Dividend Policy

"Companies are returning a lot of money to shareholders through dividends and buybacks. And a lot of people say that's not a good use of capital. I think that's normal reallocation of capital."[1]

INTRODUCTION TO DIVIDEND POLICY

This lecture note provides a broad overview to dividend policy, covering the following topics:

1. Valuation of stocks with the dividend-discount model
2. Mechanics of dividends
3. The impact of dividend policy in perfect capital markets
4. Dividends and taxes
5. Dividends as a signaling mechanism
6. Dividends versus share repurchases.

A dividend is one of the primary mechanisms for returning cash to shareholders. Most mature and profitable firms pay regular cash dividends. There are exceptions, notably, growth companies like Amazon and, famously, Berkshire Hathaway. Per the lecture note, *Using NPV to Make Investment Decisions*, Jeff Bezos in 1997 stressed cash flows over earnings in Amazon's inaugural shareholder letter. Nothing has changed on this point over the past twenty-six years. And Amazon has yet to pay a cash dividend, despite a market capitalization of roughly $1.3 trillion as of September 2023.

+[1] Jamie Dimon, JPMorgan CEO.

THE DIVIDEND DISCOUNT MODEL

The value of an asset is the sum of the expected future cash flows discounted at the appropriate discount rate. Likewise, a firm's value is the sum of the expected future cash flows discounted at the firm's cost of capital. For a stock, the expected future cash flows to a shareholder are the dividends the firm will pay out over its expected life. Shareholders also think of terms of selling the stock and realizing expected capital gains (or losses). That is, the expected return to the stock over the next year is:

Eq. 1 $\qquad$ Expected Return on Share of Stock $= E[\,R_s\,] = \dfrac{E[DIV_1]}{P_0} + \dfrac{E[P_1] - P_0}{P_0}$

According to Equation 1, the expected return on the share of stock this year is equal to the sum of the expected dividend and the expected capital gain on holding the stock, all divided by the current stock price. For example, the dividend yield on the average stock in the Dow 30 is roughly 1.9%. If the expected capital gain on the average Dow 30 stock is 6.9%, then the expected return is equal to 8.8%.[2]

We can rewrite Equation 1 as the derivation of the current stock price:

Eq. 2 $\qquad P_0 = \dfrac{E[DIV_1]}{\left[1 + R_S\right]} + \dfrac{E[P_1]}{\left[1 + R_S\right]}$

Equation 2 expresses that the current price of a stock is equal to the expected dividend at the end of the year and the price of the stock at the end of the year, all discounted at the stock's cost of equity capital. And the cost of equity capital on the stock is simply the expected return on other stocks with the same risk (or else the law of one price would not hold, and thus arbitrage would occur).

Given we can express the current price as a function of the expected dividend this year and the price at the end of next year, we can do the same for the expected price at the end of next year:

Eq. 3 $\qquad E[P_1] = \dfrac{E[DIV_2]}{\left[1 + R_S\right]} + \dfrac{E[P_2]}{\left[1 + R_S\right]}$

That is, at the end of the year, the shareholder looking to determine the price, P_1, will estimate the dividend, DIV_2, at the end of year two, as well as the price, P_2, at the end of year 2, and discount back one period to obtain P_1. Likewise, we can express today's price as a function of the expected dividends for the next two years and the price at the end of the second year:

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[2] Note that we are simply describing the expected return of a stock in a different way than we did with the CAPM or some other asset-pricing model. We are not replacing the CAPM, rather, simply presenting a different way to think about expected returns. In the case of the 8.8% expected return to the Dow 30, you can also think of this return as being generated from the CAPM or other asset-pricing model. We are simply bifurcating the expected return into the dividend component and the capital gain component.

$$\boxed{\text{Eq. 4}} \qquad P_0 = \frac{E[DIV_1]}{[1+R_s]} + \frac{E[DIV_2]}{[1+R_s]^2} + \frac{E[P_2]}{[1+R_s]^2}$$

