Week 13
Payout Policy
Part II
Stock Repurchase and Valuation: Example

- Company X has 100 shares outstanding. It earns $1,000 a year, all of which is paid out as a dividend.
- Suppose that investors expect the dividend to be maintained indefinitely and that they require a return of 10%. \[ PV(\text{share}) = \$10 / 0.1 = \$100, \]
  \[ PV(\text{equity}) = \$100 \times 100 = \$10,000 \]
- Now suppose that the company announces that instead of paying a cash dividend in year 1, it will spend the same money repurchasing its shares in the open market. \[ \text{Tot. expected CFs to shareholders are unchanged. So the tot. value of equity is} \]
Stock Repurchase and Valuation: Example (continued)

- Tot. expected CFs to shareholders are unchanged. So the tot. value of equity is the same.
- Year1: $1,000 from stock repurchase → PV(repurchase)=$1,000/1.1=$909.1
- Year2: $1,000-a-year dividend starting in yr 2 → PV(dividends)=$1,000/(.1*1.1)=$9,091
- So the expected price at which the firm buys back shares must be 10% higher than today’s price → $1,000/$110=9.09 shares, 90.91 shares remain outstanding
Stock Repurchase and Valuation: Example (continued)

– Each share can look forward to a dividend stream of $1,000/90.91=$11 per share

– So after the repurchase, shareholders have 10% fewer shares, but earnings and dividends per share are 10% higher.

– An investor who owns one share today that is not repurchased will receive no dividends in year 1 but can look forward to $11 a year thereafter → the value of each share is $11/(.1*1.1)=$100
Several points illustrated from the Example

1) Other things being equal, company value is unaffected by the decision to repurchase stock rather than to pay a cash dividend.

2) When valuing the entire equity, you need to include both the cash that is paid out as dividends and the cash that is used to repurchase stock.

3) When calculating the CF per share, it is double counting to include both the forecasted dividends per share and the cash received from repurchase.

4) A firm that repurchases stock instead of paying dividends reduced the number of shares outstanding but produces an offsetting increase in subsequent earnings and dividend per share.
Example I: Here are key financial data for House of Herring, Inc.:

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<table>
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<tbody>
<tr>
<td><strong>Earnings per share for 2015</strong></td>
<td>$5.50</td>
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<td>Number of shares outstanding</td>
<td>40 mil.</td>
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<td>Target payout ratio</td>
<td>50%</td>
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<td>Planned dividend per share</td>
<td>$2.75</td>
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<td>Stock price, year-end 2015</td>
<td>$130</td>
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House of Herring plans to pay the entire dividend early in Jan. 2016 (Assume no taxes)

- a) Other things equal, what will be House of Herring’s stock price after the planned dividend payout?
Example I: Here are key financial data for House of Herring, Inc.: (continued)

- b) Suppose the company cancels the dividend and announces that it will use the money saved to repurchase shares. What happens to the stock price on the announcement date? Assume that investors learn nothing about the company’s prospects from the announcement. How many shares will the company need to repurchase?
Example I: Here are key financial data for House of Herring, Inc.: (continued)

- c) Suppose the company increase dividends to $5.50 per share and then issues new shares to recoup the extra cash paid out as dividends. What happens to the with- and ex-dividend share prices? How many shares will need to be issued? Again, assume investors learn nothing from the announcement about House of Herring’s prospects.
Example II:

- House of Haddock has 5,000 shares outstanding and the stock price is $140.
- The company is expected to pay a dividend of $20 per share next year and thereafter the dividend is expected to grow indefinitely by 5% a year.
- The President, George Mullet, now makes a surprise announcement: He says that the company will henceforth distribute half the cash in the form of dividends and the remainder will be used to repurchase stock.
Example II: (continued)

- a. What is the total value of the company before and after the announcement? What is the value of one share?

- b. What is the expected stream of dividends per share for an investor who plans to retain his shares rather than sell them back to the company? (Check your estimate of share value by discounting this stream of dividends per share.)
Market Imperfections and Clientele Effect

- There are natural clients for high-payout stocks (e.g. the elderly), but it does not follow that any particular firm can benefit by increasing its dividends.
- The high dividend clientele already have plenty of high dividend stock to choose from.
- These clients increase the price of the stock through their demand for a dividend paying stock.
Dividends as Signals

- Dividend increases send *good news* about cash flows and earnings.
- Dividend cuts send *bad news*.
- Because a high dividend payout policy will be costly to firms that do not have the cash flow to support it, *dividend increases signal a company’s good fortune and its manager’s confidence in future cash flows*.

Paying out prevents managers from *misusing or wasting funds*. 
Tax Consequences

- Whenever dividends are taxed more heavily than capital gains, firms should pay the lowest cash dividend they can get away with.

- Available cash should be retained or used to repurchase shares.

- Companies can transmute dividends into capital gains by shifting their dividend policies.

Capital gains have advantages to many investors, but they are far less advantageous than they were 20 or 30 years ago (top rate tax on both is 15%)