

Chapter 1 Dividends and the Stock Price

If in 1926 a tax-exempt investor had purchased an equal amount of all New York Stock Exchange equities, and if he had reinvested all subsequent dividends, he would have found that by the end of forty years his capital had multiplied thirty-five times.⁵¹ If he had been improvident and squandered all his dividends on bacchanalian pleasures, the value of his portfolio would have increased by a factor of only six. This example is presented not as a warning against prodigality but to demonstrate that the cumulative effect of dividend receipts can be very large.

The return from an investment depends both on the income it produces and on the change in its capital value. Yet, because the latter component is more variable and difficult to predict,

it can sometimes monopolize the investor's attention. This effect may be strengthened by the almost universal practice of exaggerating anticipated changes in price. Compared with the 4.6% per annum by which prices rose over the forty-year period, the yield of 2.7% was important. Compared with the appreciation that many claim to foresee from their favorite stocks, the yield dwindles into insignificance. When assessing a portfolio's performance, it is no less essential to consider the total return. Seriously misleading conclusions can result when funds with very different rates of dividend income are compared only in terms of their capital appreciation.

If two firms offer equally good prospects of growth in per-share earnings, the market should value more highly the company that can combine such a rate of expansion with a generous dividend payment. There is plenty of evidence that this is so. For example, the exercise described in the introduction to Part I was extended to consider the effect on the adjusted price-earnings multiple both of the prospective earnings growth and of the payout ratio.³⁵ After taking into account any difference in the expected rates of growth, the market appeared to place a higher value on companies whose growth was not likely to depend simply on large retentions.

This implies only that dividend yield and capital gain are both esteemed by investors. It does not indicate whether they are esteemed equally. Yet for a company that is faced with the problem of deciding on a suitable dividend policy this is an important question. If shareholders welcome a certain payout ratio for its own sake, a simple means is available for many companies to increase the price of their stock.

Before looking at the empirical evidence on the subject, it might be well to consider why investors should have any preferences of this nature. It is easiest initially to examine the problem in the context of a market where there is no taxation or cost involved in stock transactions or flotations. In such circum-

stances investors might be expected to be largely indifferent to the level of payout.¹⁰² If a company's dividend distribution were insufficient to satisfy the investor's need for current income, he would have the option of selling a small proportion of his holding each year to offset the shortfall. If, on the other hand, the distribution were in excess of his requirements, he could reinvest the surplus in the company's stock. Similarly, in this idealized environment company operations would not be affected by the dividend decision. If retained earnings proved to be insufficient for the firm's investment program, they could be supplemented by a rights issue of stock. If they were excessive, they could be devoted to the repurchase of stock.

Even under these simplified conditions it is possible to envisage circumstances that might cause the investor to prefer companies with certain rates of payout. In the first place, it could be a nuisance to have to compensate for the effect of a dividend rate that did not match the need for current income. Second, there may be prejudices, however irrational, against the use of capital for purposes of income or even against the reinvestment of income. This can be particularly important in the case of institutions that are bound by trust deeds or government regulation to distinguish between capital and income or to limit their holdings to securities with established dividend records.

It is also sometimes argued that investors may prefer a high rate of payout because dividends are more certain than capital gains, the probable alternative.^{60,90} This suggestion is unacceptable. It is not the dividend policy as such that affects the risk, but the fact that the payment reduces the proportion of the investor's assets in equities. If he reestablished his position in the stock by reinvesting the dividend, his risk would increase correspondingly.

Once the assumption of no transaction or flotation costs is removed, an additional reason emerges for the investor to be

concerned with the rate of payout. From the company's viewpoint, rights issues may become an expensive alternative to retained earnings. For the investor, the reinvestment of excessive dividends or the sale of stock to augment an inadequate income is liable to involve appreciable commission charges. Such expenses can explain why different investors should prefer different dividend policies, but they can cause one type of stock to stand at a premium only if investors as a whole are receiving in dividends smaller or larger sums than they require. Although this is not impossible, it is difficult to believe that over the long term the average rate of disbursement differs markedly from the average desired rate.

