

CHAPTER 10

DIVIDEND POLICY

At the end of each year, every publicly traded company has to decide whether to return cash to its stockholders and, if yes, how much in the form of dividends. The owner of a private company has to make a similar decision about how much cash he plans to withdraw from the business, and how much to reinvest. This is the dividend decision, and we begin this chapter by providing some background on three aspects of dividend policy. One is a purely procedural question about how dividends are set and paid out to stockholders. The second is an examination of widely used measures of how much a firm pays in the dividends. The third is an empirical examination of some patterns that firms follow in dividend policy.

Having laid this groundwork, we look at three schools of thought on dividend policy. The dividend irrelevance school believes that dividends do not really matter, because they do not affect firm value. This argument is based upon two assumptions. The first is that there is no tax disadvantage to an investor to receiving dividends, and the second is that firms can raise funds in capital markets for new investments without bearing significant issuance costs. The proponents of the second school feel that dividends are bad for the average stockholder because of the tax disadvantage they create, which results in lower value. Finally, there are those in a third group who argue that dividends are clearly good because stockholders (or at least some of them) like them.

Although dividends have traditionally been considered the primary approach for publicly traded firms to return cash or assets to their stockholders, they comprise only one of many ways available to the firm to accomplish this objective. In particular, firms can return cash to stockholders through equity repurchases, where the cash is used to buy back outstanding stock in the firm and reduce the number of shares outstanding. In addition, firms can return some of their assets to their stockholders in the form of spin offs and split offs. This chapter will focus on dividends specifically, but the next chapter will examine the other alternatives available to firms, and how to choose between dividends and these alternatives.

Background on Dividend Policy

In this section, we consider three issues. First, how do firms decide how much to pay in dividends, and how do those dividends actually get paid to the stockholders? We next consider two widely used measures of how much a firm pays in dividends, the dividend payout ratio and the dividend yield. We follow up by looking at some empirical evidence on firm behavior in setting and changing dividends.

The Dividend Process

Firms in the United States generally pay dividends every quarter, whereas firms in other countries typically pay dividends on a semi-annual or annual basis. Let us look at the time line associated with dividend payment and define different types of dividends.

The Dividend Payment Time Line

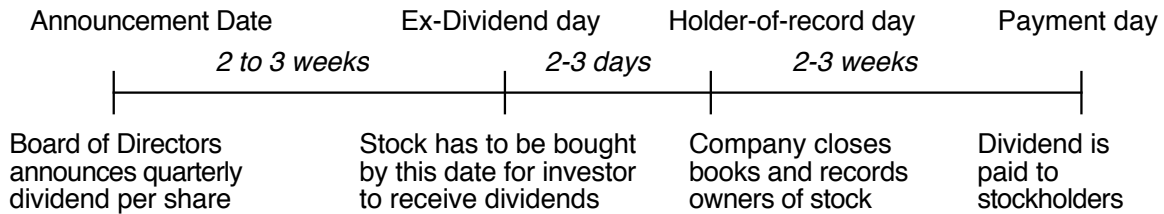
Dividends in publicly traded firms are usually set by the board of directors and paid out to stockholders a few weeks later. There are several key dates between the time the board declares the dividend until the dividend is actually paid.

- The first date of note is the **dividend declaration date**, the date on which the board of directors declares the dollar dividend that will be paid for that quarter (or period). This date is important because by announcing its intent to increase, decrease, or maintain dividend, the firm conveys information to financial markets. Thus, if the firm changes its dividends, this is the date on which the market reaction to the change is most likely to occur.
- The next date of note is the **ex-dividend date**, at which time investors have to have bought the stock in order to receive the dividend. Since the dividend is not received by investors buying stock after the ex-dividend date, the stock price will generally fall on that day to reflect that loss.
- At the close of the business a few days after the ex-dividend date, the company closes its stock transfer books and makes up a list of the shareholders to date on the **holder-of-record date**. These shareholders will receive the dividends. There should be generally be no price effect on this date.
- The final step involves mailing out the dividend checks on the **dividend payment date**. In most cases, the payment date is two to three weeks after the holder-of-record

date. While stockholders may view this as an important day, there should be no price impact on this day either.

Figure 10.1 presents these key dates on a time line.

Figure 10.1: The Dividend Time Line



Types of Dividends

There are several ways to classify dividends. First, dividends can be paid in cash or as additional stock. **Stock dividends** increase the number of shares outstanding and generally reduce the price per share. Second, the dividend can be a **regular dividend**, which is paid at regular intervals (quarterly, semi-annually, or annually), or a **special dividend**, which is paid in addition to the regular dividend. Most U.S. firms pay regular dividends every quarter; special dividends are paid at irregular intervals. Finally, firms sometimes pay dividends that are in excess of the retained earnings they show on their books. These are called **liquidating dividends** and are viewed by the Internal Revenue Service as return on capital rather than ordinary income. Consequently, they can have different tax consequences for investors.

Measures of Dividend Policy

We generally measure the dividends paid by a firm using one of two measures. The first is the **dividend yield**, which relates the dividend paid to the price of the stock:

$$\text{Dividend Yield} = \text{Annual Dividends per share} / \text{Price per share}$$

The dividend yield is significant because it provides a measure of that component of the total return that comes from dividends, with the balance coming from price appreciation.

$$\text{Expected Return on Stock} = \text{Dividend Yield} + \text{Price Appreciation}$$

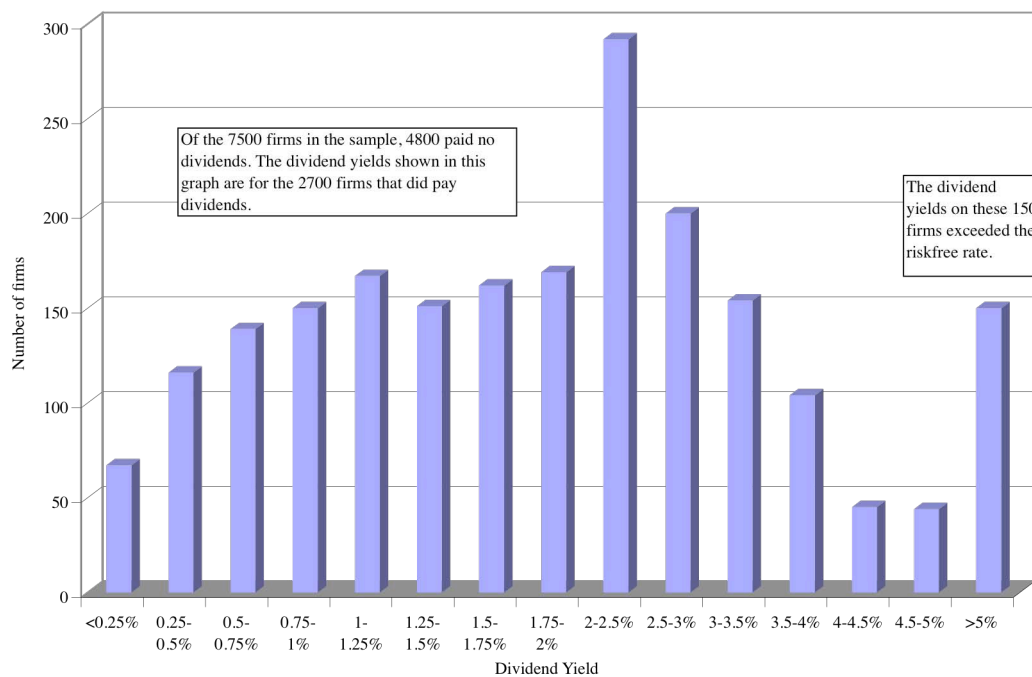
Some investors also use the dividend yield as a measure of risk and as an investment screen, i.e., they invest in stocks with high dividend yields. Studies indicate that stocks

with high dividend yields earn excess returns, after adjusting for market performance and risk.

Figure 10.2 tracks dividend yields on the 2700 listed stocks in the United States that paid dividends on the major exchanges in January 2004. Note, though, that 4800 firms out of the total sample of 7500 firms did not pay dividends. Strictly speaking, the median dividend yield for a stock in the United States is zero.

Dividend Yield: This is the dollar dividend per share divided by the current price per share.

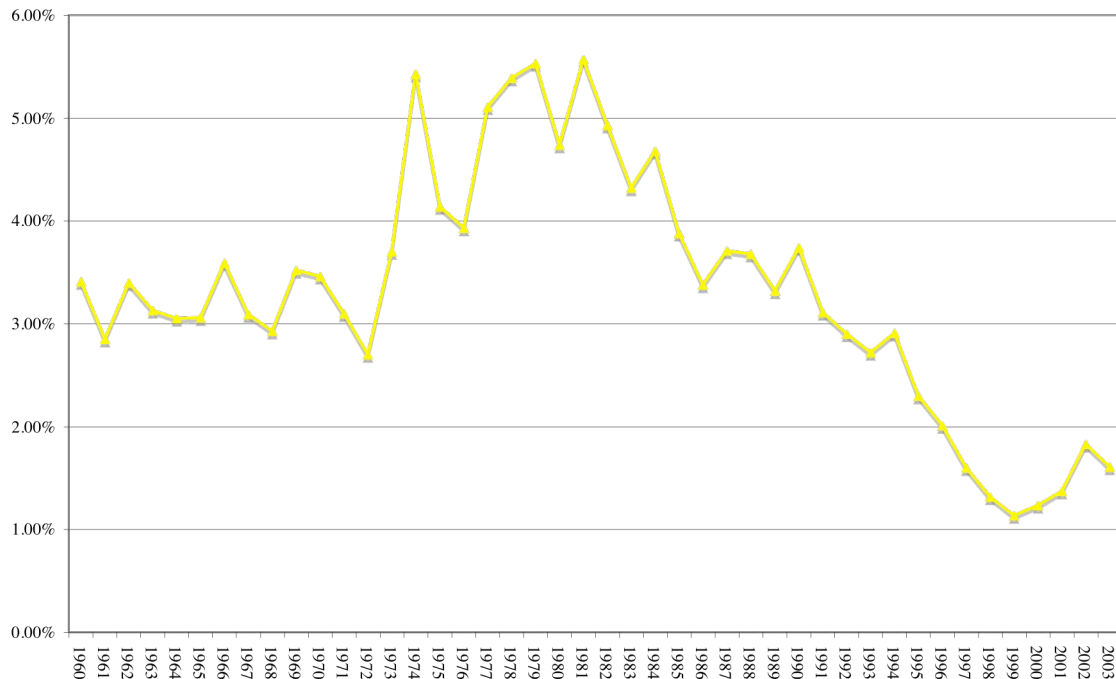
Figure 10.2: Dividend Yields: Dividend Paying firms in the United States - January 2004



^a Estimated using Value Line data on companies in January 2004

The median dividend yield among dividend paying stocks is 1.80%, and the average dividend yield of 2.12% is low by historical standards, as evidenced by Figure 10.3, which plots average dividend yields by year from 1960 to 2003.

Figure 10.3: Dividend Yield for U.S. stocks - 1960 - 2003



^a Estimated using S&P 500 data from 1960 to 2003; Source is Bloomberg.

The second widely used measure of dividend policy is the **dividend payout ratio**, which relates dividends paid to the earnings of the firm.

