stock / Bonds
(fixed)

Applying an appropriate discount rate to the cash flows to estimate the investment's intrinsic value

The required return for the **risk** assumed **Amount & timing of cash flow**

Comparing the intrinsic value to the **market price**

If estimated intrinsic value > market price, then **BUY!**

Discounted Cash Flow Models

Preferred Stock

$$P_{pdf} = \frac{DIV}{r_p}$$

Fixed/Perpetual Income-never matures

Market Rate

Common Stock

Projected (not fixed)

$$P_{cs} = \frac{DIV_1}{(1+R_{CE})} + \frac{DIV_2}{(1+R_{CE})^2} + \dots + \frac{DIV_n + P_{CS_n}}{(1+R_{CE})^n} = \frac{DIV_n + 1}{r - g}$$

Constant (Gordon) Growth DDM $g \leq g_{economy}$

$$P_{CS} = \frac{DIV_1}{R_{CE} - g_{DIV}}$$

\uparrow DIV_1 \rightarrow $DIV_0 \times (1+g)$
 \rightarrow $EPS_1 \times \text{Payout Rate}$
 \rightarrow $ROE \times \text{Retention Rate}$

Equity versus Firm Valuation

Value just the **equity stake** in the business

Value the entire business, which includes, besides equity, the **other claimholders in the firm**

Equity Valuation

The value of equity is obtained by:

Discounting expected **cashflows to equity** (the residual cashflows after meeting all expenses, tax obligations and interest and principal payments) **at the cost of equity** (required return to shareholders).

$$\text{Value of Equity} = \sum_{t=1}^n \frac{\text{CF to Equity}_t}{(1+k_e)^t}$$

CF to Equity_t = Expected Cashflow to Equity in period t

k_e = Cost of Equity

Note: The dividend discount model is a specialized case of equity valuation

Firm Valuation

The value of the firm is obtained by:

Discounting expected **cashflows to the firm** (the residual cashflows after meeting all operating expenses and taxes, but prior to debt payments) **at the WACC** (cost of the different components of financing used by the firm, weighted by their market value proportions)

$$\text{Value of Firm} = \sum_{t=1}^n \frac{\text{CF to Firm}_t}{(1+\text{wacc})^t}$$

Capital Asset Pricing Model

CAPM is used to “price” individual securities given the expected return on the market portfolio and risk-free rate

CAPM relates a security’s expected return to its nondiversifiable or systematic risk and market premium for bearing that risk