The assumption of zero taxation may be more critical. The differential rates of tax on dividends and capital gains can be expected to favor low-payout stocks. In these circumstances the choice between the shareholder's reinvesting a part of his dividends and the company's distributing a lower proportion of earnings ceases to be a matter of no consequence. Even the investor with relatively high income requirements may be better off holding a low-payout stock and satisfying his demand for cash by selling small amounts of stock at regular intervals. For this reason, one might expect low-payout shares to sell at somewhat higher prices and to provide lower returns before tax.

It has been estimated that the marginal rate of tax on income for the individual shareholder was 42% in 1955 and 35% in 1965.⁷² Because dividend receipts are not always reported to the Internal Revenue Service, these figures are more likely than not to be an overstatement. In addition, since many institutions enjoy a privileged tax status, the marginal rate for investors as a whole must be lower still. Some further evidence on the question is provided by the yield spreads between corporate and tax-exempt bonds. These can be explained by assuming an investor tax bracket of 20%–25%.⁵⁵ As the bond market is

dominated more by the institutional investor, one might judge that the marginal rate of tax on income for the average stockholder is in the region of 25%–30%. The comparable figure for capital gains is less easily assessed. One estimate has suggested that approximately 80% of capital gains are unrealized or offset by losses and therefore escape taxation.⁷ Since the average rate of tax on long-term gains that do not escape is in the region of 20% for individuals,⁹¹ it is clear that the total payment of capital-gains tax constitutes only a very small proportion of the increase in capital values.

If investors are strongly influenced by the lower rates of tax on capital gains, one would expect to find that low-payout stocks are particularly favored by individuals with high marginal rates of tax. Table 1 shows that high-income groups have

TABLE 1. *Dividends in 1959 as a Percentage of Realized Long-Term Capital Gains by Income Class*

Adjusted Gross Income	Dividends as Percentage of Net Long-Term Capital Gains
Under \$10,000	376%
\$10,000–\$50,000	223
\$50,000–\$100,000	186
\$100,000–\$200,000	144
\$200,000–\$500,000	85
\$500,000–\$1,000,000	61
\$1,000,000 or more	70
All incomes	186%

Source: After Brittain.²⁷ Copyright © 1966 by The Brookings Institution. Adapted by permission.

tended to receive an unusually large proportion of their return in the form of realized capital gains. Although this is consistent with the view that they are seeking to minimize their tax burden, it may be that high-income groups are simply more

active traders. Additional evidence suggests that in low-payout companies ownership is concentrated in fewer hands.^{34,36} This again may indicate that such stocks are preferred by wealthy individuals. However, a more detailed examination of stock ownership in Wisconsin uncovered no significant tendency for high-income groups to prefer low-payout stocks.⁵

Evidence of a different character was obtained by two surveys of investor aims. The results of the first, which was conducted in 1949, are shown in Table 2.²⁹ The relative importance

TABLE 2. *Investment Objectives of a Sample of 736 Active Investors Interviewed in 1949*

Income Class (thousands of \$)	Investment Objectives				
	Capital Preser- vation	Secu- rity and Income	Income	Income and Capital Appre- ciation	Capital Appre- ciation
Under 7.5	4%	42%	26%	20%	8%
7.5-12.5	5	41	17	28	9
12.5-25	8	32	20	31	9
25-50	6	24	19	42	9
50-100	20	18	13	33	16
Over 100	12	7	9	46	26

Source: After Butters, Thompson, and Bollinger.²⁹

attached to income and capital gains varied consistently with income groups. Similarly, in a later survey, conducted by Merrill Lynch, not only did a majority of the respondents place capital appreciation at the head of their list of objectives, but the emphasis placed on it varied according to their income.

