

Chapter 10: The Determinants of Dividend Policy

1.

True

True

False

2. This means that firms generally prefer not to change dividends, particularly downwards. One explanation for this is the “clienteles hypothesis.” That is, firms tend to have a certain class of shareholders who depend upon the firm’s dividend policy to obtain funds for consumption on a regular basis. When the firm lowers its dividends frequently or unexpectedly, these shareholders have to sell some of their shares and incur transactions costs in order to obtain funds for consumption purposes. If the firm increases dividends, they have to incur transactions costs when they reinvest these funds. (However, see the answer to the next question as well.)

3. Markets interpret decreased dividends as signals that the firm is not expecting to do well, which of course sends the stock price lower. Increased dividends on the other hand generally send stock prices higher. Hence firms are less reticent about increasing dividends provided they can maintain the higher level of dividends.

4. The Modigliani-Miller argument assumes:

There are no transactions costs in converting dividends into stock and vice-versa.

It is not costly for a firm to issue new stock.

The investment decisions of the firm are unaffected by its dividend policy.

Managers of firms that pay very low dividends relative to free cash flow do not misuse the funds.

There is no tax advantage or disadvantage to dividends.

Firms with significant holdings by institutional investors such as pension funds, who are tax exempt might meet these conditions. First, they do not bear any tax penalty by receiving dividends. Second, these shareholders might have greater economies of scale and hence, lower transactions costs in generating homemade dividends. Third, if they hold significant fractions of the firm’s stock, they might be more activist and monitor managers to a greater extent.

5. This is not always true. If tax rates are very low, or if the tax rates are equal for capital gains and dividend income, there will be very little tax disadvantage to dividends. This is of course, always true for investors who are themselves tax-exempt. However, there is always a tax-timing option for capital gains, in that capital gains are taxable only when realized, and the investor can choose to realize them at times when his/her marginal tax rate is low.

6. The firm might attempt to lower dividends in order to use the funds for capital expenditures. Shareholders, might however, be unhappy with this. Markets might also misinterpret this. However, if the firm announces the new situation ahead of time, it may be possible for the firm to acquire a new clientele that is happier with the lower dividend yield.

7. Since dividends are generally sticky, firms increase dividends only when they believe they can maintain the new level of dividends. Consequently, an announcement of higher dividends is often interpreted as an indication that the firm has information unavailable to the market that its earnings are going to increase to a permanently higher level. There is a fair number of studies that show that the cumulative abnormal returns to a dividend increase announcement are positive.

7. Yes. If the reason for the dividend increase is an acknowledgement that it cannot continue to make investments at acceptable rates of return, this would be a negative signal. However, there is not much empirical evidence of this.

8.

$\frac{P_B - P_A}{D} = \frac{1 - t_o}{1 - t_{cg}}$. Substituting, we find $(50 - 46.5)/5 = (1 - t_o)/(1 - 0.4t_o)$. Solving, we get $t_o =$

41.67%

10. The ex-dividend day equality is $\frac{P_B - P_A}{D} = \frac{1 - t_o}{1 - t_{cg}}$. For shareholders who are

companies, the effective tax rate on dividends is 15% of the ordinary corporate tax rate on ordinary income, because 85% of these dividends are exempt from taxes. Hence the

equality becomes $\frac{P_B - P_A}{D} = \frac{1 - 0.15t_o}{1 - t_{cg}}$.

11. By buying the stocks before the payment of dividends, receiving the dividend and selling them afterwards, the tax exempt investor realizes $(48 - 50) + 4 = \$2$, $(67 - 70) + 4 = \$1$, and $(95 - 100) + 5 = \$0$ respectively from the three stocks. However, there is the risk, that prices might move even more unfavorably between the purchase and resale. This risk can be reduced by attempting dividend arbitrage on a large number of stocks across a large number of ex-dividend days.

12. We solve the equation $\frac{10 - 9.2}{1} = \frac{1 - 0.5}{1 - 0.5/(1.1)^n}$. Solving, we find $n = 3.02$ or 3 years,

approximately.

13.

$\frac{P_B - P_A}{D} = \frac{1 - 0.15t_o}{1 - t_{cg}}$. Substituting, $\frac{10 - P_A}{0.5} = \frac{1 - 0.15(0.4)}{1 - 0.28}$. Solving, $P_A = \$9.35$.

14. Since the announced dividend increase is only 2%, i.e. less than the expected increase, there might be a price drop following the announcement.
15. Under the hypothesis that this indicates lower growth, one might expect a lower price. However, there may be other reasons for this as well. For example, the firm might now find it cheaper to use more debt financing thus freeing up some of the free cash flow for dividend payments.
16. In this case, there is less reason to expect that the increase in dividends is a negative signal, since the firm was already paying dividends; most high-growth firms pay no dividends at all. Hence there will probably be a price increase.
17. If the firm were followed by a lot of analysts, there might be less of a surprise for the market when it gets the dividend increase announcement. Consequently, we'd expect less of a price change.
18. In this case, the dividend confirms the bad news, and there might be some price drop because of a corroboration effect.
19. It seems that shareholders were worried about managers misusing free cash flow. Hence the payment of increased dividends would be an indication of potentially better management of the firm's resources. The market might reward this with a price increase.
20. Nabisco's bonds would probably drop in value because of the reduced asset base available for satisfaction of promised payments to bondholders.
21. If there are other ways to discipline managers, then increased dividends would be less necessary, since free cash flow is less of a problem. The firm might then reduce dividends so as to have funds available for emergencies.
22. Dividend payout ratios might rise, since the dividend tax penalty is reduced.
23. Lower dividends imply increased funds with firms for reinvestment. If the government wants to provide incentives for investment, this might be one method (although not necessarily an optimal strategy).
24. If the excess cash is a one-time phenomenon, then a special dividend or an equity buyback might be appropriate, so that investors do not misinterpret the dividend payout. Which of these two methods is chosen might depend on whether management feels that the stock is currently undervalued and on whether its shareholders have tax preferences for capital gains or have heterogeneous tax situations. In all these cases, a stock buyback would be indicated.