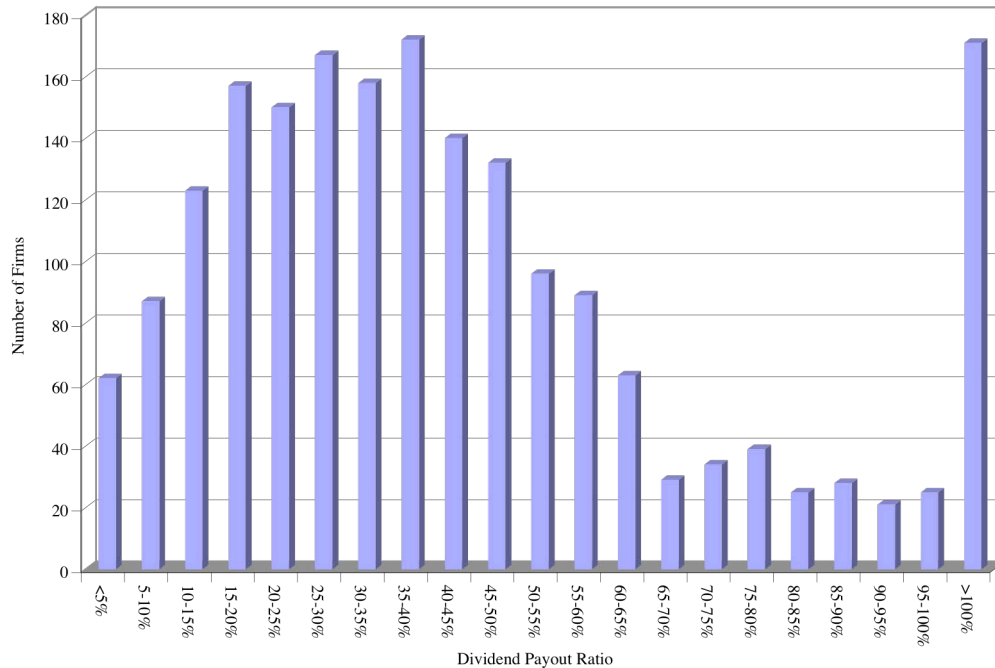
$$\text{Dividend Payout Ratio} = \text{Dividends} / \text{Earnings}$$

The payout ratio is used in a number of different settings. It is used in valuation as a way of estimating dividends in future periods, since most analysts estimate growth in earnings rather than

Dividend Payout: This is the dividend paid as a percent of the net income of the firm. If the earnings are negative, it is not meaningful.

dividends. Second, the retention ratio — the proportion of the earnings reinvested in the firm ($\text{Retention Ratio} = 1 - \text{Dividend Payout Ratio}$) — is useful in estimating future growth in earnings; firms with high retention ratios (low payout ratios) generally have higher growth rates in earnings than do firms with lower retention ratios (higher payout ratios). Third, the dividend payout ratio tends to follow the life cycle of the firm, starting at zero when the firm is in high growth and gradually increasing as the firm matures and its growth prospects decrease. Figure 10.4 graphs the dividend payout ratios of U.S. firms that paid dividends in January 2004.

Figure 10.4: Dividend Payout Ratios for Dividend Paying U.S. Companies - January 2004



^a Estimated using Value Line data on companies in January 2004

The payout ratios greater than 100% represent firms that paid out more than their earnings as dividends. The median dividend payout ratio in January 2004 among dividend paying stocks, was about 30 % while the average payout ratio was approximately 35%.

10.1. 📁 : Dividends that Exceed Earnings

Companies should never pay out more than 100% of their earnings as dividends.

- a. True
- b. False

Explain.



divUS.xls: There is a dataset on the web that summarizes dividend yields and payout ratios for U.S. companies from 1960 to the present.

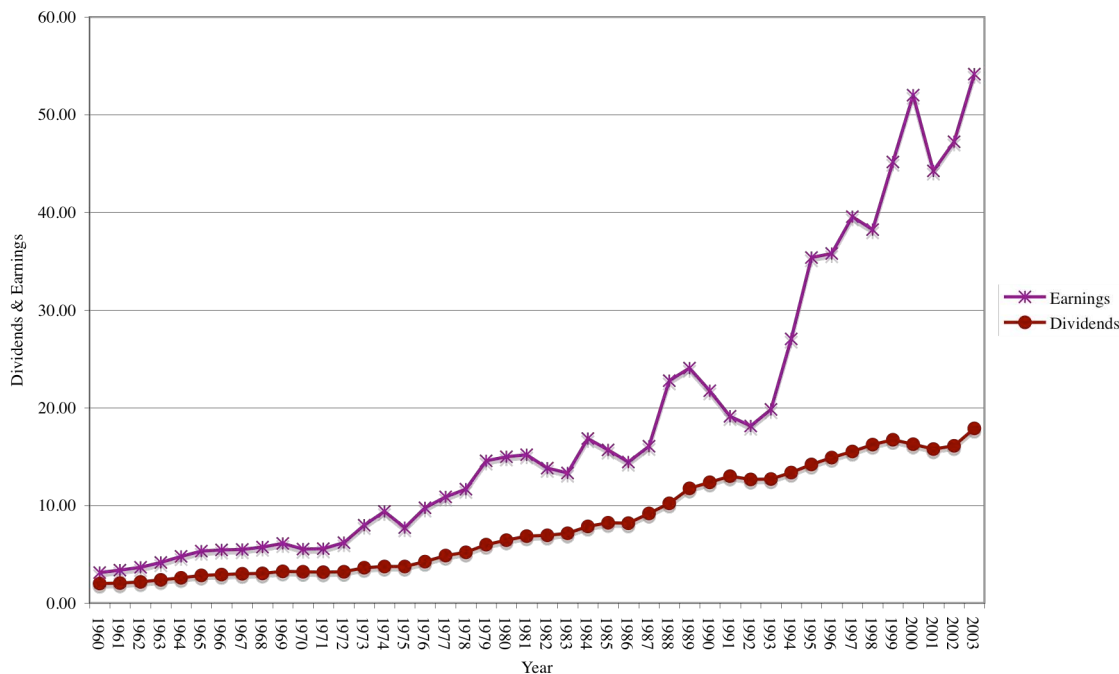
Empirical Evidence on Dividend Policy

We observe several interesting patterns when we look at the dividend policies of firms in the United States in the last 50 years. First, dividends tend to lag behind earnings; that is, increases in earnings are followed by increases in dividends, and decreases in earnings sometimes by dividend cuts. Second, dividends are “sticky” because firms are typically reluctant to change dividends; in particular, firms avoid cutting dividends even when earnings drop. Third, dividends tend to follow a much smoother path than do earnings. Finally, there are distinct differences in dividend policy over the life cycle of a firm, resulting from changes in growth rates, cash flows, and project availability.

Dividends Tend To Follow Earnings

It should not come as a surprise that earnings and dividends are positively correlated over time, because dividends are paid out of earnings. Figure 10.5 shows the movement in both earnings and dividends between 1960 and 1998.

Figure 10.5: Dividends and Earnings on U.S. companies - 1960 - 2004



^a Estimated from Compustat annual database

Notice two trends in this graph. First, dividend changes trail earnings changes over time. Second, the dividend series is much smoother than is the earnings series.

In the 1950s, John Lintner studied the way firms set dividends and noted three consistent patterns.¹ First, firms set target dividend payout ratios, by deciding on the fraction of earnings they are willing to pay out as dividends in the long term. Second, they change

Target Dividend Payout Ratio:

This is the desired proportion of earnings that a firm wants to pay out in dividends.

dividends to match long-term and sustainable shifts in earnings, but they increase dividends only if they feel they can maintain these higher dividends. Because firms avoid cutting dividends, dividends lag earnings. Finally, managers are much more concerned about changes in dividends than about levels of dividends.

Fama and Babiak identified a lag between earnings and dividends, by regressing changes in dividends against changes in earnings in both current and prior periods². They confirmed Lintner's findings that dividend changes tend to follow earnings changes.

10.2. 📌 : Determinants of Dividend Lag

Which of the following types of firms is likely to wait least after earnings go up before increasing dividends?

- A cyclical firm, whose earnings have surged because of an economic boom
- A pharmaceutical firm whose earnings have increased steadily over the last 5 years, due to a successful new drug.
- A personal computer manufacturer, whose latest laptop's success has translated into a surge in earnings

Explain.

Dividends Are Sticky

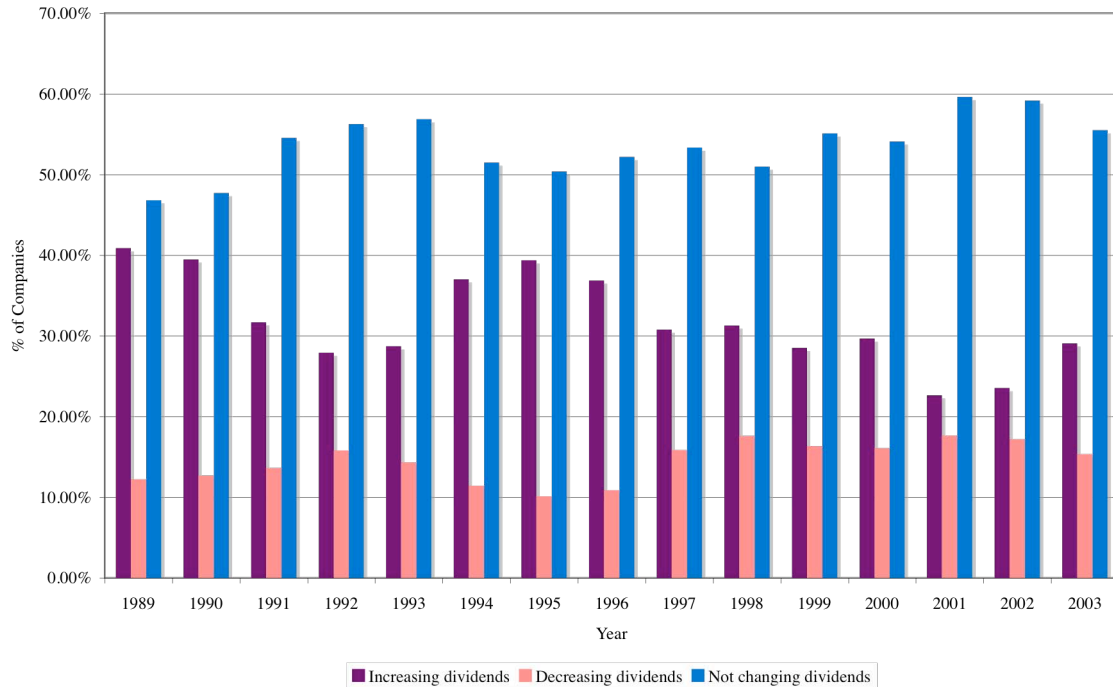
Firms generally do not change their dollar dividends frequently. This reluctance to change dividends, which results in 'sticky dividends,' is rooted in several factors. One is

¹ Lintner, J., *Distribution of Income of Corporations among Dividends, Retained Earnings and Taxes*, American Economic Review, 1956, v46, 97-113.

² Fama, E. F. and H. Babiak. *Dividend Policy: An Empirical Analysis*, Journal of the American Statistical Association, 1968, v63(324), 1132-1161.

the firm's concern about its capability to maintain higher dividends in future periods. Another is the negative market view of dividend decreases, and the consequent drop in the stock price. Figure 10.6 provides a summary of the percentages of all firms that increased, decreased, or left unchanged their annual dividends per share from 1989 to 1998.

Figure 10.6: Dividend Changes - U.S. Corporations



^a Estimated using Compustat annual database.

As you can see, in most years the number of firms that do not change their dollar dividends far exceeds the number that do. Among the firms that change dividends, a much higher percentage, on average, increase dividends than decrease them.