$$E_{Ri} = RF + \beta_i(E_{RM} - RF)$$

E_{Ri} = is the expected return on the capital asset

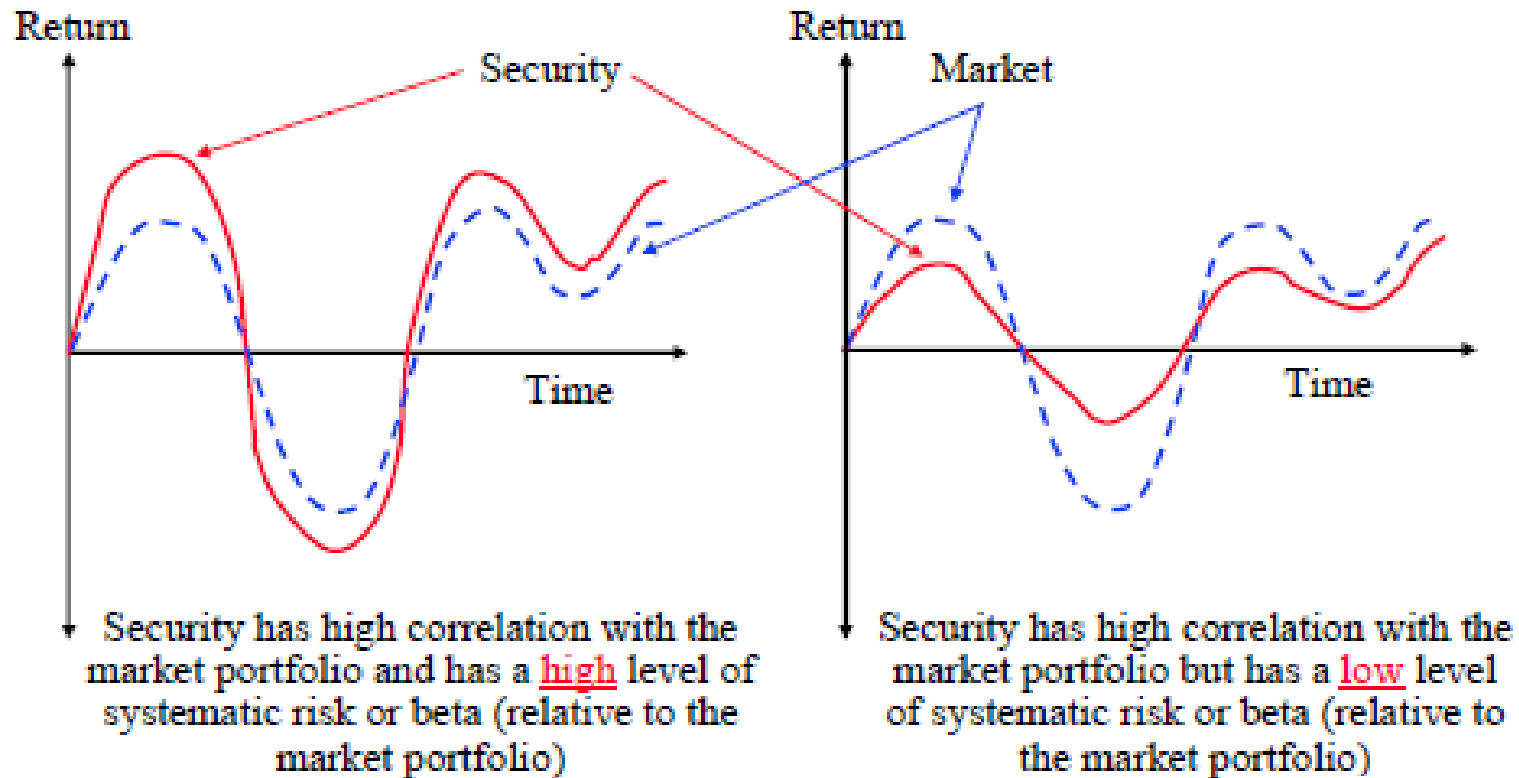
RF = is the risk-free rate of interest such as interest arising from government bond

β_i = (the *beta*) is the sensitivity of the expected excess asset returns to the expected excess market returns

$E_{RM} - RF$ = market premium

Betas and Correlations

Beta is not the same as the correlation between a security (portfolio) and the market portfolio



9.1

Capital Structure

Outline

- Meaning of Capital Structure
- Optimal Capital Structure
- How much should a firm borrow? Does capital structure matter?
- Does it influence the value of the firm?
- Limits to the use of debt
- How companies establish their capital structure?

Capital Structure

- A mix of debt, preferred stock, and common stock with which the firm plans to finance its investments.
- Objective is to have such a mix of debt, preferred stock, and common equity which will maximize shareholder wealth or maximize market price per share
- WACC depends on the mix of different securities in the capital structure. A change in the mix of different securities in the capital structure will cause a change in the WACC. Thus, there will be a mix of different securities in the capital structure at which WACC will be the least.
- An optimal capital structure means a mix of different securities which will maximize the stock price share or minimize WACC.

Leverage and Capital Structure

Leverage means use of fixed cost source of funds. Generally, it refers to use of debt in the capital structure of the firm

How much leverage should be there in a firm? Why is this question important? **Two reasons:**

- a higher debt ratio can improve the rate of return on equity capital during good economic times
- a higher debt ratio also increases the riskiness of the firm's earnings stream

Capital structure decision involves a trade off between risk and return to maximize market price per share

Costs and benefits of debt

Benefits of Debt

- Tax Benefits
- Adds discipline to management

Costs of Debt

- Bankruptcy Costs
- Agency Costs
- Loss of Future Flexibility

What is the optimal debt-equity ratio?

Need to consider two kinds of risk:

Business risk:

Factors:

- Demand variability
- Sales price variability
- Input cost variability
- Ability to develop new products
- Foreign exchange exposure
- Operating leverage (fixed vs variable costs)

Financial risk

The additional risk placed on the common stockholders as a result of the decision to finance with debt

Tax benefits of debt

Interest paid on debt is tax deductible, whereas cash flows to equity have to be paid out of after-tax cash flows.

