

Managers of companies are better informed about the future prospects of companies than outside investors

- Managers of companies are better informed about the future prospects of companies than outside investors
- ► If managers pay out higher dividends, they retain less earnings

- Managers of companies are better informed about the future prospects of companies than outside investors
- ► If managers pay out higher dividends, they retain less earnings and can make less future investments

- Managers of companies are better informed about the future prospects of companies than outside investors
- ► If managers pay out higher dividends, they retain less earnings and can make less future investments
- ► This would negatively impact the value of companies

- Managers of companies are better informed about the future prospects of companies than outside investors
- ► If managers pay out higher dividends, they retain less earnings and can make less future investments
- This would negatively impact the value of companies
- If future earnings are high, this impact would be less pronounced

- Managers of companies are better informed about the future prospects of companies than outside investors
- ► If managers pay out higher dividends, they retain less earnings and can make less future investments
- ► This would negatively impact the value of companies
- If future earnings are high, this impact would be less pronounced
- Companies might use their dividends to signal their confidence in the companies prospects

- Managers of companies are better informed about the future prospects of companies than outside investors
- ► If managers pay out higher dividends, they retain less earnings and can make less future investments
- This would negatively impact the value of companies
- If future earnings are high, this impact would be less pronounced
- Companies might use their dividends to signal their confidence in the companies prospects

▶ Managers care about the current value as assessed by outside investors

Managers care about the current value as assessed by outside investors and the future value of the company, which will be revealed fully after investment

- Managers care about the current value as assessed by outside investors and the future value of the company, which will be revealed fully after investment
- Assume that a company paying high dividends is seen as having good future prospects

- Managers care about the current value as assessed by outside investors and the future value of the company, which will be revealed fully after investment
- Assume that a company paying high dividends is seen as having good future prospects and those paying low dividends as having less well prospects

- Managers care about the current value as assessed by outside investors and the future value of the company, which will be revealed fully after investment
- Assume that a company paying high dividends is seen as having good future prospects and those paying low dividends as having less well prospects
- A company will have a current value to outside investors consisting of its dividend

- Managers care about the current value as assessed by outside investors and the future value of the company, which will be revealed fully after investment
- Assume that a company paying high dividends is seen as having good future prospects and those paying low dividends as having less well prospects
- A company will have a current value to outside investors consisting of its dividend and the value of future inferred retained earnings that are invested

 $\qquad \qquad \blacksquare_{M}^{ij} = \gamma \left(d_{j} + (1+R) \left(E_{j} - d_{j} \right) \right)$

- Managers care about the current value as assessed by outside investors and the future value of the company, which will be revealed fully after investment
- Assume that a company paying high dividends is seen as having good future prospects and those paying low dividends as having less well prospects
- A company will have a current value to outside investors consisting of its dividend and the value of future inferred retained earnings that are invested
- ► The value of the company in the future will be the return on the actually retained earnings
- $\Pi_{M}^{ij} = \gamma \left(d_{j} + (1+R) \left(E_{j} d_{j} \right) \right) + (1-\gamma) \left(1 + R \right) \left(E_{i} d_{j} \right)$

- Managers care about the current value as assessed by outside investors and the future value of the company, which will be revealed fully after investment
- Assume that a company paying high dividends is seen as having good future prospects and those paying low dividends as having less well prospects
- A company will have a current value to outside investors consisting of its dividend and the value of future inferred retained earnings that are invested
- ► The value of the company in the future will be the return on the actually retained earnings
- $\Pi_{M}^{ij} = \gamma (d_{j} + (1+R)(E_{j} d_{j})) + (1-\gamma)(1+R)(E_{i} d_{j})$

$$\Pi_M^{\bar{H}H} = \gamma (d_H + (1+R)(E_H - d_H)) + (1-\gamma)(1+R)(E_H - d_H)$$

► High dividends:

$$\Pi_M^{HH} = \gamma (d_H + (1+R)(E_H - d_H)) + (1-\gamma)(1+R)(E_H - d_H)$$

Low dividends: $\Pi_M^{HL} = \gamma \left(d_L + (1+R) \left(E_L - d_L \right) \right) + (1-\gamma) \left(1+R \right) \left(E_H - d_L \right)$

$$\Pi_{M}^{HH} = \gamma (d_{H} + (1+R)(E_{H} - d_{H})) + (1-\gamma)(1+R)(E_{H} - d_{H})$$

- Low dividends: $\Pi_{M}^{HL} = \gamma \left(d_{L} + (1+R)\left(E_{L} d_{L}\right)\right) + (1-\gamma)\left(1+R\right)\left(E_{H} d_{L}\right)$
- lacktriangle Company pays high dividends if $\Pi_M^{HH} \geq \Pi_M^{HL}$

$$\Pi_{M}^{HH} = \gamma (d_{H} + (1+R)(E_{H} - d_{H})) + (1-\gamma)(1+R)(E_{H} - d_{H})$$

- Low dividends: $\Pi_{M}^{HL} = \gamma \left(d_{L} + (1+R)\left(E_{L} d_{L}\right)\right) + (1-\gamma)\left(1+R\right)\left(E_{H} d_{L}\right)$
- lacktriangle Company pays high dividends if $\Pi_M^{HH} \geq \Pi_M^{HL}$

$$\Rightarrow d_H - d_L \le \frac{\gamma(1+R)(E_H - E_L)}{\gamma R + (1-\gamma)(1+R)}$$

$$\Pi_{M}^{HH} = \gamma (d_{H} + (1+R)(E_{H} - d_{H})) + (1-\gamma)(1+R)(E_{H} - d_{H})$$

