Title: Stock Dividends and Repurchases

Slide 1

Title Slide

Narrator: Stock dividends and stock repurchases play a crucial role in cash management. Let’s learn more about these, along with learning how to calculate an economic order quantity (or EOQ) and calculating the benefits of a lockbox system.

Slide 2

Title: Alternative Dividend Policies

Slide content:
- Constant-Payout Ratio: The firm establishes that a certain percentage of earnings is paid to owners in each dividend period.

Narrator: First, we’ll discuss three types of dividend policies. Most firms have a dividend policy, although it is often not publicly stated. Most U.S. firms pay dividends quarterly. Firms that use a constant-payout ratio pay a certain percentage of earnings to owners in each dividend period.

Slide 3

Title: Alternative Dividend Policies

Slide content:
- Constant-Payout Ratio: The firm establishes that a certain percentage of earnings is paid to owners in each dividend period.
- Regular Dividend Policy: Payment of a fixed-dollar dividend in each period. Often, the regular dividend is increased once a sustainable increase in earnings has occurred. The dividend is almost never decreased. This policy is the most commonly used in the U.S.

Narrator: Firms that use a regular dividend policy pay a fixed amount each dividend period. The regular dividend is usually increased once a sustainable increase in earnings has occurred. The dividend is almost never decreased. This policy is the most commonly used in the U.S.

Slide 4

Title: Alternative Dividend Policies

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- Constant-Payout Ratio: The firm establishes that a certain percentage of earnings is paid to owners in each dividend period.
- Regular Dividend Policy: Payment of a fixed-dollar dividend in each period. Often, the regular dividend is increased once a sustainable increase in earnings has occurred. The dividend is almost never decreased. This policy is the most commonly used in the U.S.
- Low-Regular-And-Extra Dividend Policy: A low regular dividend is paid, but it is supplemented by an extra dividend when earnings are higher than normal in a given period.
Narrator: In the Low-Regular-And-Extra Dividend policy, a low regular dividend is paid, supplemented by an extra dividend when earnings are higher than normal in a given period.

Slide 5

Title: Alternative Dividend Policies Problem – Constant Payout

Slide content:
If the firm’s dividend policy was based on a constant payout ratio of 40% for all years with positive earnings and 0% otherwise, what would be the annual dividend for each year?

2006: 0.40 x $0.25 = $0.10
2015: 0.40 x $4.00 = $1.60

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<th>Year</th>
<th>EPS</th>
<th>Constant</th>
<th>Regular</th>
<th>Extra</th>
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</tr>
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<td>2007</td>
<td>(0.50)</td>
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Narrator: Calculating a constant payout dividend is quite a straight-forward process. In this problem, we have a company that wants to pay a constant payout of 40% of earnings, unless earnings are negative or zero. The dividends are shown in the third column. The calculations for 2006 and 2015 are shown. In 2006, we multiply 40% times the earnings of $0.25 to get the dividend of 2006. In 2015, 40% times the $4.00 in earnings gives a dividend of $1.60.

Slide 6

Title: Alternative Dividend Policies Problem - Regular

Slide content:
If the firm had a dividend payout of $1.00 per share, increasing by $0.10 per share whenever the dividend payout ratio falls below 50% for two consecutive years, what annual dividend would the firm pay each year?

2010: $1.00/$2.40 = 42%
2011: $1.00/ $3.20 = 31%

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Narrator: In this example, we have a company that wants to pay a dividend of $1.00. Management wants to increase the dividend by $0.10 whenever the dividend payout ratio falls below 50% for two consecutive years. The payout ratio is dividends per share divided by earnings per share. The dividends are shown in the fourth column. The payout ratio is above 50% until 2010 when it is 42%. In 2011, the payout ratio will be below 50% for the second consecutive year and so the dividend is raised $0.10. It stays below 50% for all the other years and the firm raises it dividend by $0.10 per year.

In practice, most U.S. companies that pay a dividend tend to pay a regular dividend every quarter, raising the dividend consistently over time much like is being done in this example. Many investors value companies that have consistent and consistently rising dividends because the investors receive dividend payments that tend to rise at the same level or faster than inflation.