The dollar tax benefit from the interest payment in any year is a function of your tax rate and the interest payment:

$$\text{Tax benefit each year} = \text{Tax Rate} \times \text{Interest Payment}$$

Implications of the tax benefit of debt

The **debt ratios** of firms with **higher tax rates** should be **higher** than the debt ratios of comparable firms with **lower tax rates**.

Firms that have substantial **non-debt tax shields**, such as **depreciation**, should be **less likely to use** debt than firms that do not have these tax shields.

If **tax rates increase over time**, we would expect **debt ratios to go up** over time as well, reflecting the higher tax benefits of debt.

We would expect **debt ratios in countries** where debt has a much larger tax benefit to **be higher than debt ratios** in countries whose debt has a lower tax benefit.

Debt adds discipline to management

Free cash flow (or cash flow to equity) represents cash flow from operations after all obligations have been paid.

It represents cash flow for which management has discretionary spending power.

Without discipline, management may make wasteful investments with free cash flow because they do not bear any costs for making these investments.

Forcing firms with free cash flow to borrow money can be an antidote to managerial complacency.

Empirical evidence is consistent with the hypothesis that increasing debt improves firm performance.

Bankruptcy costs

Bankruptcy is when a firm is unable to meet its contractual commitments.

The expected bankruptcy cost is a function of two variables:

- the cost of going bankrupt
 - direct costs: Legal and other administrative costs (1-5% of asset value)
 - indirect costs: Costs arising because people perceive you to be in financial trouble – loss of revenue, stricter supplier terms, capital raising difficulties
- the probability of bankruptcy, which is a function of the size of operating cash flows relative to debt obligations and the variance in operating cash flows

As you borrow more, you increase the probability of bankruptcy and hence the expected bankruptcy cost.

Agency cost

(conflict between stockholder and bondholder)

When you lend money to a business, you are allowing the stockholders to use that money in the course of running that business. Stockholders interests are different from your interests, because:

- You (as lender) are interested in getting your money back
- Stockholders are interested in maximizing their wealth

In some cases, the conflict of interests can lead to stockholders:

- Investing in riskier projects than you would want them to
- Paying themselves large dividends when you would rather have them keep the cash in the business.

The financing mix question

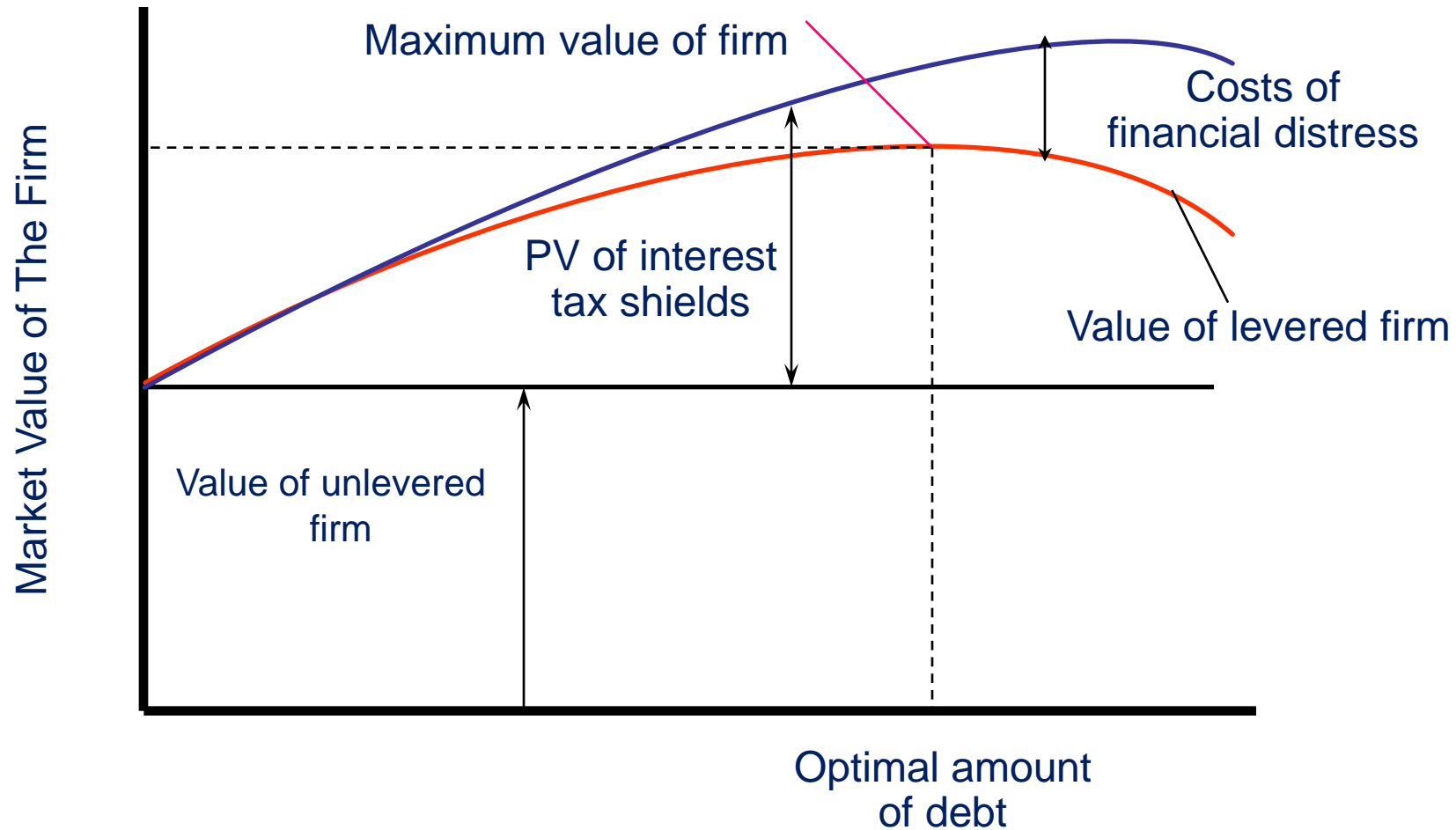
In deciding to raise financing for a business, is there an **optimal mix of debt and equity**?

