Corporate Issuers

Theories of Dividend Policy

Exam Focus

- Describe the expected effect of regular cash dividends, extra dividends, liquidating dividends, stock dividends, stock splits, and reverse stock splits on shareholders' wealth and a company's financial ratios.
- Compare theories of dividend policy and explain implications of each for share value given a description of a corporate dividend action.
- Describe types of information (signals) that dividend initiations, increases, decreases, and omissions may convey.

Exam Focus (cont.)

- Explain how agency costs may affect a company's payout policy.
- Explain factors that affect dividend policy in practice.
- Calculate and interpret the effective tax rate on a given currency unit of corporate earnings under double taxation, dividend imputation, and split-rate tax systems.

Types of Dividends

- **Regular cash dividend**
  - Companies tend to aim for stable regular dividends
  - U.S. and Canadian typically pay quarterly; European semiannually; Asian annually.
- **Extra or special dividend**
  - One-time (irregular)

Types of Dividends

- **Liquidating dividend**
  - When whole or part of the firm is sold
  - Dividends paid in excess of cumulative retained earnings; return of capital rather than return on capital
- **Stock dividend**
  - Noncash dividend (issuance of additional shares)
- **Stock splits**
  - Larger stock dividends

Types of Dividends: Accounting Issues

- **Cash dividends and special dividends**
  - Reduce cash and stockholder's equity
  - Lower quick and current ratios while higher leverage ratios (e.g., D/E)
- **Stock dividends and stock splits**
  - No change in ratios

Dividend Irrelevance Theory

MM: dividend policy is irrelevant

- Assumes perfect markets: no corporate taxes, bankruptcy costs, transactions costs

- **Homemade dividends**
  - Investors wanting more dividends can sell shares (or fractions of shares)
  - Investors wanting fewer dividends can use dividends to buy new shares (or share fractions)

Dividend Preference Theory

Dividend preference: suggests that investors prefer the certainty of a cash dividend over the uncertainty of a stock price increase (bird-in-hand argument)

- **Result:** higher dividends lead to higher stock prices (lower cost of equity)

Tax Aversion Theory

Investors prefer small dividend payments to large payments because capital gains are:

- sometimes taxed at a lower rate, and
- not taxed until realized.

- The **result** is that smaller dividends result in a higher stock price and lower cost of equity.

Signaling Content of Dividends

Signaling due to information asymmetry between managers and investors:

- **Unexpected increase: positive** signal
- **Unexpected decrease/omission: negative** signal
- **Initiation: ambiguous** signal (usually positive)
  - However, is it great prospects, or is it a lack of positive NPV opportunities?

Agency Issues

Agency issues

- Between shareholders and managers:
  - Dividends reduce free cash flow for managers to invest in empire building
- Between shareholders and bondholders:
  - Dividends *transfer* wealth from bondholders to shareholders

Agency Issues: Example

Two dividend-paying companies A and B directly compete with each other. Both companies are all-equity financed and have recent dividend payout ratios averaging 35%. The corporate governance practices at Company B are weaker than at Company A. For example, at B but not A, the chief executive officer is also chair of the board of directors. Recently, profitable investment opportunities for B have become fewer, although operating cash flow for both A and B is strong.

Based only on the information given, investors who own shares in both A and B are most likely to press for a dividend increase at:

A. Company A, because it has better growth prospects than Company B.

B. Company B, because a dividend increase may mitigate potential overinvestment agency problems.

C. Company B, because a dividend increase may mitigate potential underinvestment agency problems.

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Factors Affecting Dividend Payout Policy

1. Investment opportunities
2. Expected volatility of future earnings
3. Financial flexibility
4. Tax considerations
5. Flotation costs
6. Contractual and legal restrictions

Effective Tax Rate on Dividends

- **Double taxation** and **split-rate** systems:

effective tax rate
= tax corporate + (1 – tax corporate)(tax individual)

- For **split-rate** system, use the **corporate tax rate for distributed income**
- **Imputation** system:

effective tax rate = shareholder's tax rate

Effective Tax Rate: Example

Calculate the effective tax rate for the following examples under the:

1. double taxation system
2. split-rate system
3. imputation system

Effective Tax Rate: Example (cont.)