Dividends Follow a Smoother Path than Earnings

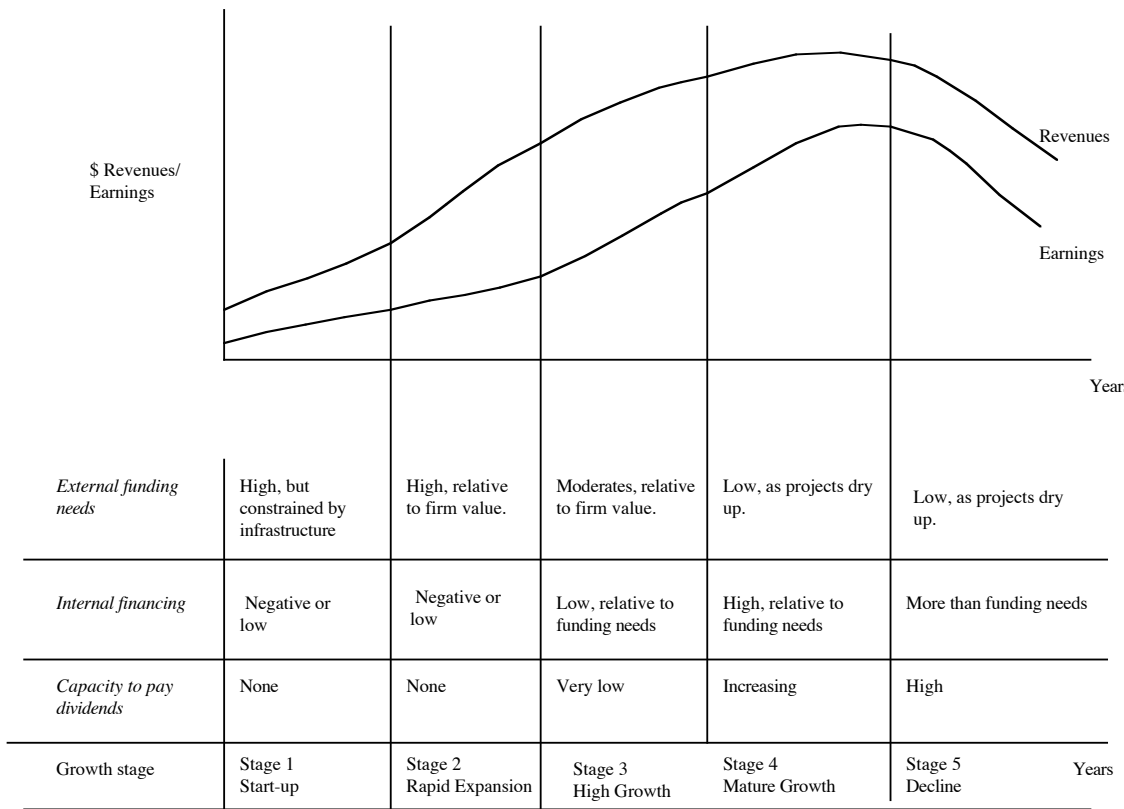
As a result of the reluctance of firms to raise dividends until they feel able to maintain them, and to cut dividends unless they absolutely have to, dividends follow a much smoother path than earnings. This view that dividends are not as volatile as earnings on a year-to-year basis is supported by a couple of empirical facts. First, the variability in historical dividends is significantly lower than the variability in historical earnings. Using annual data on aggregate earnings and dividends from 1960 to 2003, for

instance, the standard deviation of dividends is 5% while the standard deviation in earnings is about 14%. Second, the standard deviation in earnings yields across companies is significantly higher than the standard deviation in dividend yields. In other words, the variation in earnings yields across firms is much greater than the variation in dividend yields.

A Firm's Dividend Policy Tends To Follow The Life Cycle Of The Firm

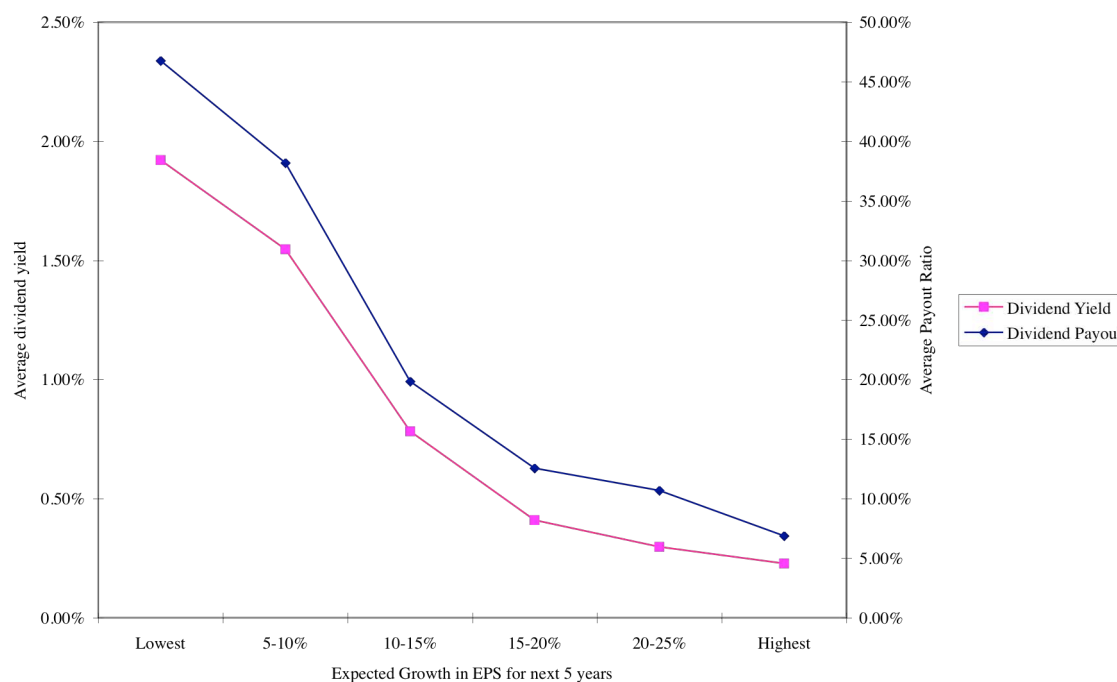
In chapter 7, we introduced the link between a firm's place in the life cycle and its financing mix and choices. In particular, we noted five stages in the growth life cycle – start up, rapid expansion, high growth, mature growth and decline. In this section, we will examine the link between a firm's place in the life cycle and its dividend policy. Not surprisingly, firms generally adopt dividend policies that best fit where they are currently in their life cycles. For instance, high-growth firms with great investment opportunities do not usually pay dividends, whereas stable firms with larger cash flows and fewer projects tend to pay more of their earnings out as dividends. Figure 10.7 looks at the typical path that dividend payout follows over a firm's life cycle.

Figure 10.7: Life Cycle Analysis of Dividend Policy



This intuitive relationship between dividend policy and growth is emphasized when we look at the relationship between a firm's payout ratio and its expected growth rate. For instance, we classified firms on the New York Stock Exchange in January 2004 into six classes, based upon analyst estimates of expected growth rates in earnings per share for the next 5 years, and estimated the dividend payout ratios and dividend yields for each class; these are reported in Figure 10.8.

Figure 10.8: Dividend Yield and Payout Ratios - Growth Class



Source: Value Line Database

The firms with the highest expected growth rates pay the lowest dividends, both as a percent of earnings (payout ratio) and as a percent of price (dividend yield).³

10.3. 📌 : Dividend Policy at Growth Firms

Assume that you are following a growth firm, whose growth rate has begun easing. Which of the following would you most likely observe in terms of dividend policy at the firm?

- An immediate increase of dividends to reflect the lower reinvestment needs.
- No change in dividend policy, and an increase in the cash balance.
- No change in dividend policy, and an increase in acquisitions of other firms

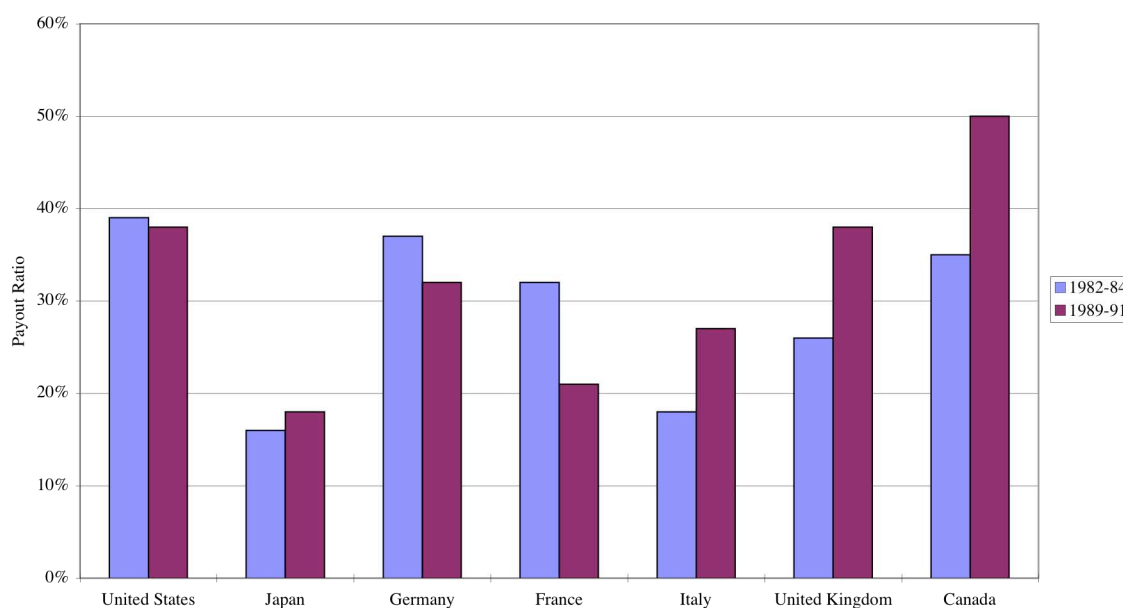
Explain.

³ These are growth rates projected by Value Line for firms in April 1999.

Differences in Dividend Policy across Countries

Figures 10.5 to 10.8 showed several trends and patterns in dividend policies at U.S. companies.⁴ They share some common features with firms in other countries, and there are some differences. As in the United States, dividends in other countries are sticky and follow earnings. However, there are differences in the magnitude of dividend payout ratios across countries. Figure 10.9 shows the proportion of earnings paid out in dividends in the G-7 countries in 1982-84 and again in 1989-91.

Figure 10.9: Dividend Payout Ratios in G-7 Countries, 1982-84 and 1989-91



^aSource: Rajan and Zingales

These differences can be attributed to:

1. *Differences in Stage of Growth:* Just as higher growth companies tend to pay out less of their earnings in dividends (see Figure 10.8), countries with higher growth pay out less in dividends. For instance, Japan had much higher expected growth in 1982-84 than the other G-7 countries and paid out a much smaller percentage of its earnings as dividends.
2. *Differences in Tax Treatment:* Unlike the United States, where dividends are double taxed, some countries provide at least partial protection against the double taxation of

⁴ Rajan, R. and L. Zingales, *What do we know about capital structure? Some Evidence from International Data*, Journal of Finance, 1995, v50, 1421-1460.

dividends. For instance, Germany taxes corporate retained earnings at a higher rate than corporate dividends.

3. Differences in Corporate Control: When there is a separation between ownership and management, as there is in many large publicly traded firms, and where stockholders have little control over managers, the dividends paid by firms will be lower. Managers, left to their own devices, have a much greater incentive to accumulate cash than do stockholders.

Not surprisingly, the dividend payout ratios of companies in emerging markets are much lower than the dividend payout ratios in the G-7 countries. The higher growth and relative power of incumbent management in these countries contribute to keeping these payout ratios low.

10.4. 📌 : Dividend policies and Stock Buyback Restrictions

Some countries do not allow firms to buy back stock from their stockholders. Which of the following would you expect of dividend policies in these countries (relative to countries that don't restrict stock buybacks)?

- Higher portion of earnings will be paid out in dividends; More volatile dividends;
- Lower portion of earnings will be paid out in dividends; More volatile dividends
- Higher portion of earnings will be paid out in dividends; Less volatile dividends;
- Lower portion of earnings will be paid out in dividends; Less volatile dividends;

Explain

Illustration 10.1: Dividends, Dividend Yields and Payout Ratios

In the illustration that follows, we will examine the dollar dividends paid at Disney, Aracruz and Deutsche Bank between 2001 and 2003. Each year, we will also compute the dividend yield and dividend payout ratio for each firm.

	<i>Deutsche Bank</i>			<i>Disney</i>			<i>Aracruz</i>		
	2001	2002	2003	2001	2002	2003	2001	2002	2003
DPS	€ 1.30	€ 1.30	€ 1.30	\$0.21	\$0.21	\$0.21	R\$ 0.14	R\$ 0.18	R\$ 0.32
EPS	€ 2.44	€ 0.64	€ 0.27	\$0.11	\$0.60	\$0.65	R\$ 0.20	R\$ 0.01	R\$ 0.85
Stock Price	€ 79.40	€ 43.90	€ 65.70	\$20.72	\$16.31	\$23.33	R\$ 3.91	R\$ 6.76	R\$ 10.60
Dividend Yield	1.64%	2.96%	1.98%	1.01%	1.29%	0.90%	3.53%	2.69%	3.00%
Dividend Payout	53.28%	203.13%	481.48%	190.91%	35.00%	32.31%	69.01%	1818.44%	37.41%

Of the three companies, Aracruz had the highest dividend yield across the three years. Disney and Deutsche paid the same dividends per share each year, but the volatility in their stock prices and earnings made the payout ratios and dividend yields volatile. In fact, Deutsche maintained its dividends at 1.30 Euros per share in the face of declining earnings per share in 2002 and 2003, a testimonial to the stickiness of dividends.