- If yes, what is the trade off that lets us determine this optimal mix?
- If not, why not?

Optimal debt to equity ratio

The optimal ratio of debt to equity is determined by taking an increasing amounts of debt until the marginal gain from **leverage is equal** to the marginal expected loss from the bankruptcy costs

Optimal debt to equity ratio



What managers consider important in deciding on how much debt to carry...



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A survey of Chief Financial Officers of large U.S. companies provided the following ranking (from most important to least important) for the factors that they considered important in the financing decisions:

Factor	Ranking (0-5)
1. Maintain financial flexibility	4.55
2. Ensure long-term survival	4.55
3. Maintain Predictable Source of Funds	4.05
4. Maximize Stock Price	3.99
5. Maintain financial independence	3.88
6. Maintain high debt rating	3.56
7. Maintain comparability with peer group	2.47

Debt: Summarizing the Trade Off

Advantages of Borrowing

1. Tax Benefit:

Higher tax rates --> Higher tax benefit

2. Added Discipline:

Greater the separation between managers and stockholders --> Greater the benefit

Disadvantages of Borrowing

1. Bankruptcy Cost:

Higher business risk --> Higher Cost

2. Agency Cost:

Greater the separation between stockholders & lenders --> Higher Cost

3. Loss of Future Financing Flexibility:

Greater the uncertainty about future financing needs --> Higher Cost

A qualitative analysis of the firm's debt ratio



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Tax benefits:

What is the firm's tax rate?

Does the company have substantial tax shields?

Discipline:

Does management own shares?

Does the firm have significant free cash flows?

Bankruptcy:

How volatile are the firm's earnings and cash flows?

How liquid and divisible are the firm's assets?

How would you assess the firm's indirect bankruptcy costs (perception of the consumer)?

Agency:

Are the firm's investments easily monitored?

Are the investments short term or long term?

Financial Flexibility:

What stage of life cycle is the firm in?

How do firms set their financing mixes?

Life Cycle: Some firms choose a financing mix that reflects where they are in the life cycle; start-up firms use more equity, and mature firms use more debt.

Comparable firms: Many firms seem to choose a debt ratio that is similar to that used by comparable firms in the same business.

Financing Hierarchy: Firms also seem to have strong preferences on the type of financing used, with retained earnings being the most preferred choice. They seem to work down the preference list, rather than picking a financing mix directly.

Comparable firms

When we look at the determinants of the debt ratios of individual firms, the **strongest determinant is the average debt ratio of the industries to which these firms belong.**

This is not inconsistent with the existence of an optimal capital structure. If firms within a **business share common characteristics** (high tax rates, volatile earnings etc.), you would expect them to have similar financing mixes.