- Low dividends: $\Pi_{M}^{HL} = \gamma \left(d_{L} + (1+R)\left(E_{L} d_{L}\right)\right) + (1-\gamma)\left(1+R\right)\left(E_{H} d_{L}\right)$
- lacktriangle Company pays high dividends if $\Pi_M^{HH} \geq \Pi_M^{HL}$

$$\Rightarrow d_H - d_L \le \frac{\gamma(1+R)(E_H - E_L)}{\gamma R + (1-\gamma)(1+R)}$$

$$\Pi_{M}^{LH} = \gamma (d_H + (1+R)(E_H - d_H)) + (1-\gamma)(1+R)(E_L - d_H)$$

► High dividends:

$$\Pi_M^{LH} = \gamma (d_H + (1+R)(E_H - d_H)) + (1-\gamma)(1+R)(E_L - d_H)$$

lacktriangle Low dividends: $\Pi_M^{LL} = \gamma \left(d_L + (1+R) \left(E_L - d_L \right) \right) + (1-\gamma) \left(1+R \right) \left(E_L - d_L \right)$

$$\Pi_M^{LH} = \gamma (d_H + (1+R)(E_H - d_H)) + (1-\gamma)(1+R)(E_L - d_H)$$

- lacksquare Low dividends: $\Pi_M^{LL} = \gamma \left(d_L + (1+R) \left(E_L d_L \right) \right) + (1-\gamma) \left(1+R \right) \left(E_L d_L \right)$
- lacktriangle Company pays low dividends if $\Pi_M^{LL} \geq \Pi_M^{LH}$

$$\Pi_{M}^{LH} = \gamma (d_{H} + (1+R)(E_{H} - d_{H})) + (1-\gamma)(1+R)(E_{L} - d_{H})$$

- lacksquare Low dividends: $\Pi_{M}^{LL}=\gamma\left(d_{L}+\left(1+R\right)\left(E_{L}-d_{L}\right)\right)+\left(1-\gamma
 ight)\left(1+R\right)\left(E_{L}-d_{L}\right)$
- $lackbox{ Company pays low dividends if }\Pi_M^{LL} \geq \Pi_M^{LH}$

$$\Rightarrow d_H - d_L \ge \frac{(2\gamma - 1)(1 + R)(E_H - E_L)}{\gamma R + (1 - \gamma)(1 + R)}$$

$$\Pi_{M}^{LH} = \gamma (d_{H} + (1+R)(E_{H} - d_{H})) + (1-\gamma)(1+R)(E_{L} - d_{H})$$

- lacksquare Low dividends: $\Pi_{M}^{LL}=\gamma\left(d_{L}+\left(1+R\right)\left(E_{L}-d_{L}
 ight)
 ight)+\left(1-\gamma
 ight)\left(1+R
 ight)\left(E_{L}-d_{L}
 ight)$
- lacktriangle Company pays low dividends if $\Pi_M^{LL} \geq \Pi_M^{LH}$

$$\Rightarrow d_H - d_L \ge \frac{(2\gamma - 1)(1 + R)(E_H - E_L)}{\gamma R + (1 - \gamma)(1 + R)}$$

▶ Both conditions can be fulfilled simultaneously

- Both conditions can be fulfilled simultaneously

- Both conditions can be fulfilled simultaneously
- $\frac{(2\gamma 1)(1 + R)(E_H E_L)}{\gamma R + (1 \gamma)(1 + R)} \le d_H d_L \le \frac{\gamma (1 + R)(E_H E_L)}{\gamma R + (1 \gamma)(1 + R)}$
- ⇒ Companies can signal through high dividends that their prospects are good

- Both conditions can be fulfilled simultaneously
- $\frac{(2\gamma 1)(1+R)(E_H E_L)}{\gamma R + (1-\gamma)(1+R)} \le d_H d_L \le \frac{\gamma (1+R)(E_H E_L)}{\gamma R + (1-\gamma)(1+R)}$
- ⇒ Companies can signal through high dividends that their prospects are good

Dividends can be used to signal the future prospects of companies

- Dividends can be used to signal the future prospects of companies
- High dividends reduce the future value as less can be invested

- Dividends can be used to signal the future prospects of companies
- ► High dividends reduce the future value as less can be invested and this is only sustainable for companies with high earnings

- Dividends can be used to signal the future prospects of companies
- High dividends reduce the future value as less can be invested and this is only sustainable for companies with high earnings
- ► The value of companies paying high dividends will increase as information on its prospects is revealed

- Dividends can be used to signal the future prospects of companies
- High dividends reduce the future value as less can be invested and this is only sustainable for companies with high earnings
- ► The value of companies paying high dividends will increase as information on its prospects is revealed



Copyright (1) by Andreas Krause

Picture credits

Cover: Premier regard, Public domain, via Wikimedia Commons, https://commons.wikimedia.org/wiki/File:DALL-E_J-inancial_markets.(1).jpg

ack: Rhododendrites, CC BY-SA 4.0 https://creativecommons.org/licenses/by-sa/4.0, via Wikimedia Commons, https://upload.wikimedia.org/wikipedia/commons/0/04/Manhattan-at-night.south-of-Rockefeller-Center-panorama-(11263p).jpj

Andreas Krause Department of Economics University of Bath Claverton Down Bath BA2 7AY United Kingdom

E-mail: mnsak@bath.ac.uk