Expanding over the expected life of the corporation, we can express the current price as the summation of the discounted expected future dividends, as well as a liquidating price in the final period (which can extend to infinity). That is, as shown in Equation 5:

$$\boxed{\text{Eq. 5}} \qquad P_0 = \frac{E[DIV_1]}{[1+R_s]} + \frac{E[DIV_2]}{[1+R_s]^2} + \frac{E[DIV_3]}{[1+R_s]^3} + \dots + \frac{E[DIV_F]}{[1+R_s]^F} + \frac{E[P_F]}{[1+R_s]^F}$$

$$P_0 = \sum \frac{E[DIV_i]}{[1+R_s]^i} + \frac{E[P_F]}{[1+R_s]^F}$$

Equation 5 is simply the discounted cash-flow formula for a stock. Even though Amazon hasn't paid a dividend since going public in 1997, it has a high stock valuation because of the expectation of high dividends in the future, even if at a far-off date. While the dividend-discount model is theoretically the correct way to value a stock, this doesn't mean it is as feasible for a company like Amazon, where other stock valuation models may be employed.

MECHANICS OF DIVIDEND DISTRIBUTIONS

In our context, the term *dividend* usually refers to a cash dividend, though some companies issue stock dividends. For those public corporations which pay cash dividends, the dividend is typically paid quarterly, and is sometimes supplemented by an extra or a special dividend.

For an example, Goldman Sachs declared a quarterly cash dividend of $2.75 per common share on July 17, 2023, payable on September 28, 2023, to shareholders of record on August 31, 2023. To ensure there is no uncertainty about whether or a not an investor owns the shares on August 31, 2023, Goldman's stock will trade ex-dividend one business day before the record date. That is, if an investor purchases shares in Goldman's stock on or after August 30, 2023, she will not receive the $2.75 cash dividend payable on September 28, 2023. Thus, August 30, 2023 is the ex-dividend date (and thus will not receive the quarterly dividend) and August 29, 2023, the day prior, is the last date that an investor will receive the dividend for that quarter.[3]

MILLER AND MODIGLIANI: DIVIDEND POLICY IN PERFECT CAPTIAL MARKETS

The prevailing wisdom in corporate boardrooms, on Main Street or Wall Street, is that dividend policy influences shareholder wealth. A common argument is that since CEOs can control dividend policy,

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[3] This practice is referred to as T+2 settlement which took effect on September 5, 2017. Prior, settlement was generally T+3.

dividends are less risky than capital gains. As a result, the commonly-held view is that dividend-paying stocks have a lower cost of capital, and thus it benefits firms to pay dividends. An influential paper by Miller and Modigliani published in 1961 issued a strong challenge to this conventional wisdom.[4] They show that under certain assumptions, dividend policy does not alter firm value, and that instead firm value is driven by the operating assets on the left-hand side of the balance sheet.

> *"Like many other propositions in economics, the irrelevance of dividend policy, given investment policy, is obvious once you think of it. It is, after all, merely one more instance of the general principle that there are no financial illusions in a rational and perfect economic environment. Values there are determined solely by real considerations—in this case the earnings power of the firm's assets and its investment policy—and not by how the fruits of the earnings power are packaged for distribution." (p. 414, Miller and Modigliani, 1961).*

Miller and Modigliani did not necessarily seek to discredit the views of practitioners about the importance of dividend policy. Instead, their objective was to understand when and why dividend policy matters. And to do so, it is necessary to begin with restrictive assumptions:

    (1) Perfect capital markets: there are no taxes or transactions costs, and all investors have access to the same information set (there is no information asymmetry)

    (2) Rational behavior: investors prefer to maximize wealth and are indifferent to how wealth arises.

To illustrate the Miller and Modigliani theory on dividend policy, consider the fictional firm, ALLEQUITY, which has a market capitalization of $1 billion, with a stock price of $20 per share and 50 million outstanding shares. Given the name, ALLEQUITY does not have any debt outstanding.[5] Due to steady growth, ALLEQUITY reinvests all its operating cash flows back into the business to expand. Moreover, ALLEQUITY does not have any excess cash on its balance sheet. ALLEQUITY has never paid a dividend.