Rationale for financing hierarchy

Managers value flexibility. External financing reduces flexibility more than internal financing.

Managers value control. Issuing new equity weakens control and new debt creates bond covenants.

Preference rankings :
Results of a survey

Ranking	Source	Score
1	Retained Earnings	5.61
2	Straight Debt	4.88
3	Convertible Debt	3.02
4	External Common Equity	2.42
5	Straight Preferred Stock	2.22
6	Convertible Preferred	1.72

Weighted Average Cost of Capital

The weighted average cost of capital (k_o) uses the cost of each component of the firm's capital structure and weights these according to their relative market values

Assuming that only debt and equity are used, we have...

$$k_o = k_d(D/V) + k_e(E/V)$$

where k_d = Cost of debt

k_e = Cost of equity

D = Market value of debt

E = Market value of equity

$V = D + E$

Weighted Average Cost of Capital

Assuming that preference shares are used as well as debt and equity...

$$k_o = k_d(D/V) + k_e(E/V) + k_p(P/V)$$

where P = Market value of preference shares

k_p = Cost of preference shares

$V = D + E + P$

Be careful of rounding errors in initial calculations

Be careful to work in consistent terms

Calculations in percentages versus decimals

Check your answers with some common sense logic...

$$\diamond k_e > k_p > k_d > k_d(1 - t_c) \text{ (Why?)}$$

Taxes and the WACC

Under the classical tax system...

- Interest on debt is tax deductible
- Dividends have no tax effect for the firm

The after-tax cost of debt, $k'_d = (1 - t_c) k_d$
where t_c corporate tax rate

The cost of equity (k_e) is unaffected

The after-tax WACC is defined as...

$$k_o = k_d(1 - t_c)(D/V) + k_e(E/V) \quad \text{and}$$
$$k_o = k_d(1 - t_c)(D/V) + k_e(E/V) + k_p(P/V)$$

Calculating and Using the WACC

Example: You are given the following information for BCA Ltd. Note that book values are obtained from the firm's balance sheet while market values are based on market data.

The firm's marginal tax rate is 30%. Estimate the firm's before-tax and after-tax weighted average costs of capital

	Book values	Market values	Market costs
Bonds	\$30,000,000	\$50,000,000	8.0%
Preference shares	\$10,000,000	\$20,000,000	10.0%
Ordinary shares	\$60,000,000	\$80,000,000	14.0%
Total	\$100,000,000	\$150,000,000	

Calculating and Using the WACC

Before-tax weighted average cost of capital

- WACC weights are based on market values so book values are not relevant

$$k_o = k_d(D/V) + k_e(E/V) + k_p(P/V)$$

$$V = D + E + P$$

	Market values	Weights	Market costs	Weights×Costs
Bonds	\$50,000,000	0.333	8.0%	2.67%
Preference shares	\$20,000,000	0.133	10.0%	1.33%
Ordinary shares	\$80,000,000	0.533	14.0%	7.47%
Total	\$150,000,000	1.000		11.47%

Note: Weight in bonds, $D/V = 50/150 = 0.333$, and so on
Before-tax cost of capital = **11.47%**

Calculating and Using the WACC

The after-tax cost of capital requires the after tax cost of debt

$$k'_d = k_d (1 - t_c)$$

$$k'_d = 0.08(1 - 0.30) = 5.6\%$$

	Market values	Weights	After tax market costs	Weights×Costs
Bonds	\$50,000,000	0.333	5.6%	1.87%
Preference shares	\$20,000,000	0.133	10.0%	1.33%
Ordinary shares	\$80,000,000	0.533	14.0%	7.47%
Total	\$150,000,000	1.000		10.67%

Note: Weight in bonds, $D/V = 50/150 = 0.333$, and so on
After-tax cost of capital = 10.67%

International Empirical Evidence

Single country Analysis - Large listed Firms

Titman and Wessels [1988] for the US, Bevan and Danbolt [2002], Ozkan [2001] and Bennet and Donnelly [1993] for the United Kingdom, Miguel e Pindado [2001] for Spain

Single country Analysis - SMEs

Bartholdy and Mateus [2006] for Portugal, Cassar and Holmes [2003] for Australia, Michaelas, Chittenden and Poutziouris [1999] for the United Kingdom, Daskalakis and Psillaki [2007] for Greece and France

Multi country Analysis - Large listed Firms

Rajan and Zingales [1995], Wald [1999], Booth et al [2001] and more recently Aggarwal and Jamdee [2003] and Gaud et al [2005].