As noted earlier in the book, Aracruz, like most Brazilian companies, maintains two classes of shares – voting share (called common and held by insiders) and non-voting shares (called preferred shares and held by outside investors). The dividend policies are different for the two classes, with preferred shares getting higher dividends. In fact, the failure to pay a mandated dividend to preferred stockholders (usually set at a payout ratio of 35%) can result in preferred stockholders getting some voting control of the firm. Effectively, this puts a floor on the dividend payout ratio.

When Are Dividends Irrelevant?

There is a school of thought that argues that what a firm pays in dividends is irrelevant and that stockholders are indifferent about receiving dividends. Like the capital structure irrelevance proposition, the dividend irrelevance argument has its roots in a paper crafted by Miller and Modigliani.⁵

The Underlying Assumptions

The underlying intuition for the dividend irrelevance proposition is simple. Firms that pay more dividends offer less price appreciation but must provide the same total return to stockholders, given their risk characteristics and the cash flows from their investment decisions. Thus, there are no taxes, or if dividends and capital gains are taxed at the same rate, investors should be indifferent to receiving their returns in dividends or price appreciation.

For this argument to work, in addition to assuming that there is no tax advantage or disadvantage associated with dividends, we also have to assume the following:

⁵ Miller, M. and F. Modigliani, 1961, *Dividend Policy, Growth and the Valuation of Shares*, Journal of Business, 411-433.

- There are no transactions costs associated with converting price appreciation into cash, by selling stock. If this were not true, investors who need cash urgently might prefer to receive dividends.
- Firms that pay too much in dividends can issue stock, again with no flotation or transactions costs, to take on good projects. There is also an implicit assumption that this stock is fairly priced.
- The investment decisions of the firm are unaffected by its dividend decisions, and the firm's operating cash flows are the same no matter which dividend policy is adopted.
- Managers of firms that pay too little in dividends do not waste the cash pursuing their own interests (i.e., managers with large free cash flows do not use them to take on bad projects).

Under these assumptions, neither the firms paying the dividends nor the stockholders receiving them will be adversely affected by firms paying either too little or too much in dividends.

10.5. 📌 : Dividend Irrelevance

Based upon the Miller Modigliani assumptions, dividends are least likely to affect value for the following types of firms

- a. Small companies with substantial investment needs.
- b. Large companies with significant insider holdings.
- c. Large companies with significant holdings by pension funds (which are tax exempt) and minimal investment needs.

Explain.

A Proof of Dividend Irrelevance

To provide a formal proof of irrelevance, assume that LongLast Corporation, an unlevered firm manufacturing furniture, has operating income after taxes of \$ 100 million, growing at 5% a year, and that its cost of capital is 10%. Further, assume that this firm has reinvestment needs of \$ 50 million, also growing at 5% a year, and that there are 105 million shares outstanding. Finally, assume that this firm pays out residual cash flows as dividends each year. The value of LongLast Corporation can be estimated as follows:

Free Cash Flow to the Firm = EBIT (1- tax rate) – Reinvestment needs

$$= \$ 100 \text{ million} - \$ 50 \text{ million} = \$ 50 \text{ million}$$

Value of the Firm = Free Cash Flow to Firm (1+g) / (WACC - g)

$$= \$ 50 (1.05) / (.10 - .05) = \$ 1050 \text{ million}$$

Price per share = \$ 1050 million / 105 million = \$ 10.00

Based upon its cash flows, this firm could pay out \$ 50 million in dividends.

Dividend per share = \$ 50 million/105 million = \$ 0.476

Total Value per Share = \$ 10.00 + \$ 0.48 = \$10.476

The total value per share measures what stockholders gets in price and dividends from their stock holdings.

Scenario 1: LongLast doubles dividends

To examine how the dividend policy affects firm value, assume that LongLast Corporation is told by an investment banker that its stockholders would gain if the firm paid out \$ 100 million in dividends, instead of \$ 50 million. It now has to raise \$ 50 million in new financing to cover its reinvestment needs. Assume that LongLast Corporation can issue new stock with *no issuance cost* to raise these funds. If it does so, the firm value will remain unchanged, since the value is determined not by the dividend paid but by the cash flows generated on the projects. Since the growth rate and the cost of capital are unaffected, we get:

$$\text{Value of the Firm} = \$ 50 (1.05) / (.10 - .05) = \$ 1050 \text{ million}$$

The existing stockholders will receive a much larger dividend per share, since dividends have been doubled:

$$\text{Dividends per share} = \$ 100 \text{ million} / 105 \text{ million shares} = \$ 0.953$$

In order to estimate the price per share at which the new stock will be issued, note that after the new stock issue of \$ 50 million, the old stockholders in the firm will own only \$1000 million of the total firm value of \$ 1050 million.

Value of the Firm for existing stockholders after dividend payment = \$ 1000 million

Price per share = \$ 1000 million / 105 million = \$ 9.523

The price per share is now lower than it was before the dividend increase, but it is exactly offset by the increase in dividends.

$$\text{Value accruing to stockholder} = \$ 9.523 + \$ 0.953 = \$ 10.476$$

Thus, if the operating cash flows are unaffected by dividend policy, we can show that the firm value will be unaffected by dividend policy and that the average stockholder will be indifferent to dividend policy, since he or she receives the same total value (price + dividends) under any dividend payment.

Scenario 2: LongLast stops paying dividends

To consider an alternate scenario, assume that LongLast Corporation pays out no dividends and retains the residual \$50 million as a cash balance. The value of the firm to existing stockholders can then be computed as follows:

$$\begin{aligned}\text{Value of Firm} &= \text{Present Value of After-tax Operating CF} + \text{Cash Balance} \\ &= \$ 50 (1.05) / (.10 - .05) + \$ 50 \text{ million} = \$1100 \text{ million}\end{aligned}$$

$$\text{Value per share} = \$ 1100 \text{ million} / 105 \text{ million shares} = \$10.48$$

Note that the total value per share remains at % 10.48. In fact, as shown in Table 10.1, the value per share remains \$10.48, no matter how much the firm pays in dividends.

Table 10.1: Value Per Share to Existing Stockholders from Different Dividend Policies

Value of Firm (Operating CF)	Dividends	Value to Existing Stockholders	Price per share	Dividends per share	Total Value per share
\$1,050	\$ -	\$1,100	\$ 10.48	\$ -	\$ 10.48
\$1,050	\$ 10.00	\$1,090	\$ 10.38	\$ 0.10	\$ 10.48
\$1,050	\$ 20.00	\$1,080	\$ 10.29	\$ 0.19	\$ 10.48
\$1,050	\$ 30.00	\$1,070	\$ 10.19	\$ 0.29	\$ 10.48
\$1,050	\$ 40.00	\$1,060	\$ 10.10	\$ 0.38	\$ 10.48
\$1,050	\$ 50.00	\$1,050	\$ 10.00	\$ 0.48	\$ 10.48
\$1,050	\$ 60.00	\$1,040	\$ 9.90	\$ 0.57	\$ 10.48
\$1,050	\$ 70.00	\$1,030	\$ 9.81	\$ 0.67	\$ 10.48
\$1,050	\$ 80.00	\$1,020	\$ 9.71	\$ 0.76	\$ 10.48
\$1,050	\$ 90.00	\$1,010	\$ 9.62	\$ 0.86	\$ 10.48
\$1,050	\$ 100.00	\$1,000	\$ 9.52	\$ 0.95	\$ 10.48

When LongLast Corporation pays less than \$ 50 million in dividends, the cash accrues in the firm and adds to its value. The increase in the stock price again is offset by the loss of

cash flows from dividends. When it pays out more, the price decreases but is exactly offset by the increase in dividends per share.

Note, though, that the value per share remains unchanged because we assume that there are no tax differences to investors between dividends and capital gains, that firms can raise new capital with no issuance costs, and that firms do not change their investment policy. These assumptions eliminate the costs associated with paying either more in dividends or less.

Implications of Dividend Irrelevance

If dividends are, in fact, irrelevant, firms are spending a great deal of time pondering an issue about which their stockholders are indifferent. A number of strong implications emerge from this proposition. Among them, the value of equity in a firm should not change as its dividend policy changes. This does not imply that the price per share will be unaffected, however, since larger dividends should result in lower stock prices and more shares outstanding. In addition, in the long term, there should be no correlation between dividend policy and stock returns. Later in this chapter, we will examine some studies that have attempted to examine whether dividend policy is in fact irrelevant in practice.

The assumptions needed to arrive at the dividend irrelevance proposition may seem so onerous that many reject it without testing it. That would be a mistake, however, because the argument does contain a valuable message: Namely, a firm that has invested in bad projects cannot hope to resurrect its image with stockholders by offering them higher dividends. In fact, the correlation between dividend policy and total stock returns is weak, as we will see later in this chapter.

The “Dividends Are Bad” School

In the United States, dividends have historically been taxed at much higher rates than capital gains. Based upon this tax disadvantage, the second school of thought on dividends argued that dividend payments reduce the returns to stockholders after personal taxes. Stockholders, they posited, would respond by reducing the stock prices of the firms making these payments, relative to firms that do not pay dividends. Consequently, firms would be better off either retaining the money they would have paid out as dividends or

repurchasing stock. In 2003, the basis for this argument was largely eliminated when the tax rate on dividends was reduced to match the tax rate on capital gains. In this section, we will consider both the history of tax-disadvantaged dividends and the potential effects of the tax law changes.⁶

The History of Dividend Taxation

The tax treatment of dividends varies widely depending upon who receives the dividend. Individual investors are taxed at ordinary tax rates, corporations are sheltered from paying taxes on at least a portion of the dividends they receive and pension funds are not taxed at all.

Individuals

Since the inception of income taxes in the early part of the twentieth century in the United States, dividends received on investments have been treated as ordinary income, when received by individuals, and taxed at ordinary tax rates. In contrast, the price appreciation on an investment has been treated as capital gains and taxed at a different and much lower rate. Figure 10.10 graphs the highest marginal tax rate on dividends in the United States and the highest marginal capital gains tax rate since 1954 (when capital gains taxes were introduced).

⁶ Adding to the uncertainty is the fact that the tax changes of 2003 are not permanent and are designed to sunset (disappear) in 2010. It is unclear whether the tax disadvantages of dividends have disappeared for the long term or only until 2010.

Figure 10.10: Ordinary Income and Capital Gains Tax Rates



Barring a brief period after the 1986 tax reform act, when dividends and capital gains were both taxed at 28%, the capital gains tax rate has been significantly lower than the ordinary tax rate in the United States. In 2003, the tax rate on dividends was dropped to 15% to match the tax rate on capital gains, thus nullifying the tax disadvantage of dividends.

There are two points worth making about this chart. The first is that these are the highest marginal tax rates and that most individuals are taxed at lower rates. In fact, some older and poorer investors may pay no taxes on income, if their income falls below the threshold for taxes. The second and related issue is that the capital gains taxes can be higher for some of these individuals than the ordinary tax rate they pay on dividends. Overall, though, wealthier individuals have more invested in stocks than poorer individuals, and it seems fair to conclude that individuals have collectively paid significant taxes on the income that they have received in dividends over the last few decades.

Institutional Investors

About two-thirds of all traded equities are held by institutional investors rather than individuals. These institutions include mutual funds, pension funds and corporations and dividends get taxed differently in the hands of each.

- Pension funds are tax-exempt. They are allowed to accumulate both dividends and capital gains without having to pay taxes. There are two reasons for this tax treatment. One is to encourage individuals to save for their retirement and to reward savings (as opposed to consumption). The other reason for this is that individuals will be taxed on the income they receive from their pension plans and that taxing pension plans would in effect tax the same income twice.
- Mutual funds are not directly taxed, but investors in mutual funds are taxed for their share of the dividends and capital gains generated by the funds. If high tax rate individuals invest in a mutual fund that invests in stocks that pay high dividends, these high dividends will be allocated to the individuals based on their holdings and taxed at their individual tax rates.
- Corporations are given special protection from taxation on dividends they receive on their holdings in other companies, with 70% of the dividends exempt from taxes⁷. In other words, a corporation with a 40% tax rate that receives \$ 100 million in dividends will pay only \$12 million in taxes. Here again, the reasoning is that dividends paid by these corporations to their stockholders will ultimately be taxed.