Some further indication of the relative value that investors place on dividends may be procured by looking at what happens to stock prices on ex-dividend dates. This is to some extent

determined by the New York Stock Exchange regulation that on such occasions the specialist should reduce all open bids and all stop-sell orders by the gross value of the dividend. Therefore any tendency for the price to decline by less than this amount would reinforce the notion that stockholders' actions are affected by the higher rates of tax on income. There have been a number of studies of this subject, and the results are summarized in Table 3. The bulk of the evidence points to the

TABLE 3. *Price Decline on Ex-Dividend Dates and Implied Tax Brackets*

Dates	No. of Observations	Price Measured from Close to:	Average Decline as Percentage of Dividend	Implied Tax Bracket
1951-1955 ^a	2500	Opening	81%	32%
1966-1967 ^b	4148	Close	79	35
1949-1950 ^c	199	Opening	92	13
1953 ^c	200	Opening	85	30
1948-1959 ^d	43	Close	96	7

^a Source: After Readett.¹¹⁸

^b Source: After Elton and Gruber.⁴⁵

^c Source: After Campbell and Beranek.³⁰

^d Source: After Durand and May.⁴³

fact that on the ex-dividend date the price falls by approximately 85% of the gross value of the dividend. It is worth giving up a dollar of dividends for 85 cents of long-term capital gain only if the investor is subject to a marginal rate on income in the region of 30%.

This analysis can be taken one step further by looking at the way in which behavior on ex-dividend dates varies according to the firm's payout rate.⁴⁵ This has been done in Table 4. Where the companies distribute a small proportion of earnings, the price decline on the ex-dividend day constitutes a lesser propor-

tion of the dividend, which suggests that these stocks are being bought mainly by investors in high tax brackets. Once again it appears that investors are aware of the slight tax advantage to low-payout stocks.

TABLE 4. *Price Decline on Ex-Dividend Dates and Implied Tax Brackets of 4148 Stocks Grouped According to Payout Ratio*

Group	Average Payout Ratio	Average Decline as Percentage of Dividend	Implied Tax Bracket
1	20%	68%	49%
2	32	67	49
3	37	76	39
4	41	73	43
5	45	74	41
6	49	68	48
7	53	102	0
8	59	90	19
9	67	93	8
10	104	90	22

Source: After Elton and Gruber.⁴⁵

This indirect evidence points in the opposite direction to the teachings of most investment texts. Graham and Dodd, for example, state that

the considered and continuous verdict of the stock market is overwhelmingly in favor of liberal dividends as against niggardly ones. The common stock investor and the security analyst must take this judgment into account in the valuation of stocks for purchase. It is now becoming standard practice to evaluate common stock by applying one multiplier to that portion of the earnings paid out in dividends and a much smaller multiplier to the undistributed balance.⁶²

Another author has recommended a law enforcing full distribution of earnings on the grounds that it "would almost certainly

double or treble (within a short period) the market value of equities.”¹²⁵ It is an Elysian prospect.

When one begins to look at the price of stocks with different rates of distribution, it is possible to see how this view has arisen. For example, Table 5 shows the price-earnings ratios

TABLE 5. *Relation between Dividend Policy and Market Valuation of 138 Stocks*

Payout (%)	Average Price-Earnings Ratio				
	1945	1946	1947	1948	1949
0- 20	18.8	6.2	5.6	3.7	7.5
20- 40	13.6	9.1	7.1	5.1	6.4
40- 60	16.9	12.0	8.7	7.0	8.3
60- 80	22.0	14.7	11.9	10.8	10.5
80-100	23.5	18.2	15.5	11.6	11.5
>100	38.8	31.7	14.9		17.2

Source: After Robinson.¹²¹

of 138 stocks that have been classified according to the size of their payout ratio.¹²¹ In each year there was a clear tendency for the market to value more highly companies that distributed a substantial proportion of their earnings. Numerous studies have extended this approach. They have embraced both American and British securities. Sometimes the data have been drawn from one industry, sometimes the sample has been general. Natural and logarithmic relations have been assumed. The conclusions have been unanimous. A dollar of dividends was worth anything up to four times as much as a dollar of retained earnings.