Key Relationships/Formula Sheet

Price of debt:
$$P_0 = \sum_{t=1}^n \frac{C_t}{(1 + k_d)^t} + \frac{F_n}{(1 + k_d)^n}$$

Price of preference shares:
$$P_0 = D_p / k_p$$

Cost of equity:
$$k_e = r_f + [E(r_m) - r_f] \beta_e$$

Cost of preference shares:
$$k_p = D_p / P_0$$

Before-tax weighted average cost of capital

❖
$$k_o = k_d (D/V) + k_e (E/V)$$

❖
$$k_o = k_d (D/V) + k_e (E/V) + k_p (P/V)$$

After-tax weighted average cost of capital

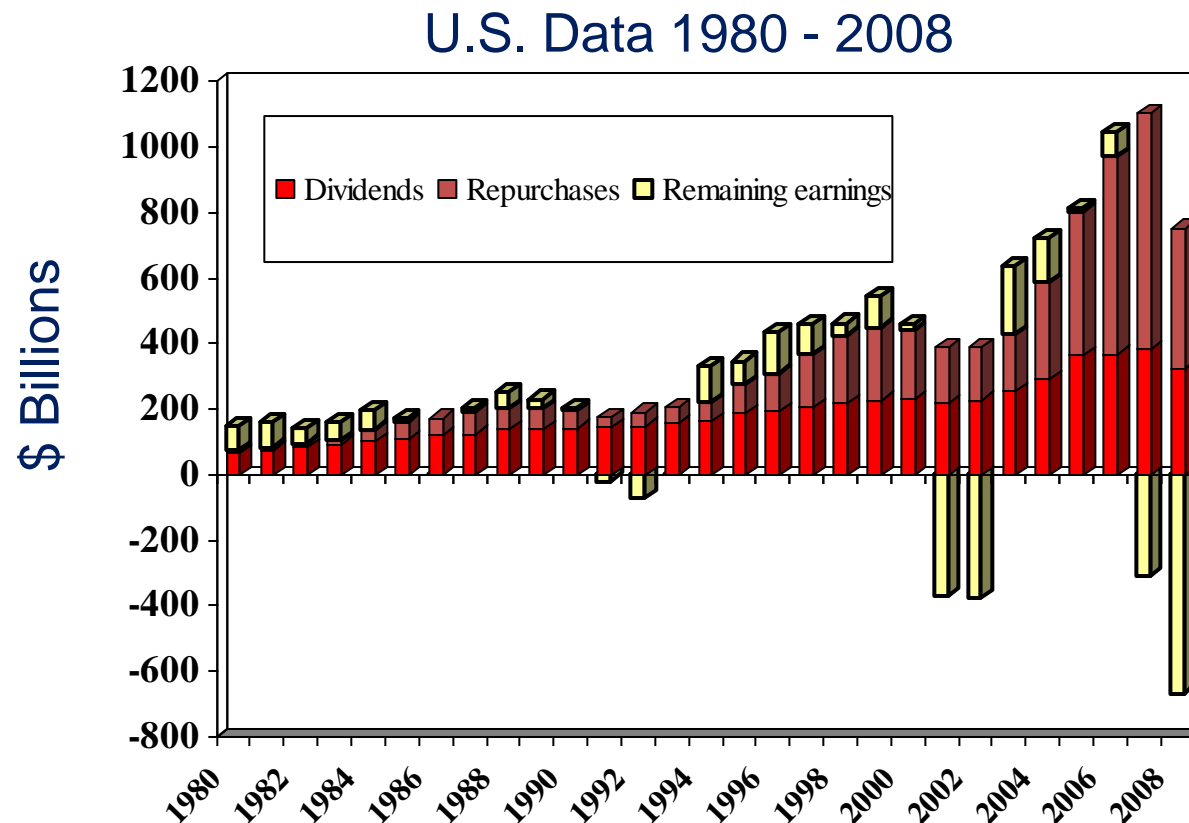
❖
$$k_o = k_d (1 - t_c) (D/V) + k_e (E/V)$$

❖
$$k_o = k_d (1 - t_c) (D/V) + k_e (E/V) + k_p (P/V)$$

Dividends and Dividend Policy

Dividend & Stock Repurchases

Companies pay out cash to shareholders in two ways: namely cash dividends and share repurchases.



