**Dividends and Dividend Policy**

**Learnings Problems**

**Answer Keys**

**Problem: Stock Transactions**

1. Topley’s fractional ownership in Elmer will remain the same in each alternative.

**3-for-1 Stock Split**

**Before**

= $\frac{50,000}{1,250,000}$ = 0.04 or 4.0%

**After**

=$\frac{\left(3\right)(50,000)}{\left(3\right)(1,250,000)}$ = 0.04 or 4.0%

**10% Stock Dividend**

**After**

= $\frac{\left(1+ .10\right)(50,000)}{\left(1+.10\right)(1,250,000)}$ = 0.04 or 4.0%

**1-for-2 Reverse Split**

**After**

= $\frac{(\frac{50,000}{2})}{(\frac{1,250,000}{2})}$ = 0.04 or 4.0%

1. The value of Topley’s investment in Elmer will remain the same in each alternative.

**Initial Value**

**Company**

(1,250,000) (86) = 107,500,000

**Investment**

(50,000) (86) = 4,300,000

**3-for-1 Stock Split**

(107,500,000 / (3) (1,250,000)) = 28.6667

(28.6667) (3) (50,000) = 4,300,000

**10% Stock Dividend**

(107,500,000 / (1 + .10) (1,250,000)) = 78.1818

(78.1818) (1.10) (50,000) = 4,300,000

**1-for-2 Reverse Split**

(107,500,000 / (.5) (1,250,000)) = 172

(172) (.5) (50,000) = 4,300,000

1. A stock split may increase the value of Elmer’s share on an after-split basis. This is caused by improved market liquidity, specifically increased trading volume and returning the share price to its preferred trading range. Also, the split signals to investors that the company’s strong performance will continue in the future especially if the share price is reduced below the last split price. Finally, the publicity surrounding the split will attract new investors and cause equity analysts following the firm to raise their earnings forecasts.

Industry research indicates that stock dividends do not have the same effect which is likely due to their smaller size compared to a stock split. Reverse stock splits generally hurt a firm’s share price as management is signaling that the decline is permanent.

**Problem: Factors Influencing Dividend Decisions**

1. Smithers should favour **lower dividends** as its earnings are needed to finance future growth. It should not issue additional shares because the founder could potentially lose control.
2. Rampart should favour **higher dividends** as it has modest interest and principal payments because of its low debt ratio. Paying high dividends may also help raise the debt ratio to its optimal level.
3. Stella should favour **lower dividends** to ensure it has sufficient funds to meet its high working capital and capital spending requirements as well its dividend in a cyclical downturn. Reducing the dividend in a downturn would signal to the market that the company is having difficulty so it must be avoided.
4. Dexter should favour **lower dividends** as it is a fast-growing start-up company in need of financing. Financial institutions are hesitant to lend to Dexter because of its limited credit history and weak collateral. The collateral consists of mostly patents and deferred development costs that lack physical substance like land, buildings, and equipment – these intangible assets can lose their value quickly if technology changes. Issuing additional equity would also be very expensive.
5. Rascal should favour **lower dividends** so it can comply with its current ratio requirement by retaining more cash.
6. Abigale should favour **lower dividends** so it can finance its operations internally instead of raising high-cost equity.
7. Oscar should favour **higher dividends** to reduce the size of its large portfolio of liquid assets to lower agency costs. These short-term investments do not earn the company’s cost of capital.
8. Waterson should favour **higher dividends** to signal to the market that despite the recent plant closures, its prospects are bright with four new projects currently under development.
9. Tutor should favour **higher dividends** as the beneficiaries of the endowment fund likely want more dividends to maximize their current earnings to support a higher standard of living.
10. Wilson should favour **lower dividends** as its shareholders are largely long-term investors saving outside of a tax-sheltered account who prefer capital gains because of the lower tax rate and the ability to defer taxes.
11. Wilson should favour **lower dividends** so it has enough financial flexibility to participate in these projects if they become available.
12. Grison should favour **higher dividends** as it is a mature business with considerable free cash flows that are shielded from international competition resulting in more stable earnings.