1. Double taxation system

Double Taxation of Dividends at 15% Personal Tax Rate (per $US100)	
Net income before taxes	US$100
Corporate tax rate	35%
Net income after tax	
Dividend assuming 100% payout	
Shareholder tax on dividend	
Net dividend to shareholder	
Double tax rate on dividend distributions	

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Effective Tax Rate: Example (cont.)

2. Split-rate system

Taxation of Dividends Based on Split-Rate System (per €100)	
Pretax earnings	€200
Pretax earnings retained	€100
35% tax on retained earnings	
Pretax earnings allocated to dividends	
20% tax on earnings allocated to dividends	
Dividends distributed	
Shareholder tax rate	35%
After tax dividend to shareholder	
Effective tax rate on dividend	

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Effective Tax Rate: Example (cont.)

3. Imputation system

Taxation of Dividends Based on Tax Imputation System (A$)	Marginal Shareholder Tax Rate	
	15%	47%
Pretax income	A$100	A$100
Taxes at 30% corporate tax rate		
Net income after tax		
Dividend assuming 100% payout		
Shareholder tax on pretax income		
Less tax credit for corporate payment		
Tax due from shareholder		
Effective tax rate on dividend		

Solutions

Agency Issues: Example

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Company B's strong operating cash flow in an environment of fewer profitable growth opportunities may tempt Company B's management to overinvest. The concern is increased because of Company B's relatively weak corporate governance

Effective Tax Rate: Example (cont.)

1. Double taxation system

Double Taxation of Dividends at 15% Personal Tax Rate (per $US100)	
Net income before taxes	US$100
Corporate tax rate	35%
Net income after tax	US$65
Dividend assuming 100% payout	US$65
Shareholder tax on dividend	US$9.75
Net dividend to shareholder	US$55.25
Double tax rate on dividend distributions	44.75%

Effective Tax Rate: Example (cont.)

2. Split-rate system

Taxation of Dividends Based on Split-Rate System (per €100)	
Pretax earnings	€200
Pretax earnings retained	€100
35% tax on retained earnings	€35
Pretax earnings allocated to dividends	€100
20% tax on earnings allocated to dividends	€20
Dividends distributed	€80
Shareholder tax rate	35%
After tax dividend to shareholder	€52
Effective tax rate on dividend	48%

Effective Tax Rate: Example (cont.)

3. Imputation system

Taxation of Dividends Based on Tax Imputation System (A$)	Marginal Shareholder Tax Rate	
	15%	47%
Pretax income	A$100	A$100
Taxes at 30% corporate tax rate	A$30	A$30
Net income after tax	A$70	A$70
Dividend assuming 100% payout	A$70	A$70
Shareholder tax on pretax income	A$15	A$47
Less tax credit for corporate payment	(A$30)	(A$30)
Tax due from shareholder	(A$15)	A$17
Effective tax rate on dividend	15%	47%

Stock Buybacks

Exam Focus

- Compare stable dividend with constant dividend payout ratio, and calculate the dividend under each policy.
- Describe broad trends in corporate payout policies.
- Compare share repurchase methods.
- Calculate and compare the effect of a share repurchase on earnings per share when 1) the repurchase is financed with the company's surplus cash and 2) the company uses debt to finance the repurchase.

Exam Focus (cont.)

- Calculate the effect of a share repurchase on book value per share.
- Explain the choice between paying cash dividends and repurchasing shares.
- Calculate and interpret dividend coverage ratios based on 1) net income and 2) free cash flow.
- Identify characteristics of companies that may not be able to sustain their cash dividend.

Dividend Policy Approaches

- Stable dividend policy
- Constant dividend payout ratio
- Target payout adjustment model

- Proportion of companies in developed markets paying cash dividends has declined over the long term.
- Share repurchases trending upwards globally over the last few decades.