Cash Dividends

Regular cash dividend: cash payments made directly to stockholders,

Extra cash dividend: indication that the “extra” amount may not be repeated in the future

Special cash dividend: similar to extra dividend, but definitely won't be repeated

Liquidating dividend: some or all of the business has been sold

Dividend Payment

Declaration Date: Board declares the dividend and it becomes a liability of the firm

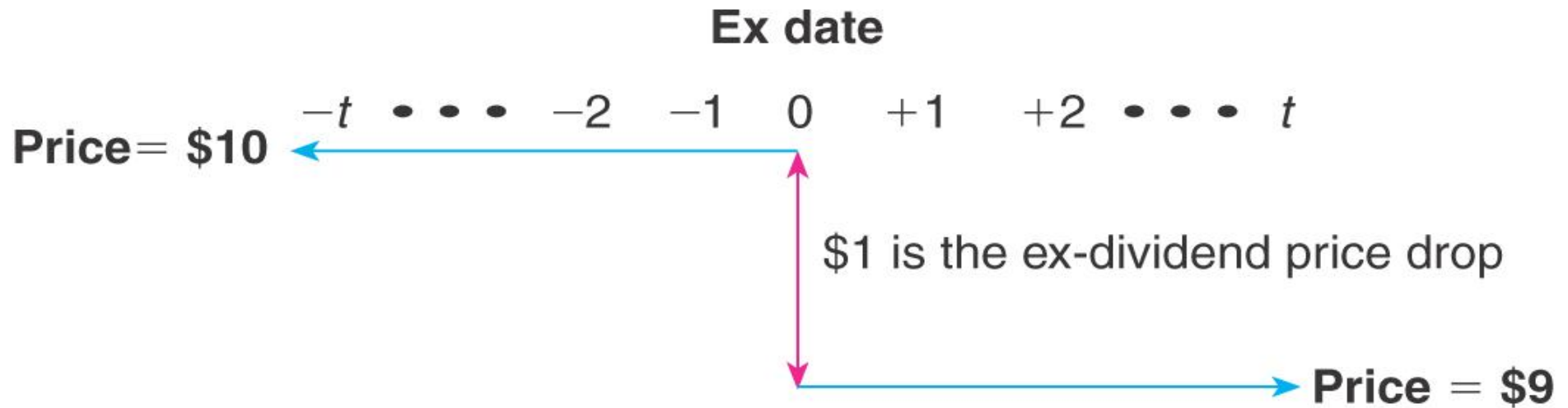
Ex-dividend Date

- Occurs before date of record
- If you buy stock on or after this date, you will not receive the dividend
- Stock price generally drops by about the amount of the dividend

Date of Record: Holders of record are determined and they will receive the dividend payment

Date of Payment: payments are made

The Ex-Day Price Drop



The stock price will fall by the amount of the dividend on the ex date (Time 0). If the dividend is \$1 per share, the price will be equal to $\$10 - 1 = \9 on the ex date.

Before ex date (Time -1)
On ex date (Time 0)

Dividend = \$0
Dividend = \$1

Price = \$10
Price = \$9

Does Dividend Policy Matter?

Dividends matter: the value of the stock is based on the present value of expected future dividends

Dividend policy may not matter

- Dividend policy is the decision to pay dividends **versus** retaining funds to reinvest in the firm
- **In theory**, if the firm reinvests capital now, it will grow and can pay higher dividends in the future

Illustration of Irrelevance

Consider a firm that can either pay out dividends of \$10,000 per year for each of the next two years or can pay \$9000 this year, reinvest the other \$1000 into the firm and then pay \$11,120 next year. Investors require a 12% return.

Market Value with constant dividend = \$16,900.51

Market Value with reinvestment = \$16,900.51

If the company will earn the required return, then it doesn't matter when it pays the dividends

Low Payout Please

Why might a low payout be desirable?

Individuals in upper income tax brackets might prefer lower dividend payouts, with the immediate tax consequences, in favor of higher capital gains

Dividend restrictions: debt contracts might limit the percentage of income that can be paid out as dividends

High Payout Please

Why might a high payout be desirable?