25. Signaling benefits are positively related to firm commitment to continue the action. A special dividend clearly indicates no such commitment at all, whereas an equity buyback might indicate some commitment. On the other hand, a regular dividend carries the definite implication that the firm will try to maintain the new dividend level.

26. It could. However, it would be much more efficient to use the windfall to make up the projected dividend decrease. However, if the dividend decrease is due to structural reasons that cannot be avoided, the firm might also make a simultaneous announcement to allow shareholders to make alternate arrangements and hence smoothly change its shareholder clientele.

27. Any time that shareholders have their options curtailed, they are generally hurt. In this case, presumably the price paid to the targeted shareholder is higher than the market price. This would dilute the value of the remaining shares, and might even help shield managerial inefficiency.

28a. If the interest rate is lower than the return on assets, the EPS will rise.

b. However, this is not necessarily optimal. If the tax and managerial discipline advantages to the increased leverage are outweighed by the agency and bankruptcy costs, the stock price will probably drop.

c. If higher leverage is indicated, the price will go up.

29 a. Current market value of debt = current market value of stock = $\$42 * 1 \text{ million} = \42 million

After \$5 million of debt is retired, total debt becomes \$37 million

$EPS = (15,000,000 - 37,000,000 * 10\%) (1 - 40\%) / (1,000,000 - 100,000) = \7.53

b. Current $EPS = (15,000,000 - 42,000,000 * 10\%) (1 - 40\%) / 1,000,000 = \6.48

Current P/E ratio = $\$42 / \$6.48 = 6.48$

The new price would be $\$7.53 * 6.48$ or $\$48.79$ per share. It is lower than the tendering price of \$50. The management would probably argue that the P/E ratio would be higher, leading to a higher price.

c. If the stocks are bought back at the ongoing market price, it is less likely that the market would believe the argument made by the management that the stock is underpriced.

d. The answer to (b) and (c) may differ if the management is allowed to tender shares. The prices would go down because the market may conclude that the management is trying to unload its shares.

30. a. The repurchase option gives $(1 - 0.28)(30 - 27) = \$2.16$ per share, after tax, assuming that the post-dividend price is the tax basis for shareholders. The dividend option gives shareholders an after-tax payout of $\$3(1 - 0.6) = \1.20 per share. Hence the buyback option is preferable.

b. If the firm's shareholders are mainly other corporations, the relative preference of shareholders would be for dividends (since 85% of dividends are tax-exempt), and we would recommend the dividend route.

31 a.

	Without Borrowing	With Borrowing
EBIT	20	20
Interest Exp.	0	4.8
EBT	20	15.2
Taxes	10	7.6
Net Income	10	7.6
No. of Shares	100,000	60,000
EPS	100	126.67

b. The interest rate on debt would have to be 12.5% for the EPS effect to disappear.

32. The firm might want to divest the tobacco division in order to insulate the rest of the firm from the expected liability. There may, however, be covenants on the debt restricting the ability of the firm to undertake such an action.

33. If the price drop is due to the market's perception that management is not efficient, the split off will not help as long as the management of the divisions does not change. The firm should look to changing the management of at least one of the divisions. This can help if the market thinks that the current management has moved out of its core competency, or that it is stretched too thin.

34. The price increase could be due to several reasons. If the market feels that association of a given division of the firm with a second division is disadvantageous because of the burden of potential liabilities from the second division or if the first division is unable to raise funds at advantageous rates because of the association with the second division, a spinoff can raise value. A spinoff can also transfer wealth from bondholders because bondholders lose the diversification effect of the firm having several businesses.

35. The market will see through this maneuver. There might even be a negative effect, since the action indicates management's desperation.

36. The market might have felt that there was some unwarranted cross-subsidization of the Limited by the other divisions. This would explain a positive price response.

37. The restrictions on financing policy for the regulated component might make it difficult for the firm to raise funds for the non-regulated divisions on the best terms. This is because some of the restrictions might apply to the firm as a whole.

38. A spinoff or splitoff might make it easier for analysts to value a firm since the new firms now provide more detailed information by division. There are other reasons for spinoffs and splitoffs, such as disencumbering one division of restrictions on or more of the other divisions. Firms where such a situation exists would be more likely to undertake a spinoff or a splitoff.

39. The allocation of these costs is an accounting act. Divestiture will not reduce the amount of these costs. Although it is true that the buyer of the divested business will not have to pay these costs, the existing firm will. In the case of JC Conglo, which is a conglomerate, it is possible that the organizational structure is not sufficiently shallow. This might prevent efficient management of the firm. There may be some positive effects of keeping the firm as is: for example, retained earnings from one division could be used for capital expenditures in the other divisions. Other examples of greater flexibility could be pointed out.

40. The stockholders presently want to reduce free cash flow under the control of managers. The suggested action would not achieve this, and stockholders would not be satisfied.