ALLEQUITY decides to end its no-dividend policy and plans to pay a one-time dividend of $0.50 per share to its existing shareholders. Given that ALLEQUITY has no excess cash, it will finance the dividend by issuing new shares. The new shareholders, or existing shareholders wishing to add to their positions, will not receive the $0.50 dividend on the new shares.[6] Table 1 depicts the $0.50 per share dividend financed by the new equity issue.

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[4] Merton Miller and Franco Modilgiani, "Dividend Policy, Growth, and the Valuation of Shares", *Journal of Business* (1961).
[5] Note that this assumption of zero debt does not influence the theoretical conclusion reached by Miller and Modigliani.
[6] Note that ALLEQUITY could also finance the dividend by selling new debt, but for this setting, it is important that the dividend is paid by a new share issuance.

Table 1

	April 20	April 22	May 15
	Announcement Date	New Issue and Ex Dividend Date	Payment Date
Cash	0	25	0
Operating Assets	1,000	1,000	1,000
Total Market Value	1,000	1,000	1,000
Shares (millions)	50.00	51.28	51.28
Stock Price	$20.00	$19.50	$19.50

As shown in Table 1, the equity issue will only be subscribed at $19.50 (or less, in which case it would be oversubscribed and thus pushing the price up to $19.50) since the new shares will not be entitled to the dividend.[7] Given 50 million shares are outstanding, ALLEQUITY will raise 1.28 million new shares to finance the $0.50 dividend. Note that on April 22, the total market value of $1 billion does not incorporate the $25 million increase from the new equity issue, as that cash is restricted, that is, it is intended for the cash dividend.

From the viewpoint of an original investor who owned 100 shares in ALLEQUITY, the value of their holdings was $2,000 before the dividend payment. After the issuance of the new shares, they held the same number of shares, but at a stock price of $19.50. Thus, the value of their holdings has declined to $1,950. But due to the cash dividend payout, they have received $50.00 additional cash per share, therefore they still hold the same amount of wealth, $2,000, as was the case before the dividend payment.

Given zero taxes in the Miller and Modigliani model, the stock price will drop by the amount of the dividend on the ex-dividend date, (or else arbitrage will occur). That is, if stock prices decline by less than the dividend, then arbitrageurs will buy shares the day beforehand, collect the dividend and receive a capital loss less than the amount of the dividend. And if the stock price declines more than the amount of the dividend, then arbitrageurs will short the stock the day before, realize a gain on their short position, which more than offsets the amount of the dividend they must pay because of shorting the stock.

Miller and Modigliani conclude that, given the assumptions, dividend policy does not create value. A firm's value is driven by the value of the assets-in-place and growth options on the left-hand side of the balance sheet, rather than by the disbursement of the resulting cash flows.

The prevailing wisdom when Miller and Modigliani published their seminal work on dividend policy, and still expressed today by many practitioners, is that dividends are less risky than capital gains and thus lead to higher share prices, all else being constant. The notion is that a lower discount rate can be attached to the near-term dividend stream versus the capital gains and hence, the creation of shareholder value on

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[7] Suppose that ALLEQUITY attempts to sell the new shares at $20.00, in which case 1.25 million new shares would be issued. But the ex-dividend price would then be $19.51 ($1,000/51.25), in which case the new investors immediately realize a loss and therefore will not purchase the shares at a price exceeding the ex-dividend date price.

the right-hand side of the balance sheet. That is, if management has more control over the dividend payout than over the stock price, the argument is that the cost of capital can be lowered by paying dividends. But if the firm can reduce the cost of capital for the original shareholders, then it is offsetting this reduction with an increase in the cost of capital for the new shareholders. However, there is no reason for new shareholders to bear more risk than what they are being compensated for. Moreover, if shareholders wish to manufacture dividends, they can do so, even for stocks which don't pay dividends. That is, there is relatively little cost for shareholders to sell shares in a company that doesn't pay dividends, and thus mimic the dividend policy of a firm which pays dividends. To this point, the Miller and Modigliani dividend arguments mirror their prior work on capital structure, whereby investors can replicate a firm's capital structure at no cost.