Target Payout Approach

Target payout adjustment model: dividends paid out as a percentage of total earnings:

- Set target dividend payout based on long-term sustainable earnings
- Move slowly toward that target
- Avoid cutting or eliminating dividend except in extreme circumstances

expected increase in dividends = [(expected earnings × target payout ratio) – previous dividend] × adjustment factor

Adjustment factor = 1/number of years for adjustment

Calculating Dividends Using Target Payout Adjustment Model: Example

Last year Luna Inc. had earnings of US$2.00 a share and paid a regular dividend of US$0.40. For the current year, the company anticipates earnings of US$2.80. It has a 30% target payout ratio and uses a 4-year period to adjust the dividend.

Compute the expected dividend for the current year.

Calculating Dividends Using Target Payout Adjustment Model: Example (cont.)

$$\begin{pmatrix}\text{expected increase}\\ \text{in dividend}\end{pmatrix} = \left[\begin{pmatrix}\text{expected}\\ \text{EPS}\end{pmatrix} \times \begin{pmatrix}\text{target}\\ \text{payout}\\ \text{ratio}\end{pmatrix} - \begin{pmatrix}\text{previous}\\ \text{dividend}\end{pmatrix}\right] \times \begin{pmatrix}\text{adjustment}\\ \text{factor}\end{pmatrix}$$

Expected increase =

Expected dividend =
=

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Share Repurchase Methods

Open market: flexible, allows the company to time the repurchase and buy when the price is attractive (used almost exclusively outside of North America)

Fixed-price tender offer: offers premium over market price, quick execution, shareholders not selling are at a disadvantage, pro rata acceptance in case a higher-than-needed number of shares are tendered

Share Repurchase Methods

Dutch auction:

- Specifies a range of prices, invites bids and accepts lowest bid first, and continues until target achieved
- **All sellers** receive the highest-accepted bid price
- Cheaper than fixed price tender, but slower

Direct negotiation: with a single large holder; common in greenmail transactions

Impact of Repurchase on EPS

- Impact on EPS depends on whether the repurchase is financed with excess cash or new borrowing.
- When using excess cash, if the earnings yield > after-tax opportunity cost of cash, EPS would increase.
- When using new borrowing, if earnings yield > after-tax cost of debt, EPS would increase.

Impact on EPS: Example

Selamat Plantations, Inc., plans to borrow Malaysian ringgit (MYR) 12 million, which it will use to repurchase shares. The following information is given:

- Share price at time of share repurchase = MYR60
- Earnings after tax = MYR6.6 million
- EPS before share repurchase = MYR3
- Price/earnings (P/E) = MYR60 / MYR3 = 20
- Earnings yield (E/P) = MYR3 / MYR60 = 5%
- Shares outstanding = 2.2 million
- Planned share repurchase = 200,000 shares

Impact on EPS: Example (cont.)

1. Calculate the EPS after the share repurchase, assuming the after-tax cost of borrowing is 5%.

Cost of acquisition =

New earnings after tax =

=

EPS =

Note: the earnings yield (E/P) after-tax cost of debt

Impact on EPS: Example (cont.)

2. Calculate the EPS after the share repurchase, assuming the company's borrowing rate increases to 6% because of the increased financial risk of borrowing the MYR 12 million.

New earnings after tax =

=

EPS =

Impact of Repurchase on BVPS

- If the price paid for repurchase > pre-purchase BVPS, BVPS will decline.
- If the price paid for repurchase < pre-purchase BVPS, BVPS will increase.

Impact on BVPS: Example

The market price of both Company A's and Company B's common stock is US$20 a share, and each company has 10 million shares outstanding. Both companies have announced a US$5 million buyback. The only difference is that Company A has a market price per share greater than its book value per share, whereas Company B has a market price per share less than its book value per share:

- Company A has a book value of equity of US$100 million and BVPS of US$100 million/10 million shares = US$10. The market price per share of US$20 is greater than BVPS of US$10.
- Company B has a book value of equity of US$300 million and BVPS of US$300 million/10 million shares = US$30. The market price per share of US$20 is less than BVPS of US$30.

Impact on BVPS: Example (cont.)