Tax Treatment of Dividends in other markets

Many countries have plans in place to protect investors from the double taxation of divided. There are two ways in which they can do this. One is to allow corporations to claim a full or partial tax deduction for dividends paid. The other is to give partial or full tax relief to individuals who receive dividends.

⁷ The exemption increases as the proportion of the stock held increases. Thus, a corporation that owns 10% of another company's stock has 70% of dividends exempted. This rises to 80% if the company owns between 20 and 80% of the stock and to 100% if the company holds more than 80% of the outstanding stock.

Corporate Tax Relief

In some countries, corporations are allowed to claim a partial or full deduction for dividends paid. This brings their treatment into parity with the treatment of the interest paid on debt, which is entitled to a full deduction in most countries. Among the OECD countries, the Czech Republic and Iceland offer partial deductions for dividend payments made by companies but no country allows a full deduction. In a variation, Germany, until recently, applied a higher tax rate to income that was retained by firms than to income that was paid out in dividends. In effect, this gives a partial tax deduction to dividends.

Why don't more countries offer tax relief to corporations? There may be two factors. One is the presence of foreign investors in the stock who now also share in the tax windfall. The other is that investors in the stock may be tax exempt or pay no taxes, which effectively reduces the overall taxes paid on dividends to the treasury to zero.

Individual Tax Relief

There are far more countries that offer tax relief to individuals than to corporations. This tax relief can take several forms:

- *Tax Credit for taxes paid by corporation:* Individuals can be allowed to claim the taxes paid by the corporation as a tax credit when computing their own taxes. In the example earlier in the paper, where a company paid 30% of its income of \$ 100 million as taxes and then paid its entire income as dividends to individuals with 40% tax rates the individuals would be allowed to claim a tax credit of \$ 30 million against the taxes owed, thus reducing taxes paid to \$ 10 million. In effect, this will mean that only individuals with marginal tax rates that exceed the corporate tax rate will be taxed on dividends. Australia, Finland, Mexico, Australia and New Zealand allow individuals to get a full credit for corporate taxes paid. Canada, France, the U.K and Turkey allow for partial tax credits.
- *Lower Tax Rate on dividends:* Dividends get taxed at a lower rate than other income to reflect the fact that it is paid out of after-tax income. In some countries, the tax rate on dividends is set equal to the capital gains tax rate. Korea, for instance, has a flat tax rate of 16.5% for dividend income.

In summary, it is far more common for countries to provide tax relief to investors than to corporations. Part of the reason for this is political. By focusing on individuals, you can direct the tax relief only towards domestic investors and only to those investors who pay taxes in the first place.

Timing of Tax Payments

When the 1986 tax law was signed into law, equalizing tax rates on ordinary income and capital gains, some believed that all the tax disadvantages of dividends had disappeared. Others noted that, even with the same tax rates, dividends carried a tax disadvantage because the investor had no choice as to when to report the dividend as income; taxes were due when the firm paid out the dividends. In contrast, investors retained discretionary power over when to recognize and pay taxes on capital gains, since such taxes were not due until the stock was sold. This timing option allowed the investor to reduce the tax liability in one of two ways. First, by taking capital gains in periods of low income or capital losses to offset against the gain, the investor could now reduce the taxes paid. Second, deferring a stock sale until an investor's death could result in tax savings. Since the tax rates on capital gains have decreased relative to the tax rates on dividends since, this timing option should make capital gains an even more attractive option now.

Assessing Investor tax preferences for dividends

As you can see from the discussion above, the tax rate on dividends can vary widely for different investors – individual, pension fund, mutual fund or corporation – receiving the dividends and even for the same investor on different investments. It is difficult therefore to look at a company's investor base and determine their preferences for dividends and capital gains. A simple way to measure the tax disadvantage associated with dividends is to measure the price change on the ex-dividend date and compare it to the actual dividend paid. The stock price on the ex-dividend day should drop to reflect the loss in dividends to those buying the stock after that day. It is not clear, however, whether the price drop will be equal to the dividends if dividends and capital gains are taxed at different rates.

To see the relationship between the price drop and the tax rates of the marginal investor, assume that investors in a firm acquired stock at some point in time at a price P , and that they are approaching an ex-dividend day, in which the dividend is known to be D . Assume that each investor in this firm can either sell the stock before the ex-dividend day at a price P_B or wait and sell it after the stock goes ex-dividend at a price P_A . Finally, assume that the tax rate on dividends is t_o and that the tax rate on capital gains is t_{cg} . The cash flows the investor will receive from selling before the stock goes ex-dividend is –

$$CF_B = P_B - (P_B - P) t_{cg}$$

In this case, by selling before the ex-dividend day, the investor receives no dividend. If the sale occurs after the ex-dividend day, the cash flow is –

$$CF_A = P_A - (P_A - P) t_{cg} + D (1-t_o)$$

If the cash flow from selling before the ex-dividend day were greater than the cash flow from selling after, the investors would all sell before, resulting in a drop in the stock price. Similarly, if the cash flows from selling after the ex-dividend day were greater than the cash flows from selling before, every one would sell after, resulting in a price drop after the ex-dividend day. To prevent either scenario, the marginal investors in the stock have to be indifferent between selling before and after the ex-dividend day. This will occur only if the cash flows from selling before are equal to the cash flows from selling after:

$$P_B - (P_B - P) t_{cg} = P_A - (P_A - P) t_{cg} + D (1-t_o)$$

This can be simplified to yield the following ex-dividend day equality:

$$\frac{P_B - P_A}{D} = \frac{(1 - t_o)}{(1 - t_{cg})}$$

Thus, a necessary condition for the marginal investor to be indifferent between selling before and after the ex-dividend day is that the price drop on the ex-dividend day must reflect the investor's tax differential between dividends and capital gains.

Turning this equation around, we would argue that by observing a firm's stock price behavior on the ex-dividend day and relating it to the dividends paid by the firm, we can, in the long term, form some conclusions about the tax disadvantage the firm's stockholders attach to dividends. In particular:

If Tax Treatment of Dividends and Capital Gains

$P_B - P_A = D$ Marginal investor is indifferent between dividends and capital gains

$P_B - P_A < D$ Marginal investor is taxed more heavily on dividends

$P_B - P_A > D$ Marginal investor is taxed more heavily on capital gains

While there are obvious measurement problems associated with this measure, it does provide some interesting insight into how investors view dividends.

The first study of ex-dividend day price behavior was completed by Elton and Gruber in 1970.⁸ They examined the behavior of stock prices on ex-dividend days for stocks listed on the NYSE between 1966 and 1969. Based upon their finding that the price drop was only 78% of the dividends paid, Elton and Gruber concluded that dividends are taxed more heavily than capital gains. They also estimated the price change as a proportion of the dividend paid for firms in different dividend yield classes and reported that price drop is larger, relative to the dividend paid, for firms in the highest dividend yield classes than for firms in lower dividend yield classes. This difference in price drops, they argued, reflected the fact that investors in these firms are in lower tax brackets. Their conclusions were challenged, however, by some who argued, justifiably, that the investors trading on the stock on ex-dividend days are not the normal investors in the firm; rather, they are short-term, tax-exempt investors interested in capturing the difference between dividends and the price drops.

Implications

There can be no argument that dividends have historically been treated less favorably than capital gains by the tax authorities. In the United States, the double taxation of dividends, at least at the level of individual investors, should have created a strong disincentive to pay or to increase dividends. Other implications of the tax disadvantage argument include the following:

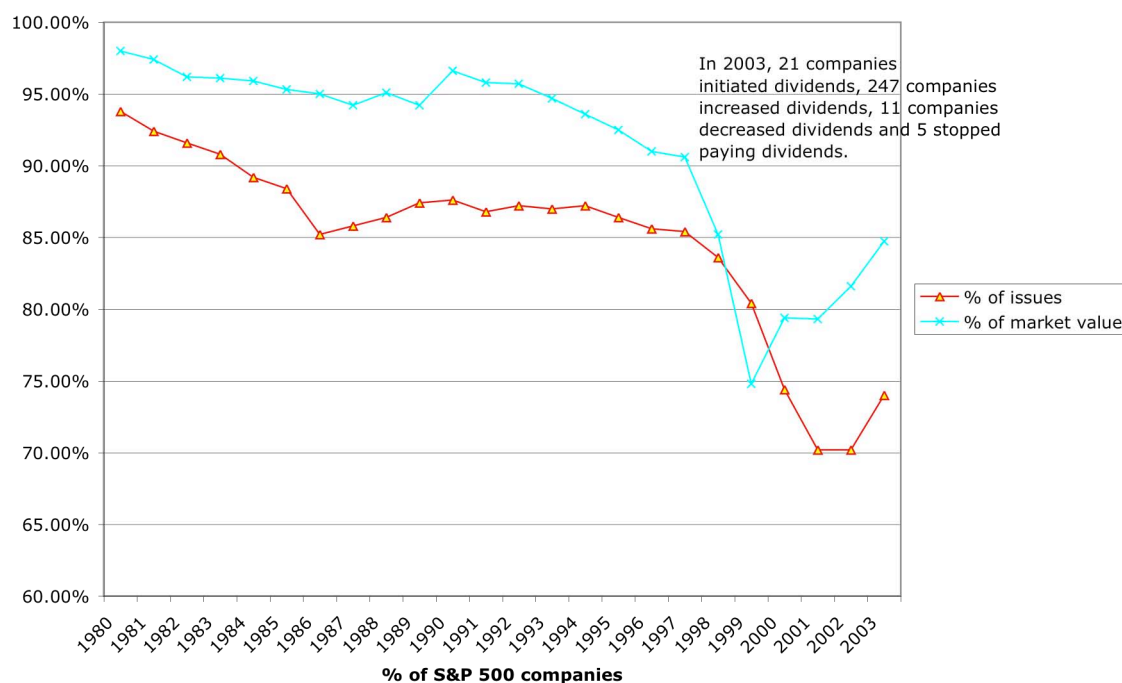
- Firms with an investor base composed primarily of individuals typically should have paid lower dividends than do firms with investor bases predominantly made up of tax-exempt institutions.

⁸ Elton, E.J. and M.J. Gruber, 1970, *Marginal Stockholder Rates and the Clientele Effect*, Review of Economics and Statistics, v52, 68-74.

- The higher the income level (and hence the tax rates) of the investors holding stock in a firm, the lower the dividend paid out by the firm.
- As the tax disadvantage associated with dividends increased, the aggregate amount paid in dividends should have decreased. Conversely, if the tax disadvantage associated with dividends decreased, the aggregate amount paid in dividends should have increased.

The tax law changes of 2003 have clearly changed the terms of this debate. By reducing the tax rate on dividends, they have clearly made dividends more attractive at least to individual investors than they were prior to the change. We would expect companies to pay more dividends in response. While it is still early to test out this hypothesis, there is some evidence that companies are changing dividend policy in response to the tax law change. Technology companies like Microsoft that have never paid dividends before have initiated dividends. In figure 10.11, we look at the percent of S&P 500 companies that pay dividends by year and the dividends paid as a percent of the market capitalization of these companies from 1960 to 2003.

Figure 10.11: Dividends on S&P 500 Companies



There was an up tick in both the number of companies paying dividends in 2003 and the dividends paid, reversing a long decline in both statistics. It will be interesting to see whether this continues into the future.

In Practice: Dividend Policy for the next decade

As firms shift towards higher dividends, they may be put at risk because of volatile earnings. There are two ways in which they can alleviate the problem.

- One is to shift to a policy of *residual dividends*, where dividends paid are a function of the earnings in the year rather than a function of dividends last year. Note that the sticky dividend phenomenon in the US, where companies are reluctant to change their dollar dividends, is not a universal one. In countries like Brazil, companies target dividend payout ratios rather than dollar dividends and there is no reason why US companies cannot adopt a similar practice. A firm that targets a constant dividend payout ratio will pay more dividends when its earnings are high and less when its earnings are low, and the signaling effect of lower dividends will be mitigated if the payout policy is clearly stated up front.
- The other is to adopt a policy of regular dividends that will be based upon sustainable and predictable earnings and to supplement these with special dividends when earnings are high. In this form, the special dividends will take the place of stock buybacks.