Dividend-paying stocks tend to have a lower cost of capital than stocks which do not pay dividends. But this is not driven by dividend policy. Rather it is driven by the lower riskiness of the assets on the left-hand side of the balance sheet. For example, utility firms have low cost of capital and high dividend yields. The low cost of capital is driven by the relatively low asset beta of utility firms, not by a high dividend yield. And given the tangible nature of the assets on the left-hand side of the balance sheet, utility firms tend to pay out their cash flows as dividends. That is, dividend policy is endogenous – driven internally rather than by outside factors -- to the underlying risk of the assets on the left-hand side of the balance sheet.

DIVIDENDS AND TAX POLICY

Miller and Modigliani chose to assume zero taxes in their model, not out of naivety, rather because they recognized that taxes do matter and thus can significantly influence dividend policy. Historically, dividends have been taxed at a higher rate than capital gains. Since 2013, however, dividends and capital gains have both been taxed at the rate of 23.8%.[8] Given that capital gains are deferred until the shares of stock are sold, and can be deferred indefinitely, capital gains still hold a tax advantage over dividends, which are paid out quarterly.

To illustrate the impact of taxes on dividends, consider the generic firm, DIVIDEND, with the following assumptions:

(a) All investors face a marginal tax rate of 23.8% on dividends and capital gains
(b) All investors are strictly buy-and-hold, and therefore haves no realization of capital gains
(c) DIVIDEND has expected cash flows of $200 million per year
(d) DIVIDEND has zero expected growth and net income equals cash flow
(e) DIVIDEND returns all cash flows to its shareholders
(f) Shareholders have excess capital losses to shield any taxes on capital gains
(g) Investors require an after-tax return of 8.0%

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[8] The 23.8% is the tax rate for individual investors in the highest tax bracket and consists of a 20.0% base tax rate plus a 3.8% Obamacare investment income surcharge. The recent 2017 tax bill did not alter the tax rate on investment income put into effect in 2013.

(h) There is no debt.

Initially, assume DIVIDEND does not distribute cash flows as dividends. Rather it repurchases shares each year to return excess cash to shareholders. Assuming no growth, the value of DIVIDEND is:[9]

$$\boxed{\text{Eq. 6}} \qquad V = \$2.5 \text{ billion} = \frac{\$200 \text{ million}}{0.08}$$

Suppose DIVIDEND decides to pay out 50% of its net income as dividends and will repurchase shares to distribute the residual cash flows to the shareholders. Thus, rather than repurchasing $200 million of stock from its shareholders, DIVIDEND will pay $100 million via dividends and the residual $100 million via share repurchases.

Since shareholders value after-tax returns, DIVIDEND's decision to institute a dividend reduces shareholder wealth. From the context of the shareholder, the value of DIVIDEND is:

$$\boxed{\text{Eq. 7}} \qquad V = \$2.2025 \text{ billion} = \frac{\$100 \text{ million} \times [1 - 0.238]}{0.08} + \frac{\$100 \text{ million}}{0.08}$$

Thus, DIVIDEND's decision to pay out 50% of its net income in the form of dividends results in an 11.9% decrease in its shareholder value, due to cash flows now allocated to the IRS in taxes, which otherwise would have gone to the shareholders. By assuming all investors face the marginal tax rate of 23.8% and moreover that all capital gains can be offset with capital losses elsewhere, these assumptions magnify the loss in value. If instead, shareholders realize all capital gains annually and have no offsetting capital losses, then there is no tax disadvantage to paying dividends.

The above analysis is based on after-tax stock returns, whereas we observe pre-tax stock returns in financial markets. If shareholders of DIVIDEND require an after-tax stock return of 8%, the pre-tax expected stock return must increase to 9.08% after instituting the dividend. That is:

$$\boxed{\text{Eq. 8}} \qquad E[R_E] = 9.08\% = \frac{\$200 \text{ million}}{\$2.2025 \text{ billion}}$$

Academic researchers have found support for the tax argument that high-dividend yield firms realize higher returns than low-dividend yield firms. However, the results are not nearly as dramatic as would be expected by the example above, which assumes that all shareholders face a positive tax rate on dividends but can avoid taxes on capital gains. Investors often realize capital gains on stocks[10], on which they pay taxes, thus decreasing the gap between dividend payments and share repurchases as a method to return capital to shareholders.