Unfortunately, the analysis involves several biases. For instance, suppose that a company that customarily distributed half of its earnings suffered a prolonged labor dispute that

caused its profits to dwindle almost to nothing. As long as the setback was thought to be short lived, the company would probably not reduce the dividend, so that the full effect of the earnings decline would be absorbed by retentions. In such circumstances the stock price would also react less than earnings. Indeed, the maintenance of the dividend might well be interpreted by the market as a demonstration of management's confidence in an earnings recovery. Thus the company's misfortune leads both to a high rate of payout and to a high earnings multiple, but it would be wrong to infer from this association that the market is indifferent to changes in retained earnings. Indeed, the kind of phenomenon observed in Table 5 will always occur if both the dividend and the stock price are determined in the light of more than just the one year's earnings. It will be particularly marked if investors read into the company's dividend decision some indication of future prospects.

A related source of error in these analyses could result from the omission of other factors that may affect both the firm's dividend policy and the market valuation. For example, companies that are highly leveraged or subject to considerable variations in their cash flow appear to adopt a relatively conservative attitude toward dividends.⁵⁷ These risks will affect not only the company's thinking but also that of the market, so that the stock is likely to sell at a below-average multiple. Again the result is an association between the price of the stock and the payout ratio, but it does not occur because the market prefers dividend yield to capital appreciation.

In view of these difficulties, it may be worth trying a somewhat different approach. If investors do not distinguish between current income and capital gains, they would be quite content as long as the sum of the dividend yield and the prospective earnings growth came up to requirements. If, however, they

prefer current income, they would weight earnings growth less heavily in determining whether the return was sufficient. This can be stated more formally as

Required return = dividend yield + $b \times$ expected earnings growth.

If investors do not care about the firm's distribution policy, b in this equation should have a value of 1. On the other hand, if earnings growth carries less weight with the investor, b should be less than 1. It may also be necessary to allow for the possibility that some stocks may involve above-average risks, for in such instances the market will demand to be compensated by higher returns. The equation can, therefore, be expanded to read

Required return = required return from average stock + $c \times$ unusual risks = dividend yield + $b \times$ expected earnings growth.

Finally, the items in the equation can be rearranged, so that

Dividend yield = $a - b \times$ expected earnings growth + $c \times$ unusual risks,

where a denotes the required rate of return from the average stock. The advantage to formulating the problem in this somewhat involved manner is that it is possible to make reasonable estimates of each item, particularly if the selection of issues is limited to a homogeneous group such as utility stocks. Since the profitability of a utility is regulated, investors must look to plowback as the main source of earnings growth; consequently, the expected earnings growth can be assumed to be equal to the percentage addition that retentions would make to the equity base if earnings were on trend. The measurement

of risk is not an easy matter, but it is possible to identify several factors that might cause one utility stock to be considered riskier than another.

On this basis the equation was fitted to data for 69 electric utility companies for each of the years 1958–1962.²⁶ In every instance the resulting estimate of b was less than 0.5. This finding provides the most cogent evidence that has been adduced for the popular view that the investor is motivated by a strong preference for current income. Nevertheless, despite the greater sophistication of the analysis, it does not wholly escape the problems that bedeviled the earlier exercises. If some of the factors affecting risk were not identified, and if risky concerns tended to distribute a smaller proportion of their earnings, the emphasis that investors place on growth from retention would still be underestimated. Furthermore, if there are any chance errors in the estimates of expected earnings growth, the weighting that the market gives to this growth will again be understated, and so will the required rate of return. Not only would it be very surprising if there were no such estimation errors, but it is noteworthy that the required rates of return that emerged from the analysis were unrealistically low. For these reasons it seems probable that the analysis has considerably exaggerated any market preference for high-payout stocks.