**Problem: Different Dividend Policies**

1. Hecla should set its regular cash dividend at a level that can always be paid even in an economic downturn. If it has surplus cash during an economic upturn, it should distribute the funds to shareholders using an extra dividend or stock repurchase to avoid having to possibly cut its regular dividend in the next slowdown. Cutting a regular dividend signals to investors that a company is having financial difficulty and they react to this news by selling their shares. Extra dividends or stock repurchases are not viewed as permanent by investors so cutting them generally does not lower the share price.
2. Jefferson should pay out its surplus cash using a special dividend or stock repurchase. This will reduce agency costs by getting the funds out of the business where they cannot be wasted by management or held in low-yielding, short-term investments. Using a special dividend or stock repurchase also signals to investors that this is truly a one-time payment unlike a regular dividend or even an extra dividend if it is paid too often.
3. Pension plans only pay taxes when funds are distributed to plan members in retirement, while endowments funds do not pay tax at all. Taxes are not relevant to these investors, so Jasmine should distribute the surplus cash using either a dividend or stock repurchase. If a dividend is used, Jasmine should be careful to label it as an extra dividend so investors do not view it as permanent. A regular dividend should only be used if the payments can be maintained.
4. As a start-up, Big Sky should not be paying dividends or repurchasing stock as it needs all of its retained earnings to finance its future growth. If it was going to distribute funds, a stock repurchase would be best as capital gains are taxed at a lower rate and it would allow the venture capitalists and other investors who did not want to sell to maintain their investment and defer paying capital gains taxes.
5. Once a company’s regular dividend is increased it is strongly recommended that it not be reduced as it will likely be viewed negatively by investors and its share price will fall. Floyd could attempt to convince shareholders of the potential of its new investment opportunity to prevent them from selling. Sometimes companies try to accomplish this by declaring a stock dividend. This type of dividend is not worth anything to shareholders, but some managers feel it signals that the dividend is being reinvested in more lucrative business opportunities. Industry research does not support this position.
6. Hanna should use a DRIP to raise new equity without paying high fees to an investment banker. It may give some of these savings to its shareholders by providing price discounts on share purchases. A concern is that the DRIP may not generate sufficient funds so some equity may still have to be raised publicly.
7. Able should use a 3-to-1 stock split to reduce its share price to its preferred range. A stock split will likely be viewed as favourable by the markets as it signals that the company’s strong past performance will continue. This is especially true if the share price after the split is set well below the bottom of the preferred range. Investors feel that the company’s future performance will be even stronger.
8. Lincoln should use a reverse stock split to return the company’s share price to its preferred range. A low share price may also result in the stock being dropped from its trading exchange or any stock indexes in which it is included. Investors will likely interpret the reverse split negatively as it signals the company’s financial prospects are not going to improve.
9. Devers should use a liquidating dividend. This type of dividend is not taxable as it is a return of capital and not a distribution of earnings.
10. The market will likely overreact to the news of the CEO’s resignation. Helmond should support its share price by repurchasing shares during this difficult period until the market corrects itself. The company can also profit from buying shares when they are undervalued.
11. Crandle should buy back stock to offset the dilution of earnings per share caused by its share-based compensation plans.
12. Ramone is planning to expand into a new industry to diversify its sales. It likely has little knowledge of this new industry which will result in sizeable agency costs. The company should avoid these costs by not diversifying and distributing its surplus cash using an extra dividend or stock repurchase immediately.
13. Simpson should only implement a regular cash dividend if it can maintain it in future periods. It never knows whether it will have sufficient cash to pay the dividend as investment opportunities are erratic. Simpson should not offer a regular dividend but distribute surplus cash when possible using a stock repurchase as investors do not view these as permanent.
14. Cadence should use a stock repurchase to signal to investors that its share price is undervalued. Management has insider information about the company’s future performance, so investors are likely to buy shares thus bidding up their price.
15. A Dutch-auction bid should be used instead of an open-market share repurchase to get the lowest price possible.
16. Atlantic should use a stock repurchase to raise its earnings per share so executives can meet their earnings targets and maximize their compensation. A well-designed pay plan though should adjust performance targets so managers are not unfairly rewarded.
17. Under a NCIB with the TSX, Cleveland can repurchase up to 5% of its shares over 12 months with no more than 2% purchased in any 30-day period. It is not obligated to buy back the total amount announced and can repurchase more with board approval. This provides Cleveland with considerable flexibility to time the equity markets.
18. Henderson should introduce a DRIP with an OCP feature so investors can reinvest their dividends and buy additional shares. To encourage greater investment, Henderson should offer price discounts and not limit the number of shares that investors can be purchased.