In summary, you can expect both more dividends from companies and more creative dividend policies, if the dividend tax law stands. British Petroleum provided a preview of innovations to come by announcing that they would supplement their regular dividends with any extra cashflows generated if the oil price stayed above \$ 30 a barrel, thus creating dividends that are tied more closely to their cashflows.

10.6. 📌 : Corporate Tax Status and Dividend Policy

Corporations are exempt from paying taxes on 70% of the dividends they receive from their stockholdings in other companies, whereas they face a capital gains tax rate of 20%. If all the stock in your company is held by other companies, and the ordinary tax rate for companies is 36%,

- a. dividends have a tax advantage relative to capital gains

- b. capital gains have a tax advantage relative to dividends
- c. dividends and capital gains are taxed at the same rate

Explain.

The “Dividends Are Good” School

Notwithstanding the tax disadvantages, firms continue to pay dividends and they typically view such payments positively. A third school of thought that argues dividends are good and can increase firm value. Some of the arguments used by this school are questionable, but some have a reasonable basis in fact. We consider both in this section.

Some Reasons for Paying Dividends that do not measure up

Some firms pay and increase dividends for the wrong reasons. We will consider two of those reasons in this section.

The Bird-in-the-Hand Fallacy

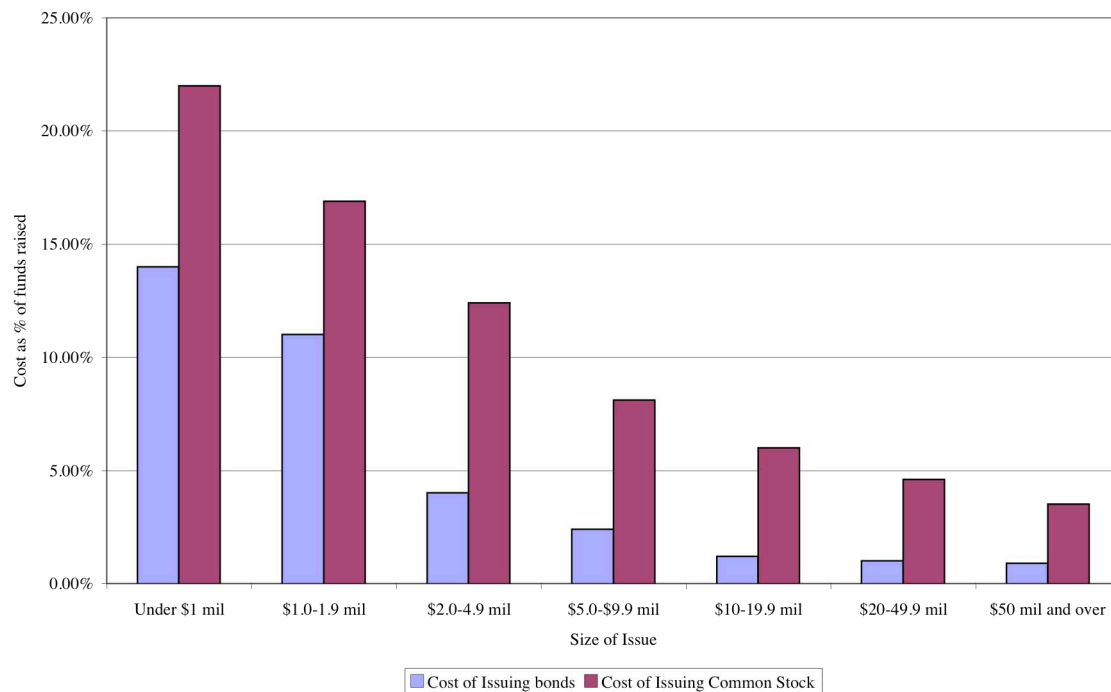
One reason given for the view that investors prefer dividends to capital gains is that dividends are certain, whereas capital gains are uncertain. Proponents of this view of dividend policy feel that risk averse investors will therefore prefer the former. This argument is flawed. The simplest counter-response is to point out that the choice is not between certain dividends today and uncertain capital gains at some unspecified point in the future, but between dividends today and an almost equivalent amount in price appreciation today. This comparison follows from our earlier discussion, where we noted that the stock price dropped by slightly less than the dividend on the ex-dividend day. By paying the dividend, the firm causes its stock price to drop today.

Another response to this argument is that a firm’s value is determined by the cash flows from its projects. If a firm increases its dividends but its investment policy remains unchanged, it will have to replace the dividends with new stock issues. The investor who receives the higher dividend will therefore find himself or herself losing, in present value terms, an equivalent amount in price appreciation.

Temporary Excess Cash

In some cases, firms are tempted to pay or initiate dividends in years in which their operations generate excess cash. Although it is perfectly legitimate to return excess cash to stockholders, firms should also consider their own long-term investment needs. If the excess cash is a temporary phenomenon, resulting from having an unusually good year or a non-recurring action (such as the sale of an asset), and the firm expects cash shortfalls in future years, it may be better off retaining the cash to cover some or all these shortfalls. Another option is to pay the excess cash as a dividend in the current year and issue new stock when the cash shortfall occurs. This is not very practical because the substantial expense associated with new security issues makes this a costly strategy in the long term. Figure 10.12 summarizes the cost of issuing bonds and common stock, by size of issue in the United States.⁹

Figure 10.12: Issuance Costs for Stocks and Bonds

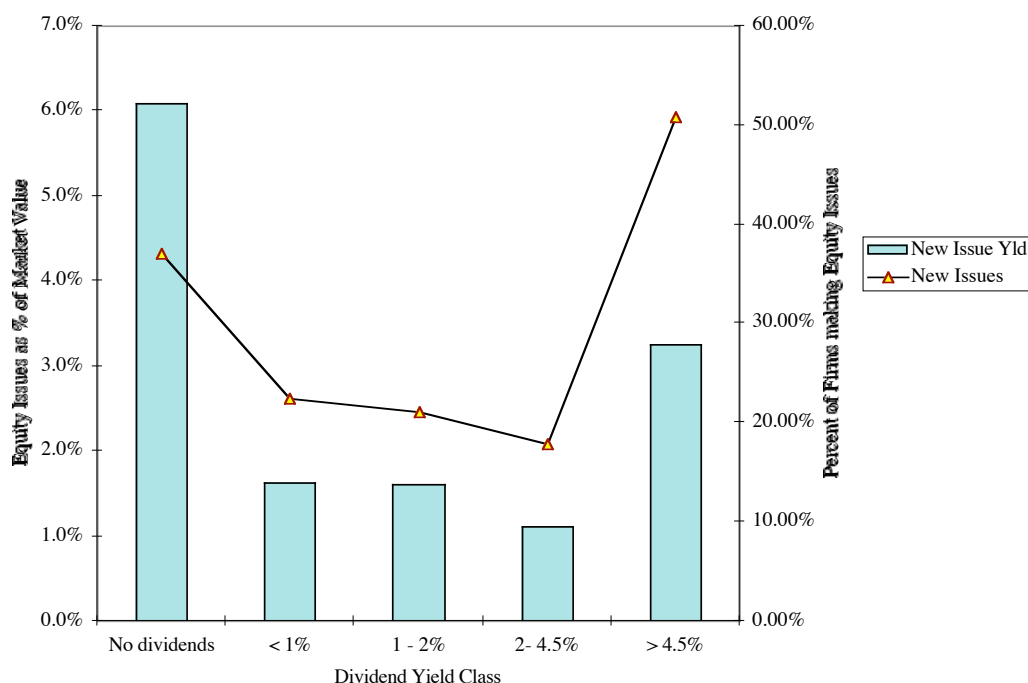


Source: Ibbotson, Sindelar and Ritter (1997)

⁹ Ibbotson, R. G., J. L. Sindelar and J. R. Ritter. 1988, *Initial Public Offerings*, Journal of Applied Corporate Finance, v1(2), 37-45.

Since issuance costs increase as the size of the issue decreases and for common stock issues, small firms should be especially cautious about paying out temporary excess cash as dividends. This said, it is important to note that some companies do pay dividends and issue stock during the course of the same period, mostly out of a desire to maintain their dividends. Figure 10.13 reports new stock issues by firms as a percentage of firm value, classified by their dividend yields, in 1998.

Figure 21.11: Equity Issues by Dividend Class, United States - 1998



Source: Compustat database, 1998

While it is not surprising that stocks that pay no dividends are most likely to issue stock, it is surprising that firms in the highest dividend yield class also issue significant proportions of new stock (approximately half of all the firms in this class also make new stock issues). This suggests that many of these firms are paying dividends on the one hand and issuing stock on the other, creating significant issuance costs for their stockholders in the process.

Some Good Reasons for Paying Dividends

While the tax disadvantages of dividends are clear, especially for individual investors, there are some good reasons why firms that are paying dividends should not

suspend them. First, there are investors who like to receive dividends, either because they pay no or very low taxes, or because they need the regular cash flows. Firms that have paid dividends over long periods are likely to have accumulated investors with these characteristics, and cutting or eliminating dividends would not be viewed favorably by this group.

Second, changes in dividends allow firms to signal to financial markets how confident they feel about future cash flows. Firms that are more confident about their future are therefore more likely to raise dividends; stock prices often increase in response. Cutting dividends is viewed by markets as a negative signal about future cashflows, and stock prices often decline in response. Third, firms can use dividends as a tool for altering their financing mix and moving closer to an optimal debt ratio. Finally, the commitment to pay dividends can help reduce the conflicts between stockholders and managers, by reducing the cash flows available to managers.

Some investors like dividends

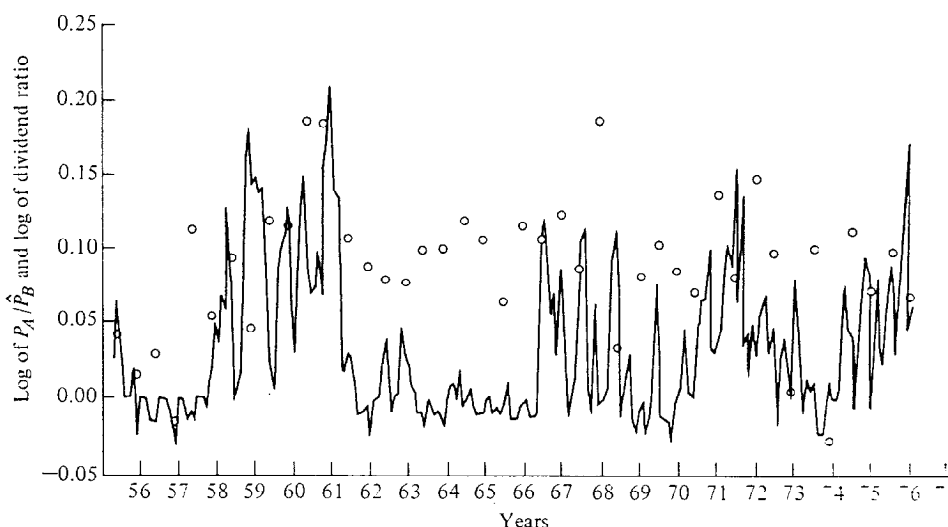
Many in the “dividends are bad” school of thought argue that rational investors should reject dividends due to their tax disadvantage. Whatever you might think of the merits of that argument, some investors have a strong preference for dividends and view large dividends positively. The most striking empirical evidence for this comes from studies of companies that have two classes of shares: one that pays cash dividends, and another that pays an equivalent amount of stock dividends; thus, investors are given a choice between dividends and capital gains.

John Long studied the price differential on Class A and B shares traded on Citizens Utility.¹⁰ Class B shares paid a cash dividend, while Class A shares paid an equivalent stock dividend. Moreover, Class A shares could be converted at little or no cost to Class B shares at the option of its stockholders. Thus, an investor could choose to buy Class B shares to get cash dividends, or Class A shares to get an equivalent capital gain. During the period of this study, the tax advantage was clearly on the side of capital gains; thus, we would expect to find Class B shares selling at a discount on Class A

¹⁰ Long, John B., Jr., 1978, *The Market Valuation Of Cash Dividends: A Case To Consider*, Journal of Financial Economics, 1978, v6(2/3), 235-264.

shares. The study found, surprisingly, that the Class B shares sold at a premium over Class A shares. Figure 10.14 reports the price differential between the two share classes over the period of the analysis.