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[9] The $2.5 billion value assumes all excess cash has been distributed and it will be one year before the next distribution.

[10] As an aside, if you are in a high marginal tax bracket, and assuming you make charitable donations, it is tax efficient to gift shares on which you must pay capital gains tax on due to being able to gift the profits and receive a tax reduction benefit without having to pay any taxes since you are not realizing the profit. This is especially the case for stocks which have appreciated several times in value.

Tax rates vary substantially across investor groups. High net-worth investors in states such as California, Illinois, and New York, for example, have high marginal tax rates on dividends, versus tax-free endowments and pension funds. Consequently, high-tax rate investors are likely to avoid high dividend yielding stocks. And the empirical evidence is consistent with this prediction. However, not all retail investors avoid dividend stocks. Indeed, there is a clientele of specific retail investors who wish to "clip" dividends, thereby realizing taxes. Meanwhile, institutional tax-free investors tend to load up relatively more on high dividend yielding stocks, given they offer high-expected returns on a risk-adjusted basis than comparable low-dividend yielding firms. The net result of this clientele effect -- tax-free institutions that buy high-dividend yield stocks with relatively high pre-tax expected returns -- is to push their prices higher, and thus their returns lower, than if only taxable investors held these stocks.

Tax-free investors don't need to own the shares they purchase permanently. They can purchase the shares of the high-dividend stocks on the cum-dividend date and then sell the shares on the ex-dividend date, a practice referred to as dividend capture. Suppose DIVIDEND pays a quarterly dividend of $0.50 per share, and initially, only taxable investors hold the shares, and face the marginal tax rate of 23.8%.[11] Given the 23.8% tax rate, DIVIDEND's stock price will decline $0.38 on the ex-dividend date and thus create an arbitrage opportunity for tax-free investors. That is, a tax-free investor will buy shares of DIIVIDEND at the close on the cum-dividend date (and thus received the dividend) and sell the shares at the open on the next day, the ex-dividend date. To hedge out overnight systematic risk, the arbitrageur can short S&P 500 futures based on DIVIDEND's beta. Ideally, the arbitrageur will capture the $0.50 dividend and realize a capital loss of $0.38 for an overall profit of $0.12 per share.

The above example is an extreme case of dividend arbitrage. Investors do not allow this arbitrage opportunity to persist, as tax-free investors will bid up the stock well in advance of the ex-dividend date.
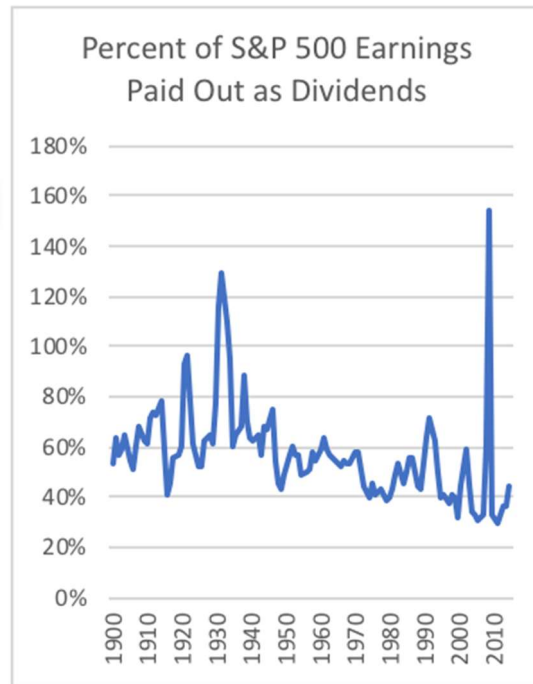

DIVIDEND PAYOUT TRENDS

Historically, firms have paid out roughly 50% of their net earnings as dividends. Figure 1 displays the dividend-payout ratio for S&P 500 firms, which shows a slight decline since World War II.

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[11] Note we are assuming no state income taxes, rather only federal.

Figure 1

Percent of S&P 500 Earnings Paid Out as Dividends

Dividends tend to be quite sticky, that is, they mostly remain constant quarter to quarter. And as Table 2 illustrates, dividend cuts are extremely uncommon. Moreover, as noted in Table 2, most public firms do not pay dividends, largely due to their small size.