It may not be necessary to adopt such a complex approach in order to avoid the biases inherent in Table 5. The problem posed by temporary fluctuations in earnings can be lessened by measuring both dividends and retentions over a period of several years. Thus one could usefully seek to explain the differences between the prices of a group of stocks by fitting to the data the following equation:

Stock price = $a + b \times$ average dividends per share in 3 prior years + $c \times$ average retentions per share in 3 prior years.

In this equation, b provides an estimate of the rate at which the market capitalizes dividends, and c is the multiple applied to retentions.

There is still the problem of allowing for other factors that may affect both the stock price and the dividend decision. One could do so by building each of them into the equation. However, because of the difficulty of knowing what these factors are and how they should be measured, it may be better to incorporate in the equation an item whose value reflects the importance of these other influences. A possible candidate for this position is the average price-earnings multiple during the previous three years. The expanded equation would then read

$$\text{Stock price} = a + b \times \text{average dividends per share} + c \times \text{average retentions per share} + d \times \text{average price-earnings ratio}.$$

This equation was fitted to the stock prices of 255 firms in two different years.⁴⁰ In 1961 the market appeared to have capitalized dividends at a multiple of 15.8 and retentions at a multiple of 15.0. In the next year a multiple of 13.9 was indicated for dividends and one of 12.9 for retentions. These results are a far cry from studies that suggested dividends were valued four times as highly as retained earnings, though they still indicate that the market shows some preference for current income.

Probably the most serious objection to this exercise lies in the addition of the price-earnings ratio to the right-hand section of the equation, so that the stock price comes to be represented on both sides of the equation. The danger that this may produce misleading results is heightened in this case by the fact that any relation between stock price and earnings multiple could in part reflect a general preference for dividends or retentions.

A second qualification centers on the procedure of averaging only three years' worth of dividends and retentions. Particularly if management takes future prospects into account in determin-

ing the dividend rate, some bias will still be present, for in these circumstances investors would be justified in looking on any increase in the payout ratio as a precursor of rising earnings and would bid up the stock price correspondingly.

If the market does capitalize dividends at a slightly higher rate, then it must be willing to tolerate a lower gross return from high-payout stocks. This could be investigated by fitting to the data an equation of the form

Expected return % = $a + b \times \text{expected payout ratio} + c \times \text{risk}$.

If b should prove to be negative, there would be additional evidence for the view that the market prefers dividends.

One practical problem in applying this test is that of measuring the return expected from each stock. However, it could be argued that although in any one year the return may be higher or lower than the market anticipates, over the long run it will average out at roughly the expected level. For this reason the expected return for each of nearly 300 stocks between 1946 and 1963 was assumed to be the same as the return actually achieved over these years.³ The expected payout ratio was also approximated by the average ratio over the period. Finally, instead of building into the equation just one measure of risk, three such measures were used simultaneously. When the equation was fitted to the data, it revealed a slight tendency for the expected rate of return to vary inversely with the proportion of earnings that the company distributed.

Even when, as in this case, a relatively large number of years is used, the averaging procedure is likely to prove a somewhat clumsy method of measuring the company's desired payout ratio. A more efficient technique might be to estimate directly for each firm the earnings that would normally be associated with a given year's dividend. With the aid of this estimate it is possible to fit to the data an equation of the form

Value of firm = $a + b \times \text{dividend liberality} + c \times \text{normal earnings} + d \times \text{other influences}$.

In this instance, b measures the extent to which the payout ratio has an effect on the stock price over and above any information that it provides about the company's normal earning power. An elaboration of this two-stage approach was employed in a study of the dividend policies of 63 electric utility companies in each of the years 1954, 1956, and 1957.¹⁰³ Considerable care was taken to avoid the kinds of bias that have beset the other investigations. This time investors appeared to possess a faint preference for companies that distributed only a small proportion of earnings.