Figure 10.14: Price Differential on Citizen's Utility Stock



Source: Long (1978)

While it may be tempting to attribute this phenomenon to the irrational behavior of investors, such is not the case. Not all investors like dividends — many feel its tax burden— but there are also many who view dividends positively. These investors may not be paying much in taxes and consequently do not care about the tax disadvantage associated with dividends. Or they might need and value the cash flow generated by the dividend payment. Why, you might ask, do they not sell stock to raise the cash flow they need? The transactions costs and the difficulty of breaking up small holdings¹¹ and selling unit shares may make selling small amounts of stock infeasible.

¹¹ Consider a stockholder who owns 100 shares trading at \$ 20 per share, on which she receives a dividend of \$0.50 per share. If the firm did not pay a dividend, the stockholder would have to sell 2.5 shares of stock to raise the \$ 5 that would have come from the dividend.

Bailey extended Long's study to examine Canadian utility companies, which also offered dividend and capital-gains shares, and had similar findings.¹² Table 10.2 summarizes the price premium at which the dividend shares sold.

Table 10.2: Price Differential between Cash and Stock Dividend Shares

<i>Company</i>	<i>Premium on Cash Dividend Shares over Stock Dividend Shares</i>
Consolidated Bathurst	19.30%
Donfasco	13.30%
Dome Petroleum	0.30%
Imperial Oil	12.10%
Newfoundland Light & Power	1.80%
Royal Trustco	17.30%
Stelco	2.70%
TransAlta	1.10%
Average	7.54%

Source: Bailey (1988)

Note, once again, that on average the cash dividend shares sell at a premium of 7.5% over the stock dividend shares. We caution that while these findings do not indicate that all stockholders like dividends, they do indicate that the stockholders in these specific companies liked cash dividends so much that they were willing to overlook the tax disadvantage and pay a premium for shares that offered them.

The Clientele Effect

Stockholders examined in the studies described above clearly like cash dividends. At the other extreme are companies that pay no dividends, such as Microsoft, and whose stockholders seem perfectly content with that policy. Given the vast diversity of stockholders, it is not surprising that, over time, stockholders tend to invest in firms whose dividend policies match their preferences. Stockholders in high tax brackets who do not need the cash flow from dividend payments tend to invest in companies that pay low or no dividends. By contrast, stockholders in low tax brackets who need the cash from dividend payments, and tax-exempt institutions that need current cash flows, will usually invest in companies with high dividends. This clustering of stockholders in

¹² Bailey, W., 1988, *Canada's Dual Class Shares: Further Evidence On The Market Value Of Cash Dividends*, Journal of Finance, 1988, v43(5), 1143-1160

companies with dividend policies that match their preferences is called the **cliente effect**.

The existence of a cliente effect is supported by empirical evidence. One study looked at the portfolios of 914 investors to see whether their portfolios were affected by their tax brackets. The study found that older and poorer investors were more likely to hold high-dividend-paying stocks than were younger and wealthier investors.

In another study, dividend yields were regressed against the characteristics of the investor base of a company (including age, income and differential tax rates).¹³

$$\text{Dividend Yield}_t = a + b \beta_t + c \text{Age}_t + d \text{Income}_t + e \text{Differential Tax Rate}_t + \varepsilon_t$$

<i>Variable</i>	<i>Coefficient</i>	<i>Implies</i>
Constant	4.22%	
Beta Coefficient	-2.145	Higher beta stocks pay lower dividends.
Age/100	3.131	Firms with older investors pay higher dividends.
Income/1000	-3.726	Firms with wealthier investors pay lower dividends.
Differential Tax Rate	-2.849	If ordinary income is taxed at a higher rate than capital gains, the firm pays less dividends.

Source: Pettit (1977)

Not surprisingly, this study found that safer companies, with older and poorer investors, tended to pay more in dividends than companies with wealthier and younger investors. Overall, dividend yields decreased as the tax disadvantage of dividends increased.

10.7. 📌 : Dividend Clientele and Tax Exempt Investors

Pension funds are exempt from paying taxes on either ordinary income or capital gains, and also have substantial ongoing cash flow needs. What types of stocks would you expect these funds to buy?

- Stocks that pay high dividends
- Stocks that pay no or low dividends

Explain.

¹³ Pettit, R. R., 1977, *Taxes, Transactions Costs and the Clientele Effect of Dividends*, *Journal of Financial Economics*, v5, 419-436.

Consequences of the Clientele Effect

The existence of a clientele effect has some important implications. First, it suggests that firms get the investors they deserve, since the dividend policy of a firm attracts investors who like it. Second, it means that firms will have a difficult time changing an established dividend policy, even if it makes complete sense to do so. For instance, U.S. telephone companies have traditionally paid high dividends and acquired an investor base that liked these dividends. In the 1990s, many of these firms entered new businesses (entertainment, multi-media etc.), with much larger reinvestment needs and less stable cash flows. While the need to cut dividends in the face of the changing business mix might seem obvious, it was nevertheless a hard sell to stockholders, who had become used to the dividends.

The clientele effect also provides an alternative argument for the irrelevance of dividend policy, at least when it comes to valuation. In summary, if investors migrate to firms that pay the dividends that most closely match their needs, no firm's value should be affected by its dividend policy. Thus, a firm that pays no or low dividends should not be penalized for doing so, because its investors *do not want* dividends. Conversely, a firm that pays high dividends should not have a lower value, since its investors like dividends. This argument assumes that there are enough investors in each dividend clientele to allow firms to be fairly valued, no matter what their dividend policy.

Empirical Evidence on the Clientele Effect

Researchers have investigated whether the clientele effect is strong enough to separate the value of stocks from dividend policy. If there is a strong enough clientele effect, the returns on stocks should not be affected, over long periods, by the dividend payouts of the underlying firms. If there is a tax disadvantage associated with dividends, the returns on stocks that pay high dividends should be higher than the returns on stocks that pay low dividends, to compensate for the tax differences. Finally, if there is an overwhelming preference for dividends, these patterns should be reversed.

In their study of the clientele effect, Black and Scholes (1974) created 25 portfolios of NYSE stocks, classifying firms into five quintiles based upon dividend yield, and then subdivided each group into five additional groups based upon risk (beta)

each year for 35 years, from 1931 to 1966.¹⁴ When they regressed total returns on these portfolios against the dividend yields, the authors found no statistically significant relationship between the two. These findings were contested in a later study by Litzenberger and Ramaswamy (1979), who used updated dividend yields every month and examined whether the total returns in ex-dividend months were correlated with dividend yields.¹⁵ They found a strong positive relationship between total returns and dividend yields, supporting the hypothesis that investors are averse to dividends. They also estimated that the implied tax differential between capital gains and dividends was approximately 23%. Miller and Scholes (1981) countered by arguing that this finding was contaminated by the stock price effects of dividend increases and decreases.¹⁶ In response, they removed from the sample all cases in which the dividends were declared and paid in the same month and concluded that the implied tax differential was only 4%, which was not significantly different from zero.

In the interests of fairness, we should point out that most studies of the clientele effect have concluded that total returns and dividend yields are positively correlated. Although many of them contend that this is true because the implied tax differential between dividends and capital gains is significantly different from zero, there are alternative explanations for the phenomena. In particular, while one may disagree with Miller and Scholes' conclusions, their argument - that the higher returns on stocks that pay high dividends might have nothing to do with the tax disadvantages associated with dividends but may instead be a reflection of the price increases associated with unexpected dividend increases - has both a theoretical and an empirical basis, as discussed below.

10.8. 📌 : Dividend Clientele and Changing Dividend Policy

Phone companies in the United States have for long had the following features - they are regulated, have stable earnings, low reinvestment needs and pay high dividends. Many of

¹⁴ Black, F. and M. Scholes, 1974, The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns, *Journal of Financial Economics*, v1, 1-22.

¹⁵ Litzenberger, R.H. and K. Ramaswamy, 1979, The Effect of Personal Taxes and Dividends on Capital Asset Prices: Theory and Empirical Evidence, *Journal of Financial Economics*, Vol 7, 163-196.

these phone companies are now considering entering the multimedia age and becoming entertainment companies, which requires more reinvestment and creates more volatility in earnings. If you were the CEO of the phone company, would you

- a. announce an immediate cut in dividends as part of a major capital investment plan
- b. continue to pay high dividends, and use new stock issues to finance the expansion
- c. something else:

Explain.

Dividends operate as a information signal

Financial markets examine every action a firm takes for implications for future cash flows and firm value. When firms announce changes in dividend policy, they are conveying information to markets, whether they intend to or not.

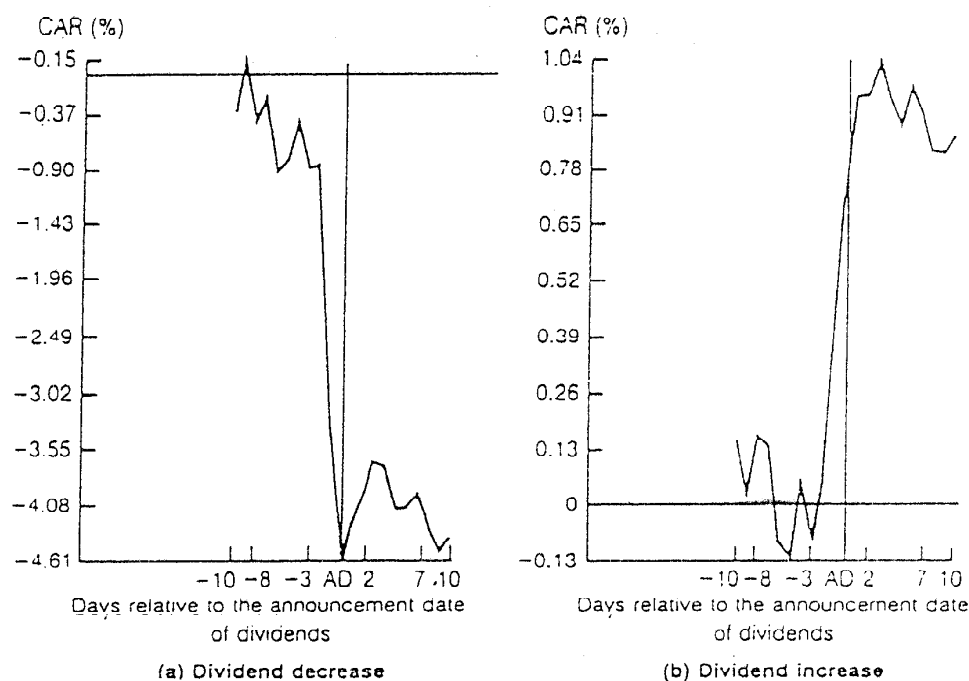
Financial markets tend to view announcements made by firms about their future prospects with a great deal of skepticism, since firms routinely make exaggerated claims. At the same time, some firms with good projects are under valued by markets. How do such firms convey information credibly to markets? Signaling theory suggests that these firms need to take actions that cannot be easily imitated by firms without good projects. Increasing dividends is viewed as one such action. By increasing dividends, firms create a cost to themselves, since they commit to paying these dividends in the long term. Their willingness to make this commitment indicates to investors that they believe they have the capacity to generate these cash flows in the long term. This positive signal should therefore lead investors to reevaluate the cash flows and firm values and increase the stock price.

Decreasing dividends is a negative signal, largely because firms are reluctant to cut dividends. Thus, when a firm take this action, markets see it as an indication that this firm is in substantial and long-term financial trouble. Consequently, such actions lead to a drop in stock prices.

¹⁶ Miller, M. H. and M. S. Scholes, 1978, *Dividends And Taxes*, Journal of Financial Economics, v6(4), 333-364.

The empirical evidence concerning price reactions to dividend increases and decreases is consistent, at least on average, with this signaling theory. Figure 10.15 summarizes the average excess returns around dividend changes for firms.¹⁷

Figure 10.15: Excess Returns around Announcements of Dividend Changes



Source: Aharony and Swary

We should view this explanation for dividends increases and decreases cautiously, however. Although it is true that firms with good projects may use dividend increases to convey information to financial markets, given the substantial tax liability that increased dividends create for stockholders, is it the most efficient way? For smaller firms, which have relatively few signals available to them, the answer might be yes. For larger firms, which have many ways of conveying information to markets, dividends might not be the least expensive or the most effective signals. For instance, the information may be more effectively and economically conveyed through an analyst report on the company.