Slide 7

Title: Alternative Dividend Policies Problem - Extra

Slide content:
If the firm’s policy was to pay $0.50 per share each period except when earnings per share exceeded $3.00, when an extra dividend equal to 80% of earnings beyond $3.00 will be paid, what annual dividend would the firm pay each year?

2011: $0.50 + [0.80 x ($3.20 - $3.00)] = $0.66
2015: $0.50 + [0.80 x ($4.00 - $3.00)] = $1.30

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Narrator: In this problem, we have a company that wants to pay $0.50 per share each period except when earnings per share exceed $3.00, when an extra dividend equal to 80% of earnings beyond $3.00 will be paid. The dividends are shown in the fifth column. The calculations for 2011 and 2015 are shown. In 2011, we start with $0.50 plus 80% times the $0.20 that earnings exceed $3.00 giving a dividend of $0.66. In 2015, we start with $0.50 plus 80% times the $1.00 that earnings exceed $3.00 giving a dividend of $1.30.

With a constant-payout policy, if the firm’s earnings drop or a loss occurs, the dividends will be low or nonexistent. A regular dividend or a low-regular-and-extra dividend policy reduces owner uncertainty by paying relatively fixed and continuous dividends.

Slide 8

Title: Stock Repurchases

Slide content:
Earnings available for common stockholders: $800,000
Number of shares of common stock outstanding: 400,000
Earnings per share ($800,000/$400,000): $2
Market price per share: $20
Price/earnings (P/E) ratio ($20/$2): 10
This firm is currently considering whether it should use $400,000 of its earnings to pay cash dividends of $1 per share or to repurchase stock at $21 per share.

a. Approximately how many shares of stock can the firm repurchase at the $21 per share price, using the funds that would have gone to pay the cash dividend?

b. Calculate the EPS after the recent purchase.

c. If the stock still sells at 10 times earnings, what will the market price be after the repurchase?

Narrator: In this example, we look at the effect of a stock repurchase. This firm has earnings available to common stockholders of $800,000. It has 400,000 shares outstanding. Earnings per share are $2 dollars. The stock's market price is $20. The price-to-earnings ratio is 10. The firm is currently considering whether it should use $400,000 of its earnings to pay cash dividends of one dollar per share or should it repurchase stock at $21 per share.

Slide 9

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This firm is currently considering whether it should use $400,000 of its earnings to pay cash dividends of $1 per share or to repurchase stock at $21 per share.

a. Approximately how many shares of stock can the firm repurchase at the $21 per share price, using the funds that would have gone to pay the cash dividend?

Shares to be repurchased = \( \frac{400,000}{21.00} \) = 19,047 shares

Narrator: If it uses the money to repurchase shares, the firm can repurchase 19,047 shares. This is calculated by dividing the $400,000 by the $21 offer price for the shares.

Slide 10

Title: Stock Repurchases

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Earnings available for common stockholders: $800,000
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Price/earnings (P/E) ratio ($20/$2): 10
This firm is currently considering whether it should use $400,000 of its earnings to pay cash dividends of $1 per share or to repurchase stock at $21 per share.

b. Calculate the EPS after the recent purchase.
\[
\text{EPS} = \frac{$800,000}{(400,000 - 19,047)} = \frac{$800,000}{400,000 - 19,047} = $2.10 \text{ per share}
\]

**Narrator:** To calculate earnings per share, we divide our earnings of $800,000 by our new shares outstanding of 380,953. This gives us earnings per share of $2.10 after the repurchase. Please note that if we had not made the repurchase, the earnings per share would have been $2. Therefore, the share repurchase has raised our earnings per share. If our price-to-earnings ratio remains unchanged, then our new market price will be $21 per share.

**Slide 11**

**Title: Stock Repurchases**

**Slide content:**
Earnings available for common stockholders: $800,000
Number of shares of common stock outstanding: 400,000
Earnings per share ($800,000/$400,000): $2
Market price per share: $20
Price/earnings (P/E) ratio ($20/$2): 10
This firm is currently considering whether it should use $400,000 of its earnings to pay cash dividends of $1 per share or to repurchase stock at $21 per share.