**Problem: Dividend Policy for a Mature Firm**

1.

* A high dividend payout is appropriate given the company’s large free cash flows and limited growth potential. Free cash flows are the funds remaining each year after replacing depreciated assets and funding asset growth. Free cash flows should be paid out as dividends so shareholders can re-invest them profitably. They should not be held by the company in low-yielding, short-term debt instruments or wasted on unprofitable projects like mergers and acquisitions.
* Dividends should be kept at a level that provides management with adequate financial flexibility and ensures they will not have to be reduced in a downturn. Dividends should only be increased if they can be supported in most economic scenarios.
* Cutting the dividend will have a dramatic negative effect on the share price, so the company might build-up larger than normal cash reserves in periods when cash flows are high or maintain a less than optimal debt ratio to ensure the availability of needed cash. The company never wants to refuse positive NPV projects to pay the dividend.
* Extra dividends can be used to eliminate excess cash balances, but they should not be overused as investors will start to view them as regular dividends. Stock repurchases are preferred as investors typically view them as one-time payments. They also allow the company to time the equity markets and give shareholders more choice as to when they receive their payouts and how they are taxed.
* Share repurchases should be used if the share price becomes undervalued, but asymmetric information should not be a major factor given that large, mature companies are more closely followed by market analysts.
* Most of the shareholders are tax-free (i.e. inter-corporate dividends are not taxed) or tax-deferred (i.e. pension plans only pay taxes when funds are distributed to the plan members) investors, so the cash dividend or stock repurchase decision is not relevant from a tax perspective.
* Managers own few shares in the company, so they will be tempted to retain cash and possibly engage in investment activities that are not in shareholders’ best interests. Higher dividends will reduce the potential for agency costs.

**Problem: Dividend Policy for a Growth Firm**

1.

* Given the company’s high growth prospects, limited borrowing capacity, and high-risk level, dividends should not be paid out. Banks are unlikely to lend against intangible assets such as patents because their values are difficult to measure and unstable. High-risk companies also have more difficulty borrowing.
* Once the company goes public in an initial public offering, raising new capital will be very expensive as issuance costs are very high for younger, smaller firms, so all earnings should be retained for expansion. Additional equity issues will still be needed if retained earnings are insufficient.
* Current and future owners are taxed on any dividends or realized capital gains, so minimizing dividends and maximizing capital gain deferrals through the re-investment of earnings is recommended.
* Stock repurchases may be used to maintain a stable sales and after-sales market for the company’s shares during the initial public offering.
* After the initial public offering, stock repurchases may be used to signal to the market that the company has excellent prospects, but only if the cash flows are not required to fund growth.

**Problem: Change in Dividend Policy**

1.

* Agency costs are being incurred. The company should not have diversified into wind and solar generators to invest surplus cash. Not providing directors or executives with stock options caused this misstep as they were not concerned about raising the share price. They instead focused on expanding the size and profile of the company which likely increased their pay and benefits.
* The wind and solar businesses should be sold off so the company can re-focus on its core business as they do not have the necessary expertise. The proceeds should be used to pay down debt, which is currently excessive.
* Raise regular dividends over time so they are appropriate for a mature company.
* Regular dividends should be set at a level that can be met during a cyclical low. Only raise regular dividends if they can be funded over a full business cycle.
* Stock repurchases or extra dividends can be used to distribute surplus cash in the short term.
* Conversion from a mature to a growth company and the lowering of the dividend probably confused shareholders and caused the share price to fall. Returning to the previous dividend policy should correct this problem.