There is another reason for skepticism. An equally plausible story can be told about how an increase in dividends sends a negative signal to financial markets. Consider

¹⁷ Aharony, J. and I. Swary, 1981, *Quarterly Dividends and Earnings Announcements and Stockholders'*

a firm that has never paid dividends in the past but has registered extraordinary growth and high returns on its projects. When this firm first starts paying dividends, its stockholders may consider this an indication that the firm's projects are neither as plentiful nor as lucrative as they used to be. However, Palepu and Healy find that the initiation of dividends does not signal a decline in earnings growth in a study of 151 firms from 1970 to 1979.¹⁸

10.9. 📌 : Dividends as Signals

Silicon Electronics, a company with a history of not paying dividends, high earnings growth and reinvestment back into the company, announces that it will be initiating dividends. You would expect

- a. the stock price to go up
- b. the stock price to go down
- c. the stock price to remain unchanged

Explain.

Dividend policy is a tool for changing financing mix

Dividend policy cannot be analyzed in a vacuum. Firms can use dividend policy as a tool to change their debt ratios. In chapter 9, we examined how firms that want to increase or decrease leverage can do so by changing their dividend policy: increasing dividends increases leverage over time, and decreasing dividends reduces leverage.

When dividends increase, stockholders sometimes get a bonus in the form of a wealth transfer from lenders to the firm. Lenders would rather have firms accumulate cash than pay it out as dividends. The payment of dividends takes cash out of the firm, and this cash could have been used to cover outstanding interest or principal payments. Not surprisingly, bond prices decline on the announcement of large increases in dividends. It is equity investors who gain from the loss in market value faced by bondholders. Bondholders, of course, try to protect themselves against this loss by restricting how much firms can pay out in dividends.

Returns: An Empirical Analysis, Journal of Finance, Vol 36, 1-12.

Dividends reduce managerial discretion/power

In examining debt policy, we noted that one reason for increasing debt levels was to induce managers to be more disciplined in their project choice. Implicit in this free cash flow argument is the assumption that cash accumulations, if left to the discretion of the managers of the firm, would be wasted on poor projects. If this is true, then forcing a firm to make a commitment to pay dividends would be an alternative to forcing managers to be disciplined in project choice and to reducing the cash that is available for discretionary uses. If this is the reason stockholders want managers to commit to paying larger dividends, then in firms where there is a clear separation between ownership and management, managers should pay larger dividends than in firms with substantial insider ownership and involvement in managerial decisions.

Managerial Interests and Dividend Policy

We have considered dividend policy in this chapter almost entirely from the perspective of equity investors in the firm. In reality, though, it is managers who set dividend policy and it should come as no surprise that there may be a potential for a conflict of interests between stockholders and managers.

The Source of the Conflict

In examining debt policy, we noted that one reason for taking on more debt was to induce managers to be more disciplined in their project choice. Implicit in this free cash flow argument is the assumption that cash accumulations, if left to the discretion of the managers of the firm, would be wasted on poor projects. If this is true, we can argue that forcing a firm to make a commitment to pay dividends provides an alternative to forcing managers to be disciplined in project choice and to reducing the cash that is available for discretionary uses.

If this is the reason stockholders want managers to commit to paying larger dividends, firms in which there is a clear separation between ownership and management,

¹⁸ Palepu, K and P. Healy, 1988, Earnings Information Conveyed by Dividend Initiations and Omissions, *Journal of Financial Economics*, v21, 149-175.

should pay larger dividends than should firms with substantial insider ownership and involvement in managerial decisions.

What do managers believe about dividend policy?

Given the pros and cons for paying dividends, and the lack of a consensus on the effect of dividends on value, it is worth considering what managers factor in when they make dividend decisions. Baker, Farrelly and Edelman (1985) surveyed managers on their views on dividend policy and reported the level of agreement with a series of statements. Table 10.3 summarizes their findings –

Table 10.3: Management Beliefs about Dividend Policy

<i>Statement of Management Beliefs</i>	<i>Agree</i>	<i>No Opinion</i>	<i>Disagree</i>
1. A firm's dividend payout ratio affects the price of the stock.	61%	33%	6%
2. Dividend payments provide a signaling device of future prospects.	52%	41%	7%
3. The market uses dividend announcements as information for assessing firm value.	43%	51%	6%
4. Investors have different perceptions of the relative riskiness of dividends and retained earnings.	56%	42%	2%
5. Investors are basically indifferent with regard to returns from dividends and capital gains.	6%	30%	64%
6. A stockholder is attracted to firms that have dividend policies appropriate to the stockholder's tax environment.	44%	49%	7%
7. Management should be responsive to shareholders' preferences regarding dividends.	41%	49%	10%

It is quite clear from this survey that, rightly or wrongly, managers believe, that their dividend payout ratios affect firm value and operate as signals of future prospects. They also operate under the presumption that investors choose firms with dividend policies that match their preferences and that management should be responsive to their needs.

In an updated and comprehensive survey¹⁹ of dividend policy published in 2004, Brav, Graham, Harvey and Michaely conclude that management's focus is not on the level of dividends but on changes in these dividends. Indicating a shift from views in prior studies, many managers in this survey saw little gain from increasing dividends even in response to higher earnings and preferred stock buybacks instead. In fact, many managers in companies that paid dividends indicated regret the level of dividends paid by their firms, indicating that they would have set the dividend at a much lower level, if they had the choice. In contrast to the survey quoted in the last paragraph, managers also rejected the idea that dividends operate as useful financial signals. From the survey, the authors conclude that the rules of the game for dividends are the following: do not cut dividends, have a dividend policy similar to your peer group, preserve a good credit rating, maintain flexibility and do not take actions that reduce earnings per share.

10.10. 📌 : Corporate Governance and Dividend Policy

In countries, where stockholders have little or no control over incumbent managers, you would expect dividends paid by companies

- a. to be lower than dividends paid in other countries
- b. to be higher than dividends paid in other countries
- c. to be about the same as dividends paid in other countries

Conclusion

There are three schools of thought on dividend policy. The first is that dividends are neutral, and that they neither increase nor decrease value. Stockholders therefore are indifferent between receiving dividends and enjoying price appreciation. This view is based upon the assumptions that there are no tax disadvantages to investors associated with receiving dividends, relative to capital gains, and that firms can raise external capital for new investments without issuance costs.

The second view is that dividends destroy value for stockholders, because they are taxed at much higher rates than capital gains. The evidence for this tax disadvantage

¹⁹ Brav, A., J.R. Graham, C.R. Harvey and R. Michaely, *Payout Policy in the 21st Century*, 2004., Working Paper, Duke University.

is strong both in the tax code and in markets, when we examine how stock prices change on ex-dividend days. On average, stock prices decline by less than the amount of the dividend, suggesting that stockholders in most firms consider dividends to be less attractive than equivalent capital gains.

The third school of thought makes the argument that dividends can be value increasing, at least for some firms. In particular, firms that have accumulated stockholders who prefer dividends to capital gains should continue to pay large and increasing dividends to keep their investor clientele happy. Furthermore, increasing dividends can operate as a positive signal to financial markets and allow a firm to change its financing mix over time. Finally, forcing firms to pay out dividends reduces the cash available to managers for new investments. If managers are not investing with the objective of maximizing stockholder wealth, this can make stockholders better off.

In summary, there is some truth to all these viewpoints, and it may be possible to develop a consensus around the points on which they agree. The reality is that dividend policy requires a trade-off between the additional tax liability it may create for firms and the potential signaling and free cash flow benefits of making the additional commitment to their stockholders. In some cases, the firm may choose not to increase or initiate dividends, because its stockholders are in high tax brackets and are particularly averse to dividends. In other cases, dividend increases may result.

Live Case Study

The Trade Off on Dividend Policy

Objective: To examine how much cash your firm has returned to its stockholders and in what form (dividends or stock buybacks), and to evaluate whether the trade off favors returning more or less.

Key Questions:

- Has this firm ever paid out dividends? If yes, is there a pattern to the dividends over time?
- Given this firm's characteristics today, do you think that this firm should be paying more dividends, less dividends or no dividends at all?

Framework for Analysis:

1. Historical Dividend Policy

- How much has this company paid in dividends over the last few years?
- How have these dividends related to earnings in these years?

2. Firm Characteristics

- How easily can the firm convey information to financial markets? In other words, how necessary is it for them to use dividend policy as a signal?
- Who are the marginal stockholders in this firm? Do they like dividends or would they prefer stock buybacks?
- How well can this firm forecast its future financing needs? How valuable is preserving flexibility to this firm?
- Are there any significant bond covenants that you know of that restrict the firm's dividend policy?
- How does this firm compare with other firms in the sector in terms of dividend policy?

Getting Information on dividend policy

You can get information about dividends paid back over time from the financial statements of the firm. (The statement of changes in cash flows is usually the best

source.) To find typical dividend payout ratios and yields for the sector in which this firm operates examine the data set on industry averages on my web site.

Online sources of information:

<http://www.stern.nyu.edu/~adamodar/cfin2E/project/data.htm>

Problems

1. If Consolidated Power is priced at \$50.00 with dividend, and its price falls to \$46.50 when a dividend of \$5.00 is paid, what is the implied marginal rate of personal taxes for its stockholders? Assume that the tax on capital gains is 40% of the personal income tax.
2. You are comparing the dividend policies of three dividend-paying utilities. You have collected the following information on the ex-dividend behavior of these firms.

	NE Gas	SE Bell	Western Electric
Price before	50	70	100
Price after	48	67	95
Dividends/share	4	4	5

If you were a tax-exempt investor, which company would you use to make “dividend arbitrage” profits? How would you go about doing so?

3. Southern Rail has just declared a dividend of \$ 1. The average investor in Southern Rail faces an ordinary tax rate of 50%. While the capital gains rate is also 50%, it is believed that the investor gets the advantage of deferring this tax until future years (The effective capital gains rate will therefore be 50% discounted back to the present). If the price of the stock before the ex-dividend day is \$10 and it drops to \$9.20 by the end of the ex-dividend day, how many years is the average investor deferring capital gains taxes? (Assume that the opportunity cost used by the investor in evaluating future cashflows is 10%.)

4. LMN Corporation, a real estate corporation, is planning to pay a dividend of \$0.50 per share. Most of the investors in LMN corporation are other corporations that pay 40% of their ordinary income and 28% of their capital gains as taxes. However, they are allowed to exempt 85% of the dividends they receive from taxes. If the shares are selling at \$10 per share, how much would you expect the stock price to drop on the ex-dividend day?

5. UJ Gas is a utility that has followed a policy of increasing dividends every quarter by 5% over dividends in the prior year. The company announces that it will increase

quarterly dividends from \$1.00 to \$ 1.02 next quarter. What price reaction would you expect to the announcement? Why?

6. Microsoft Corporation, which has had a history of high growth and pays no dividends, announces that it will start paying dividends next quarter. How would you expect its stock price to react to the announcement? Why?

7. JC Automobiles is a small auto parts manufacturing firm, which has paid \$1.00 in annual dividends each year for the last 5 years. It announces that dividends will increase to \$ 1.25 next year. What would you expect the price reaction to be? Why? If your answer is different from the prior problem, explain the reasons for the difference.

8. Would your answer be different for the previous problem, if JC Automobiles were a large firm followed by 35 analysts? Why or why not?

9. WeeMart Corporation, a retailer of children's clothes, announces a cut in dividends following a year in which both revenues and earning dropped significantly. How would you expect its stock price to react? Explain.

10. RJR Nabisco, in response to stockholder pressure in 1996, announced a significant increase in dividends paid to stockholders, financed by the sale of some of its assets. What would you expect the stock price to do? Why?

11. RJR Nabsico also had \$ 10 billion in bonds outstanding at the time of the dividend increase in problem 10. How would you expect Nabisco's bonds to react to the announcement? Why?

12. When firms increase dividends, stock prices tend to increase. One reason given for this price reaction is that dividends operate as a positive signal. What is the increase in dividends signaling to markets? Will markets always believe the signal? Why or why not?