Although there may be no single payout rate that investors prefer on the average, it does not follow that they do not care about the dividend policy of the individual firm. In fact, it seems reasonable to suppose that investors would rather see companies in stagnant or declining industries distribute their profits than see them plowed back into unrewarding enterprises. Conversely, where a company is operating in a growth industry with high potential returns on new investment, the market may favor a high rate of retention. Some support for this view was obtained by repeating separately for each of 8 industry groups the exercise described on page 16.⁴⁰ Both in 1961 and in 1962 the market appeared to prefer a low rate of distribution from retail, utility, and oil companies but to welcome high payouts from firms in the more mature metal, railroad, and mining industries. The valuation of chemical and transport companies showed no uniform pattern. These findings were reinforced by a set of tests employing data for 5 industry groups in each of the years 1956 and 1958.⁵⁵ The market seemed to prefer retentions in the electronic and utility industries and dividends in the relatively stagnant food and steel sectors. The results for the chemical group were again ambiguous. Less satisfactory

conclusions emerged when the analysis of rates of return between 1946 and 1963 was extended to individual sectors.³ This lack of corroboration may not be too significant. Not only were the sample sizes very small, but it is probable that over such a long period the market frequently revised its assessment of which industries possessed the brightest prospects. The weight of evidence therefore suggests that the market welcomes a high rate of investment by companies in expanding industries. This does not, however, imply that investors necessarily prefer such expenditures to be financed from retentions rather than from new issues of stock.

The path that has been traced in this first chapter has been a tortuous and occasionally divided one. Before considering where it has led, it may be worth reviewing the route. The initial discussion indicated that the main reason for an investor to be concerned with the rate of payout lies in the differential rates of tax on dividends and capital gains. This factor is irrelevant to the tax-exempt institution but should be a serious consideration for the wealthy private investor. Estimates of investor tax rates suggested that on the average a dollar of dividends is probably equivalent after tax to about 75 cents of capital gain.

Several scraps of evidence implied that investors are indeed conscious of the tax effect. In particular, the behavior of stocks on ex-dividend dates is consistent with the view that investors treat a dollar of dividends as equal to about 85 cents of capital gain.

This reasoning might lead one to suspect that low-payout stocks would tend to sell at a slight premium. This is in sharp contrast to the traditional argument that investors exhibit a marked preference for dividends. Although a large volume of evidence has been adduced for this popular belief, without exception it is subject to very serious biases. Studies that have sought to avoid these biases have all agreed that there is no

substantial difference in the rate at which the market capitalizes dividends and capital gains. On the other hand, there was little evidence in these analyses to support the view that low-payout stocks command a slightly higher price. Such a possibility cannot be dismissed, but it must at least be doubted. In contrast, there does seem to be reason to believe that firms with different dividend policies attract different categories of investor. For instance, low-payout stocks appeal primarily to high-income groups. Furthermore, market reaction to a firm's dividend policy seems to depend in part on the prospective return on retained earnings, so that a low payout ratio is more likely to be tolerated where there are unusual opportunities for new investment.

These last two considerations suggest that although there may be no generally preferred rate of payout, each company should as far as possible adopt a consistent and explicit long-term dividend policy that recognizes the capital needs of the business. Short-run departures from this target ratio should be undertaken only with the knowledge that they are liable to be interpreted as an indication of the company's prospects.

The most important message of this chapter is the most obvious one. Since capital gains and dividends are largely interchangeable, the relevant consideration for any investor is the net rate of return that he can expect to earn on his assets. The evidence has pointed to the fact that almost any taxed investor will derive a somewhat lower net rate of return from high-payout stocks. Where the investor has a high marginal rate of tax or low income requirements, there is a clear case for concentrating his funds in securities offering low rates of current income. Although one would have expected the converse to be true for tax-exempt funds, this does not seem to be the case. There is no reason to suppose that these funds would do better to buy high- or low-payout stocks.

Given these conclusions, most of the legal or institutional

distinctions between dividends and capital gains appear to be against the best interests of the beneficiary. At worst they are liable to force the investor into a class of security that offers a lower net return. At best they represent an unnecessary restriction on the manager's freedom of action.

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