- c. If the stock still sales at 10 times earnings, what will the market price be after the repurchase?

Market Price: $2.10 \times 10 = $21.00 \text{ per share}

**Narrator:** The pre-repurchase market price is different from the post-repurchase market price by the amount of the cash dividend paid. The post-repurchase price is higher because fewer shares are outstanding.

This demonstrates how a stock repurchase can be considered a payout. The shareholders that opt not to sell their shares have seen their investment value rise. Yet, they do not need to pay taxes on the gain unless they decide to sell their shares.

**Slide 12**

**Title: Economic Order Quantity (EOQ) Analysis**

**Slide content:**
Lion Corporation purchases 1,200,000 units per year of one component. The fixed cost per order is $25. The annual carrying cost of the item is $0.54. Determine the EOQ if (1) the conditions stated above hold, (2) the order cost is zero rather than $25, and (3) the order cost is $25 but the carrying cost is $0.01.

(1) \[\text{EOQ} = \sqrt{\frac{2 \times S \times O}{C}} = \sqrt{\frac{2 \times 1,200,000 \times 25}{0.54}} = 10,541\]

(2) \[\text{EOQ} = \sqrt{\frac{2 \times 1,200,000 \times 0}{0.54}} = 0\]

(3) \[\text{EOQ} = \sqrt{[(2 \times 1,200,000 \times 25)/0.01]} = 77,460\]
Narrator: Lion Corporation purchases 1.2 million units per year of one component. The fixed cost per order is $25. The annual carrying cost of the item is $0.54. The firm wants to know how much inventory it should order at a time. The economic order quantity (or EOQ) is the most cost-effective amount to order of the item each time. The formula is shown. S is the units sold per year. O is the ordering cost per order. C is the carrying cost of the item. We see that the EOQ is 10,541 units. If the ordering cost is changed to zero we see that the items should be ordered often and only as needed. If the carrying costs are very low, one penny, then we should order a very large quantity each time.

When the fixed order cost is zero, it makes sense to place more orders, with each order being smaller than under the initial conditions. When the carrying cost is very low, it makes sense to place fewer orders, with each order being very large.

Slide 13

Title: Lockbox System

Slide content:
Lion industries believes that a lockbox system can shorten its accounts receivable collection period by 3 days. Credit sales are $3,240,000 per year. The firm has other equally risky investments that earn a return of 15%. The cost of the lockbox system is $9,000 per year. (Note: assume a 365-day year.)

a. What amount of cash will be made available for other uses under the lockbox system?
b. What net benefit (cost) will the firm realize if it adopts the lockbox system? Should it adopt the proposed lockbox system?

Narrator: A lockbox system is a collection procedure in which customers mail payments to a PO Box that is emptied regularly by the firm's bank, which processes the payments and deposits them in the firm's account. This system speeds up collection time by reducing processing time as well as mail and clearing time.

Slide 14

Title: Lockbox System – Answer

Slide content:
Lion industries believes that a lockbox system can shorten its accounts receivable collection period by 3 days. Credit sales are $3,240,000 per year. The firm has other equally risky investments that earn a return of 15%. The cost of the lockbox system is $9,000 per year. (Note: assume a 365-day year.)

a. Cash made available = $3,240,000 / 365
   = ($3,240,000 / 365)
   = $8,877/day x 3 days
   = $26,631

   a. Net benefit = $26,631 x 0.15
   = $3,995

Narrator: In this example, the cash saved by the lockbox system is the credit sales per year of $3,240,000 divided by 365 days per year or $8,877. We multiply that by the 3 days saved to get $26,631 in cash made available. If we assume that we can earn 15% on the freed-up cash, the benefit of the lockbox is $3,995 per year. Unfortunately, this is less than the $9,000 annual cost of the lockbox system. Therefore the cost outweighs the benefit and the firm should not accept the lockbox system.

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End of presentation.