Table 2

Annual Dividend Changes

Unchanged Zero Dividends	65%
Dividend Initiatives	3%
Dividend Terminations	2%
Continued Dividends	30%
Increases	60%
No Change	20%
Decreases	20%

Table 2 is consistent with recent survey evidence of financial executives who answered YES to the following questions:[12]

    (a) Try to avoid reducing the dividend: 94%
    (b) Try to maintain a smooth dividend stream: 90%
    (c) Reluctant to make a change that may have to be reversed: 78%
    (d) Would prefer external funds versus dividend cut to undertake project: 65%

These recent survey results of financial executives are consistent with a classic survey paper by John Lintner of Harvard Business School over fifty years ago. Lintner found that CEOs prefer stable dividends with persistent growth and set dividends as a target percentage of earnings. Very little has changed since Lintner's survey as CEOs exhibit a preference for stable dividends that remain constant, raising them only when they are convinced that growth is long lasting.   And they prefer not to cut dividends, consistent with the empirical evidence on changes in dividends.

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DIVIDENDS AS SIGNALS

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In perfect capital markets, dividend announcements do not provide new information. For example, Miller and Modigliani's model of dividend policy assumes all investors possess the same information, that is, shareholders are privy to the same information as possessed by management. Numerous academic studies have analyzed the stock price reaction to dividend announcements. When firms increase their dividends substantially, stock prices increase 1-3% surrounding the announcement. And when firms cut their dividends, stock prices decline 5-8% on average, (a substantially larger magnitude). Thus, such dividend changes must convey new and unexpected information to investors.

 A large amount of research has focused on the impact of dividends signaling future profitability. The literature is so extensive that there are several academic papers which provide lengthy reviews and summaries of the massive empirical research on dividend policy. Overall, the empirical results have been remarkably weak in establishing an empirical link between changes in dividends and subsequent changes in future profitability. As a result, the signaling models have somewhat fallen out of favor. More recent research documents that while dividend changes do not predict changes in future profitability, dividend changes are predictive of the volatility of future profitability. For example, cash-flow volatility decreases following increases in dividend payouts and increases following decreases in dividend payouts. These results better help us interpret the survey evidence that managers are more likely to increase dividends when they are reasonably confident they will not have to decrease their dividends down the road.[13]

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[12] Brav, Alon, Graham John, Harvey, Campbell, and Michaely, Roni, "Payout Policy in the 21st Century," *Journal of Financial Economics*, 2005.

[13] Michaely, Roni, Rossi, Stefano, and Weber, Michael, "Signalling Safety," *Journal of Financial Economics*, 2021.

DIVIDENDS VERSUS SHARE REPURCHASES

When Miller and Modigliani wrote their paper on dividends, share repurchases were used infrequently by corporations. But today share repurchases are as important as dividends in returning excess cash to shareholders. We can think of share repurchases as the opposite of equity issues.

Companies typically repurchase shares of common stock via open-market stock repurchase programs. For example, on February 26, 2019, Home Depot announced a $15 billion stock repurchase program which would take place over the next three years. Assuming no new share issuance, this repurchase program would reduce Home Depot's shares by over six percent during the next three years. Home Depot has been a serial repurchaser, having repurchased over a third of its shares during the past ten years. Home Depot is not obligated to complete the program and can repurchase its shares just like any investor would, though subject to certain restrictions. In March 2020, Home Depot suspended its share repurchase program as part of several steps the company took to shore up liquidity during the COVID-19 outbreak. In February 2021, Home Depot announced its resumption of the 2019 repurchase program and subsequently announced an extension of the share repurchase program in August 2022.

Stock Buyback by REPURCHASE

In perfect capital markets, shareholders are indifferent as to whether the firm returns cash via dividends or repurchases. That is, there is no valuation impact for shareholder repurchases, as shareholders can replicate a share repurchase by selling her shares (just as we saw that a shareholder can create or undo dividends). I will demonstrate below via a simple example.

