

## FINA1082 – FINANCIAL MANAGEMENT

### Dividend Policy

#### Tutorial Solution for Lecture 18

##### A. Short Answer Questions

A1. In the context of dividend policy, discuss the meaning of the following terms:

- a. Asymmetric information;
- b. Scrip dividends;
- c. Shareholder perks

(a) **Asymmetric information**

In the context of dividends and dividend policy, this refers to the fact that shareholders and managers have incomplete and different information in an imperfect market. Managers do not know how shareholders will react to a dividend change and shareholders are not party to the information available to managers. The result of this information asymmetry is the information content of dividends, where dividends are seen to have signalling properties.

(b) **Scrip dividends**

Scrip dividends are an issue of ordinary shares to the shareholders as an alternative to a cash dividend. One advantage to the company is in cash flow terms, since it does not have to pay out a cash dividend. Scrip dividends may be attractive to shareholders who want to increase their stake in a company while avoiding dealing costs.

(c) **Shareholder perks**

Shareholders are offered a wide range of incentives by companies in addition to dividends, such as vouchers that can be redeemed against goods and subsidised travel on ferries. Such perks can be viewed as a way of increasing shareholder loyalty as well as rewarding shareholders.

A2.

Discuss whether a policy of paying out no dividends means that a company has no value.

If a firm pays out zero dividends, then according to the dividend growth model it has no value. However, the dividend growth model is only a guide to the value of a firm, and there are many cases of companies which pay zero or negligible dividends, for example, young companies who are reinvesting profits for growth. Such companies will attract investors looking for capital growth, or who expect dividends in future periods, when the model can be applied.

A3. Chapter 16 Question 16 of BMA 10 Edition

An article on stock repurchase in the *Los Angeles Times* noted: "An increasing number of companies are finding that the best investment they can make these days is in themselves." Discuss this view. How is the desirability of repurchase affected by company prospects and the price of its stock?

If markets are efficient, then a share repurchase is a zero-NPV investment. Suppose that the trade-off is between an investment in real assets or a share repurchase. Obviously, the shareholders would prefer a share repurchase to a negative-NPV project. The quoted statement seems to imply that firms have only negative-NPV projects available.

Another possible interpretation is that managers have inside information indicating that the firm's stock price is too low. In this case, share repurchase is detrimental to those stockholders who sell and beneficial to those who do not. There might also be tax benefits to conducting share repurchases versus issuing dividends. Putting these issues aside it is difficult to see how this could be beneficial to the firm.

A4. Chapter 16 Question 17 of BMA 10 Edition

Comment briefly on each of the following statements:

- a. "Unlike American firms, which are always being pressured by their shareholders to increase dividends, Japanese companies pay out a much smaller proportion of earnings and so enjoy a lower cost of capital."
- b. "Unlike new capital, which needs a stream of new dividends to service it, retained earnings have zero cost."
- c. "If a company repurchases stock instead of paying a dividend, the number of shares falls and earnings per share rise. Thus stock repurchase must always be preferred to paying dividends"

a. This statement implicitly equates the cost of equity capital with the stock's dividend yield. If this were true, companies that pay no dividend would have a zero cost of equity capital, which is clearly not correct.

b. One way to think of retained earnings is that, from an economic standpoint, the company earns money on behalf of the shareholders, who then immediately re-invest the earnings in the company. Thus, retained earnings do not represent free capital. Retained earnings carry the full cost of equity capital (although issue costs associated with raising new equity capital are avoided).

c. If the tax on capital gains is less than that on dividends, the conclusion of this statement is correct; i.e., a stock repurchase is always preferred over dividends. This conclusion, however, is strictly because of taxes. Earnings per share is irrelevant.

A5.

It is said that financial management is concerned with investment decisions, dividend decisions and financial decisions. Critically discuss why financial management theory has claimed that only investment decisions have any importance, and that decisions about financing and dividends depend upon a firm's optimal investment schedule.

