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# Dividend irrelevance and moral hazard

- Dividends are paid out of the earning of a company and form an important source of income to some investors; they are also used as the cash-flow to investors that determine the value of shares.
- We will see here that on the one hand it does not affect the value of shares if dividends are paid out or retained, but that, on the other hand, it might change the incentives of the managers of a company of dividends are paid out.

# Dividends and equity increases

- Dividends represent the payments made to shareholders of a company and reduce the equity the company holds
- This reduction in equity could lead to a reduction in investments the company can make
- Companies can raise equity to increase the investments they can make
- Dividends enter the formula valuing the company and reducing them should reduce the company value

# Dividends and equity increases

- → We will briefly have a look at the impact the payment of dividends has on the equity of a company.
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    - Dividends are paid to shareholders of the company, or in general the owners of the company.
    - Making these payments reduces the equity of the company; this is because dividends are paid from the profits of the company and these profits belong to the equity holders. Therefore profits increase the equity of a company and dividends are paid out from this.
- Having less equity could mean that the company has less funds available and hence can make less investments. Therefore, dividend payments may reduce the investments a company can make.
- On the other hand, companies can raise additional equity to compensate for the reduced equity from dividend payments.
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    - When using the discounted cash-flow model to value companies, it was the present value of future dividends that determined the stock value.
    - Reducing dividends to increase investments would then reduce the stock value.
- → Hence, despite maintaining the investments at the same level, reducing the dividend should according to this valuation formula reduce value of the stock.

# Replacing dividends with equity increases

- The current price should reflect the present value of the future dividend and the price that can be obtained
- $P_t = \frac{d_{t+1}+P_{t+1}}{1+\mu}$
- A company makes investments which are financed by retained earnings and the issue of new shares
- $I_{t+1} = (E_t - d_{t+1}) + S_{t+1}$

$\Rightarrow$ $d_{t+1} = E_t + S_{t+1} - I_{t+1}$

$\Rightarrow$ $P_t = \frac{E_t+S_{t+1}-I_{t+1}+P_{t+1}}{1+\mu}$

- Dividends are not part of the value of the company and hence dividends are irrelevant

# Replacing dividends with equity increases

→ We will now show that paying dividends will actually not affect the value of the company.

- - The current price of the stock should reflect the present value of the future dividend
  - and the price that can be obtained in the future.
- *Formula*
- - The investments a company can make are those they can make with funds they have available after paying the dividend
  - and any new shares they issue. We neglect debt here by assuming it is kept constant.
- *Formula*
- [⇒] We can solve this equation for the dividend the company pays
- [⇒] and then insert this expression into the current value of the company
- - We see that the dividends are not part of the value of the stock, it is only the level of investment compared to the share issue that is relevant.
  - We can therefore conclude that dividends are irrelevant.

→ If new shares are issued to recover paid out dividends, the value of the company is not affected.

# Pay out and take back

- Dividend payments can be made at any level and the funds paid out recovered through issuing shares
- The overall value of the company is not affected
- This result is known as Miller and Modigliani's dividend irrelevance
- Implicitly it assumes that companies can continue with investments that add the same value in the future as they have in the past

# Pay out and take back

- → We can now look at the logic behind the result that dividends do not affect the company value.
- Companies can pay dividends and then raise new funds by issuing new shares to reduce the lost equity.
- There is no overall effect on the value of the company. This is because the future prospects of the company are not affected, they make the same investments, regardless of the dividends they pay. The dividend payment is replaced by the same or different shareholders and hence there is no net change in the position of shareholders.
- This result is one of the cornerstones of corporate finance and known as the Miller and Modigliani dividend irrelevance,
- An implicit assumption here is that the company has investment available in the future that are adding the same value to the company as those they had in the past. If the profits these future investments generate change, the value of the company will change. This change is independent of the dividend payment, however.
- → Hence as long as companies can replace the equity they lose due to dividend payments with new share issues, the company value is unaffected by the amount of dividends a company pays.

# Excess cash holdings

- Companies generating earnings usually accumulate cash
- This cash can be used to make investments or pay dividends
- If not sufficient good investments are available, managers might use the excess cash on vanity projects or excessive benefits
- This moral hazard would reduce the value of the company

$\Rightarrow$ Paying dividends can reduce moral hazard and increase company value

→ So far we assumed that companies make full use of their available funds and investment them effectively. We will now look at a scenario where this might not be the case and dividends can play a role in providing incentives to use available funds effectively.

- Companies making profits usually accumulate increasing cash position as not all profits need to be re-invested immediately; they might have to be retained for a longer time until replacement investments are required.
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  - This cash they accumulate can, until it is needed, be used to make other investments
  - or pay dividends.
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  - If no profitable investments are available to the company, the manager might be tempted to use the funds to invest into projects that benefit them personally, for example by enlarging their company through mergers, entering unprofitable markets that might give him influence in trade organisations or build his personal; reputation in the hope of being offered a better-paid role in another company.
  - Managers might also seek to grant themselves excessive benefits, such as luxurious personal offices, private jets, membership in exclusive clubs, and similar, under guise of being more efficient or important for networking, or the importance of having a representative building.
- Making such investments can be interpreted as moral hazard and will reduce the value of the company as the funds available are used ineffectively.
- [⇒]
  - If high dividends are paid, this reduces the ability of the manager to make such inefficient investments, thus it reduces the moral hazard.
  - As the inefficient investments are not conducted due to the lack of available funds, the company value will increase.

→ Increasing dividends would increase company value due to the more efficient use of the available resources.



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