Consider REPURCHASE, a firm with assets-in-place valued at $1 billion, growth options valued at $200 million and excess cash of $75 million. Assume REPURCHASE has no debt. Thus, its market capitalization is $1.275 billion. With 50 million shares outstanding, the current stock price is $25.50. We label the cash of $75 million as excess cash; that is, this cash is not necessary to fund the existing assets-in-place or even the growth options.

Table 3

	Before Repurchase	After Repurchase
Excess Cash	75	0
Assets-in-Place	1,000	1,000
Growth Options	200	200
Market Capitalization	1,275	1,200
Shares	50.00	47.06
Stock Price	25.50	25.50

Suppose management wishes to distribute the excess cash to shareholders via a share repurchase program rather than increasing its dividend rate or paying a special dividend. Table 3 displays REPURCHASE's market-value balance sheet information before and after the share repurchase. REPURCHASE buys back 2.94 million shares at the current price of $25.50 for a total repurchase amount of $75 million. Since we assume capital markets are perfect, there is no information about the value of the assets-in-place or the value of the growth options, and thus the repurchase announcement doesn't signal any new information about the value of the firm. Consequently, there is no share price impact.

Taxes and Share Repurchases (versus Dividends)

As discussed earlier, a dividend payout reduces the after-tax cash flows to taxable shareholders. With share repurchases, high tax-rate investors are not required to sell their shares in the open market when corporations engage in share repurchase programs. Consequently, there is a tax advantage to share repurchases, versus dividends, as a means of redistributing capital to shareholders.

With everything else remaining constant, a corporation which distributes all cash flows to shareholders via open-market repurchase programs will have a higher valuation than an identical firm which distributes its cash flows via dividends, since the after-tax cash flows will be higher for the firm which repurchases its shares. But as we point out below, dividend payout may have signaling advantages relative to share repurchases.

Signaling and Share Repurchases (versus Dividends)

Like dividends, share repurchases can signal private information known by management to external shareholders. If management believes the corporation's shares are undervalued, a share repurchase program announcement will convey managements' belief. And assuming that management acts on behalf of its shareholders, management will not announce a share repurchase program if they believe the shares are overvalued. Otherwise, the share repurchase program benefits the selling shareholders at the expense of the long-term shareholder, because of repurchasing overvalued stock. The average stock price reaction to share repurchase announcements is roughly 2-3 percent, which is consistent with the notion that management believes their shares are undervalued when announcing these programs.

A key difference between the signal from a dividend initiation, and a dividend increase from a share repurchase program, is that changes in dividends tend to reflect information about long-term future earnings. As discussed earlier, corporations tend to increase dividends when management is reliably confident about the long-term future cash flows of the corporation. Thus, the signal is often more material than the signal from a share repurchase program that the stock may temporarily undervalued. Moreover, management is extremely hesitant to cut dividends, whereas with share repurchase programs, they tend to not always follow through and purchase the entire amount of shares allotted in the program when announced.

SUMMARY

It has been over sixty years since Miller and Modigliani published their seminal work on dividend policy. The prevailing view at the time, both in academia and in practice, was that dividends are safer than capital gains and thus the payout of dividends increases firm value. Today, in many corporations, this view remains widely held, and especially at the boardroom level -- that dividends are safer than capital gains. But this view is incorrect, as shown by Miller and Modigliani.

Dividend policy surely matters, or else CEOs wouldn't spend so much talking about dividend payouts. Clearly, the payment of dividends to taxable investors is value reducing, all else equal. But investors are rational and make optimal decisions. In other words, taxable investors are less likely to hold high-dividend payout stocks. And while stock prices do respond significantly to changes in dividends, researchers have been unable to find robust links between dividend changes and resulting changes in profitability. However, this does not mean that management didn't expect increased profits when they increased dividends, or decreased profits when they decreased dividends. Instead, profitability is driven by a multitude of factors and external shocks, which can result in considerable variability to profits.

Perhaps the most important takeaway from the theoretical work led by Miller and Modigliani and the enormous amount of empirical results that have been gathered subsequently, is that what really matters with respect to creating shareholder wealth is for managers to invest in +NPV projects, and reject -NPV projects, as this is where value is created or destroyed. And the primary purpose of capital structure and distribution decisions is to support the value created on the left-hand side of the balance sheet.