Modigliani and Miller argued that share valuation is a function of corporate earnings, which reflect a firm's investment policy, and that the investment decisions responsible for a firm's future profitability are the *only* determinants of its market value. Share valuation is therefore, independent of the level of dividend. They argued that:

- investors are indifferent between receiving capital gains or dividends on their shares;
- the firm's optimal investment policy is to invest in *all* projects yielding a positive NPV, since in a perfect market there is no capital rationing and the firm can obtain required funds at the market rate of interest;
- the company may pay a dividend if it wishes to do so, since any shortfall of funds can be made up by issuing new equity.

Under Modigliani and Miller, then, a firm's choice of dividend policy, given its investment policy, is really a choice of financing strategy. Shareholders who want cash can make 'home-made' dividends by selling shares. Modigliani and Miller's argument clearly rests on a number of assumptions, as follows.

- Capital markets are perfect, which means that:
  1. investors are rational;
  2. information is freely available and costless;
  3. transactions are freely available and without cost;
  4. no one investor is big enough to affect the market price.
- The issue of securities is without cost.

- No taxes exist.

In contrast to the dividend irrelevance theory is one arguing for the relevance of dividend policy to share valuation, which holds that dividends are preferred to capital gains due to certainty. A number of the assumptions made by Modigliani and Miller are claimed to be unrealistic.

- Transaction costs are not zero if investors sell their shares to create 'home-made' dividends, and so capital gains are not a perfect substitute for dividends in cash flow terms.
- Taxation does exist at both the corporate and personal level.
- Securities are not without cost to float, but incur issue costs.
- Information is not freely available.

While these shortcomings undermine the Modigliani and Miller theory, they do not invalidate it. In fact, empirical research since Modigliani and Miller's paper was published has tended to support it.

## **B. Problems**

B1. "If a company pays a dividend, the investor is liable for tax on the total value of the dividend. If instead the company distributes the cash by stock repurchase, the investor is liable for tax only on any capital gain rather than on the entire amount. Therefore, even if the tax rates on dividend income and capital gains are the same, stock repurchase is always preferable to a dividend payment." Explain with a simple example why this is not the case. (Ignore the fact that capital gains may be postponed.)

Assume that all taxpayers pay a 20% tax on dividend income and 10% tax on capital gains. Firm A pays no dividends but investors expect the price of Firm A stock to increase from \$40 to \$50 per share. Firm B pays a dividend of \$5 per share and investors expect the price of Firm B stock to be \$45 next year. [Note that B's position  $\$45 + \$5 \text{ dividend} = \$50$  which is the same for A, The capital gain = Next year's price – Today's price] Results for Firm A are:

Before-tax rate of return	$(\$50 - \$40) / \$40$ $= 25.00\%$
Tax on dividend at 20%	\$0.00
Tax on capital gains at 10%	$0.10 \times \$10.00 = \$1.00$
Total after-tax income (dividends plus capital gains less taxes)	$(\$0) + (\$10 - \$1)$ $= \$9.00$
After-tax rate of return	$\$9 / \$40 = 22.50\%$

The price of Firm B stock today must adjust so as to provide an after-tax return equal to that of Firm A. Let X equal the current price of Firm B stock. Then, for Firm B:

Next year's price	\$45.00
Dividend	\$5.00
Today's stock price	X
Capital gain	$\$45 - X$
Before-tax rate of return	$[\$5 + (\$45 - X)] / X$
Tax on dividend at 20%	$0.20 \times \$5.00 = \$1.00$
Tax on capital gains at 10%	$0.10 \times (\$45 - X)$
Total after-tax income	$[\$5 + (\$45 - X)] - [\$1 + 0.10 \times (\$45 - X)]$

(dividends plus capital gains less taxes)

The price of Firm B stock adjusts so that the after-tax rate of return for Firm B is equal to 22.5%, the after-tax rate of return for Firm A. To find today's price for Firm A stock, solve the following for X:

$$\frac{[\$5 + (\$45 - X)] - \{ \$1 + [0.10 \times (\$45 - X)] \}}{X} = 0.225 \Rightarrow X = \$39.56 \approx \$40$$