Desire for current income

- Individuals in low tax brackets
- Groups that are prohibited from spending principal (trusts and endowments)

Uncertainty resolution: no guarantee that the higher future dividends will materialize

Taxes

Tax-exempt investors don't have to worry about differential treatment between dividends and capital gains

Clientele Effect

Some investors prefer **low dividend payouts** and will buy stock in those companies that offer **low dividend payouts**

Some investors prefer **high dividend payouts** and will buy stock in those companies that offer **high dividend payouts**

Implications

What do you think will happen if a firm changes its policy **from a high payout to a low payout?**

What do you think will happen if a firm changes its policy **from a low payout to a high payout?**

If this is the case, **does dividend POLICY matter?**

Information Content of Dividends

Stock prices generally rise with **unexpected** increases in dividends and fall with **unexpected** decreases in dividends

The stock market reacts **positively** to dividend increases and **negatively** to decreases or cuts.

Empirical evidence shows that tax increases lead to **higher payouts**, rather than lower.

Dividend Policy in Practice

- Residual dividend policy
- Constant growth dividend policy – dividends increased at a constant rate each year
- Constant payout ratio: pay a constant percent of earnings each year
- Compromise dividend policy

Residual Dividend Policy

Determine capital budget

Determine target capital structure

Finance investments with a combination of debt and equity in line with the target capital structure

Remember that retained earnings are equity

If additional equity is needed, issue new shares

If there are excess earnings, then pay the remainder out in dividends

Example – Residual Dividend Policy

Given

Need \$5 million for new investments

Target capital structure: $D/E = 2/3$

Net Income = \$4 million

Finding dividend

40% financed with debt (2 million)

60% financed with equity (3 million)

Net Income – equity financing = \$1 million, paid out as dividends

Compromise Dividend Policy

Goals, ranked in order of importance

Avoid cutting back on positive NPV projects to pay a dividend

Avoid dividend cuts

Avoid the need to sell equity

Maintain a target debt/equity ratio

Maintain a target dividend payout ratio

Companies want to accept positive NPV projects, while avoiding negative signals

Stock Repurchase

Company buys back its own shares of stock

Tender offer: company states a purchase price and a desired number of shares

Open market: buys stock in the open market

Similar to a cash dividend in that it returns cash from the firm to the stockholders

This is another argument for **dividend policy irrelevance** in the absence of taxes or other imperfections

Real-World Considerations

Stock repurchase allows investors **to decide** if they want the current cash flow and associated tax consequences

Investors face capital gains taxes **instead** of ordinary income taxes (lower rate)

In our current tax structure, repurchases may be more desirable due to the options provided stockholders

Information Content of Stock Repurchases



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Stock repurchases sends a positive signal that management believes that the current price is low

Tender offers send a more positive signal than open market repurchases because the company is stating a specific price

The stock price often increases when repurchases are announced

Stock Repurchase Announcement

“America West Airlines announced that its Board of Directors has authorized the purchase of up to **2.5 million shares** of its Class B common stock on the open market as circumstances warrant **over the next two years** ...

“Following the approval of the stock repurchase program by the company’s Board of Directors earlier today. W. A. Franke, chairman and chief officer said ‘The stock repurchase program reflects our belief that America West stock may be an attractive investment opportunity for the Company, and it underscores our commitment to enhancing long-term shareholder value.’

“The shares will be repurchased with cash on hand, but only if and to the extent the Company holds unrestricted cash in excess of **\$200 million to ensure that an adequate level of cash and cash equivalents is maintained.**”

Stock Dividends

Pay additional shares of stock instead of cash

Increases the number of outstanding shares

Small stock dividend

- Less than 20 to 25%
- If you own 100 shares and the company declared a 10% stock dividend, you would receive an additional 10 shares

Large stock dividend: more than 20 to 25%

Stock Splits

Stock splits: essentially the same as a stock dividend except expressed as a ratio

For example, a 2 for 1 stock split is the same as a 100% stock dividend

It is often claimed that stock splits, in and of themselves, **lead to higher stock prices**; research, however, does not bear this out. What is true is that **stock splits are usually initiated after a large run up in share price**

Common explanation for split is to return price to a “**more desirable trading range**”

Quick Quiz

What are the different types of dividends and how is a dividend paid?

What is the clientele effect and how does it affect dividend policy relevance?

What is the information content of dividend changes?

What is the difference between a residual dividend policy and a compromise dividend policy?

What are stock dividends and how do they differ from cash dividends?

How are share repurchases an alternative to dividends and why might investors prefer them?