Both companies:

- buy back 250,000 shares at the market price per share (US$5 million buyback/US$20 per share = 250,000 shares) and
- are left with 9.75 million shares outstanding (10 million pre-buyback shares − 0.25 million repurchased shares = 9.75 million shares).

Impact on BVPS: Example (cont.)

After the share repurchase:

- Company A's shareholders' equity at book value falls to million (US$100 million − million), and its book value per share decreases from US$10 to (shareholders' equity/shares outstanding = / shares =).
- Company B's shareholders' equity at book value falls to million (US$300 million − million), and its book value per share increases from US$30 to (shareholders' equity/shares outstanding = / =).

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Share Repurchase vs. Cash Dividend

Rationales for share repurchase

1. Tax advantage to shareholders if tax rate on capital gains < tax rate on dividends
2. Signal to shareholders that management believes shares are undervalued
3. Added flexibility: repurchase is not sticky and so can be used whenever there is excess cash
4. Offsetting dilution: prevents EPS dilution from exercise of employee stock options
5. Increase leverage: repurchase shares to increase financial leverage

Dividend Coverage Ratios

$$\text{dividend payout ratio} = \frac{\text{dividends}}{\text{net income}}$$

$$\text{dividend coverage ratio} = \frac{\text{net income}}{\text{dividend}}$$

$$\text{FCFE coverage ratio} = \frac{\text{FCFE}}{\text{dividends} + \text{share repurchases}}$$

higher coverage ratios ➡ higher dividend sustainability

Dividend Sustainability: Example

Given this data for Pearson, compute the (1) dividend payout ratio, (2) dividend coverage ratio, and (3) FCFE coverage ratio:

Year Ending	Dec 31 20X0	Dec 31 20X1
Net income	$2,000	$2,500
CFO	$2,700	$2,750
FCInv	$1,500	$1,600
Net borrowing	$300	$350
Dividends paid	$1,000	$1,250
Share repurchases	$500	$500

Dividend Sustainability: Example (cont.)

- Dividend payout ratio:
  - 20X0:
  - 20X1:
- Dividend coverage ratio:
  - 20X0:
  - 20X1:
- FCFE coverage ratio:
  - FCFE = CFO – FCInv + net borrowings
  - 20X0:
  - 20X1:

Dividend Sustainability: Example (cont.)

- FCFE coverage ratio cont.:
  - 20X0:
  - 20X1:

Solutions

Calculating Dividends Using Target Payout Adjustment Model: Example (cont.)

$$\begin{pmatrix}\text{expected increase}\\ \text{in dividend}\end{pmatrix} = \left[\begin{pmatrix}\text{expected}\\ \text{EPS}\end{pmatrix} \times \begin{pmatrix}\text{target}\\ \text{payout}\\ \text{ratio}\end{pmatrix} - \begin{pmatrix}\text{previous}\\ \text{dividend}\end{pmatrix}\right] \times \begin{pmatrix}\text{adjustment}\\ \text{factor}\end{pmatrix}$$

Expected increase = (($2.80 × 0.30) – 0.40) × (1/4) = $0.11

Expected dividend = previous dividend + expected increase
= $0.40 + $0.11 = $0.51

Impact on EPS: Example (cont.)

1. Calculate the EPS after the share repurchase, assuming the after-tax cost of borrowing is 5%.

Cost of acquisition = 200,000 shares × MYR 60 = MYR 12,000,000

New earnings after tax = MYR 6.6 million – (0.05 × MYR 12 million)

= MYR 6 million

EPS = MYR 6 million / (2,200,000 – 200,000) = MYR 3 (no impact)

Note: the earnings yield (E/P) = 3 / 60 = 5% = after-tax cost of debt

Impact on EPS: Example (cont.)

2. Calculate the EPS after the share repurchase, assuming the company's borrowing rate increases to 6% because of the increased financial risk of borrowing the MYR 12 million.

New earnings after tax = MYR 6.6 million – (0.06 × MYR 12 million)

= MYR 5.88 million

EPS = MYR 5.88 million / 2 million = MYR 2.94